

Hitachi Command Suite Hitachi Automation Director

8.6.5

REST API User and Reference Guide

Automation Director is a software solution that provides the necessary tools to automate and simplify end-to-end storage processes, such as provisioning, for storage and data center administrators. This manual describes how to use the Automation Director API.

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Preface

This document describes how to use the Hitachi Automation Director API.

Intended audience

This document is intended for those who want to use the supplied representational state transfer (REST) API to manage resources and to integrate management operations with existing infrastructure management systems and applications.

To use the API, you must be familiar with the Hitachi Automation Director concepts, terminology, and functionality. You should also have a basic understanding of web services and prerequisite knowledge of:

- XML
- JSON
- REST
- Programming language you will use for the application development or integration

Product version

This document revision applies to Hitachi Automation Director v8.6.5-00 or later.

Release notes

Read the release notes before installing and using this product. They may contain requirements or restrictions that are not fully described in this document or updates or corrections to this document. Release notes are available on Hitachi Vantara Support Connect: <https://knowledge.hitachivantara.com/Documents>.

Referenced documents

Hitachi Automation Director documents:

- *Hitachi Automation Director User Guide*, MK- 92HC205
- *Hitachi Automation Director API Use Case Reference*, MK- 92HC232





Hitachi Vantara Portal, <https://knowledge.hitachivantara.com/Documents>

Document conventions

This document uses the following typographic conventions:

Convention	Description
Bold	<ul style="list-style-type: none"> Indicates text in a window, including window titles, menus, menu options, buttons, fields, and labels. Example: Click OK. Indicates emphasized words in list items.
<i>Italic</i>	<ul style="list-style-type: none"> Indicates a document title or emphasized words in text. Indicates a variable, which is a placeholder for actual text provided by the user or for output by the system. Example: <pre>pairdisplay -g group</pre> (For exceptions to this convention for variables, see the entry for angle brackets.)
Monospace	Indicates text that is displayed on screen or entered by the user. Example: <code>pairdisplay -g oradb</code>
< > angle brackets	Indicates variables in the following scenarios: <ul style="list-style-type: none"> Variables are not clearly separated from the surrounding text or from other variables. Example: <pre>Status-<report-name><file-version>.csv</pre> Variables in headings.
[] square brackets	Indicates optional values. Example: [a b] indicates that you can choose a, b, or nothing.
{ } braces	Indicates required or expected values. Example: { a b } indicates that you must choose either a or b.
vertical bar	Indicates that you have a choice between two or more options or arguments. Examples: [a b] indicates that you can choose a, b, or nothing. { a b } indicates that you must choose either a or b.

This document uses the following icons to draw attention to information:

Icon	Label	Description
	Note	Calls attention to important or additional information.
	Tip	Provides helpful information, guidelines, or suggestions for performing tasks more effectively.
	Caution	Warns the user of adverse conditions and/or consequences (for example, disruptive operations, data loss, or a system crash).
	WARNING	Warns the user of a hazardous situation which, if not avoided, could result in death or serious injury.

Conventions for storage capacity values

Physical storage capacity values (for example, disk drive capacity) are calculated based on the following values:

Physical capacity unit	Value
1 kilobyte (KB)	1,000 (10 ³) bytes
1 megabyte (MB)	1,000 KB or 1,000 ² bytes
1 gigabyte (GB)	1,000 MB or 1,000 ³ bytes
1 terabyte (TB)	1,000 GB or 1,000 ⁴ bytes
1 petabyte (PB)	1,000 TB or 1,000 ⁵ bytes
1 exabyte (EB)	1,000 PB or 1,000 ⁶ bytes

Logical capacity values (for example, logical device capacity, cache memory capacity) are calculated based on the following values:

Logical capacity unit	Value
1 block	512 bytes
1 cylinder	Mainframe: 870 KB

Logical capacity unit	Value
	Open-systems: <ul style="list-style-type: none"> ▪ OPEN-V: 960 KB ▪ Others: 720 KB
1 KB	1,024 (2 ¹⁰) bytes
1 MB	1,024 KB or 1,024 ² bytes
1 GB	1,024 MB or 1,024 ³ bytes
1 TB	1,024 GB or 1,024 ⁴ bytes
1 PB	1,024 TB or 1,024 ⁵ bytes
1 EB	1,024 PB or 1,024 ⁶ bytes

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Thank you!

Chapter 1: About Hitachi Automation Director API

The API is a representational state transfer (REST) interface for the administrative tasks available for managing Hitachi Automation Director. The Automation Director API is Cloud Data Management Interface (CDMI) compliant, which allows for easier integration with applications that make use of the CDMI standard.

Hitachi Automation Director is a software solution that provides the necessary tools to automate and simplify end-to-end storage processes, such as provisioning, for storage and data center administrators. The building blocks of the product are prepackaged automation templates known as *Service Templates*. These preconfigured templates are customized to your specific environment and processes creating services that automate complex tasks such as resource provisioning. When configured, Automation Director integrates with existing Hitachi Command Suite applications to automate common infrastructure management tasks by utilizing your existing infrastructure services.

The Automation Director REST API use cases provide specific examples for running a number of typical tasks. Use these examples to help configure your operating environment.

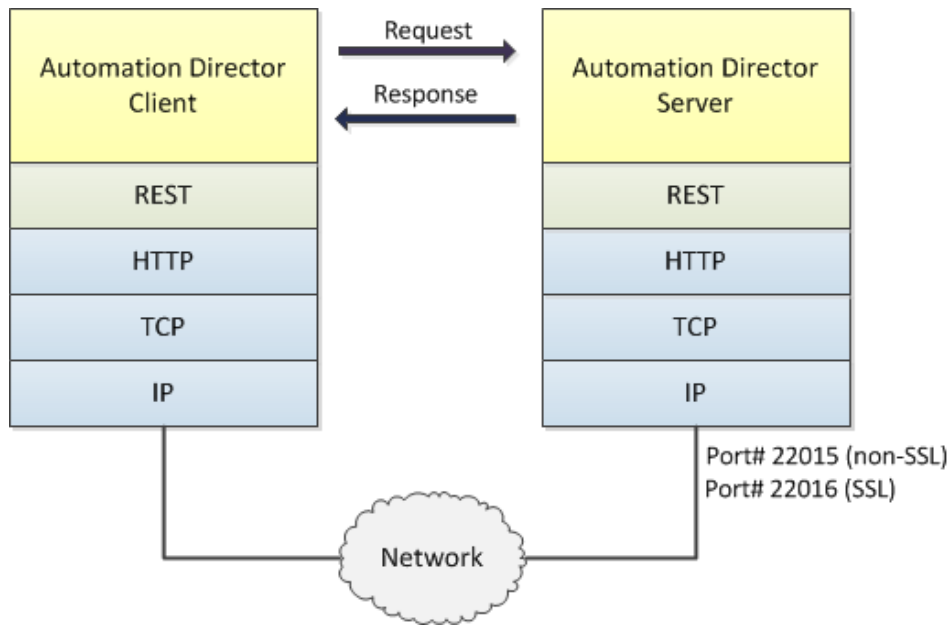
REST architecture

REST is a style of software architecture that can be used with many message formats for web services.

REST uses the HTTP protocol along with a uniform resource identifier (URI) to identify a name of a web resource for requests from the client.

Server responses can either be in XML or JSON.

The following diagram provides a basic overview of a REST client-to-server interaction process.



Note: The default port for an API call is 22016 for SSL connections and 22015 for non-SSL connections.

Hitachi Automation Director API functionality

The Hitachi Automation Director REST API provides easy integration of smart provisioning to other tools.

You can use the following API functions to support processing tasks for existing third-party tools or proprietary applications:

- Run and submit tasks through a POST
- Check task status through a GET
- Edit service configurations through a PUT
- Deleting an existing service through a DELETE

In addition, you may manage services and task and also obtain user information.

API prerequisites

Hitachi Automation Director requires the following setup to be in place before operation:

- All settings in the **Administration** tab of the GUI must be configured (for example: Connection Settings, System Settings, Storage Service Settings). For additional information see the *Hitachi Automation Director User Guide, MK-92HC205*.
- A target service must be created.

Resources managed through the API

Each entity that you can manage independently in the HAD API is referred to as a resource. The HAD API allows configuration and management access to the following resources:

Resource	Domain	Description
Service	Objects	A service is an instance of a service template that is configured to process tasks, such as provisioning. Services can be classified by usage and type.
Schedule	Objects	Services can be run immediately or on a schedule.
Task	Objects	A task is the running instance of a service and is generated when you run a service. When you submit a service, HAD creates a corresponding task that you can monitor, start, stop, and archive.
TaskHistory	Objects	The task history is a log of run tasks.
PropertyDefinition	Objects	<p>A service is an instance of a service template that is configured to perform tasks, such as provisioning. Services can be classified by usage and type.</p> <p>Property definitions that are shared among multiple services are called shared service properties. These properties can include the host name, user ID, and password. As an example, property definitions can be shared across multiple services (such as storage provisioning for third-party server).</p> <p>Note: Property definitions are created and added through Service Builder, which is part of the Hitachi Automation Director tool set.</p>
PropertyValue	Objects	A property value is a value of the service property or property definition. For example, "SB2_user" can be the property value of the property definition "user ID".
ServiceGroup	Objects	A service group is a resource group (such as services and connection destinations) used for controlling access to product features. Resource groups are used in combination with user groups, to control access permission. By assigning resource groups to user groups, you can allow access to operations in Hitachi Automation Director.

Resource	Domain	Description
Service template	Objects	A service template is a preconfigured template that is customized to your environment for creating automated services.
Property information	Objects	The property information includes IDs that can also be shared across multiple services or tasks.
Property group	Objects	A property group includes information for a group of properties for a service or task.
Task log	Objects	A task log provides the log information for a specified task.
Tag group	Objects	A tag group provides the list of tags that are bound to a group.
Tag	Objects	A tag is a keyword or phrase that help classify and organize content by function, status, or other categories for resource type such as a service, task, or ServiceTemplate.
External server connection	Objects	An external server connection is the connection type for the Hitachi Automation Director server.
Host	Objects	The host provides the ID for external server connection.
UserInfo	Other	User information provides information of the user that is currently logged in.
VersionInfo	Other	The Version information is the current HAD version information.

Identifying a resource

To identify a resource to manage, you enter a URL to a resource domain in a web browser.

All URLs for the Automation Director API have the following base or root, uniform resource identifier (URI):

```
https://host:port/Automation/version/domain
```

Where:

- *host* is the virtual IP address or resolvable host name of the Automation Director server, followed by a colon
- *port* is the port number used for connection



Note: The default port number is 22015 (for non-SSL communication) and 22016 (for SSL communication)

- *Automation* is the base name of the collection of Automation Director APIs
- *version* is the version of the Automation Director API
- *domain* is where the resources exist. Most Automation Director resources are found in the *objects* domain

For example:

```
https://172.17.35.70:22016/Automation/v1/objects/
```

Depending on the management action you are performing, the base URI can then be followed by a collection or resource URL.

For example:

- Collection URL

```
https://host:port/Automation/v1/objects/Services
```

- Resource URL

```
https://host:port/Automation/v1/objects/Services/id
```

- Resource URL with action

```
https://host:port/Automation/v1/objects/Services/id/actions
```



Important: Each resource has a unique, static instance identifier. If you must address a fixed set of resources, use this identifier.

Supported HTTP methods

HTTP defines a set of methods that define the actions that can be performed on a resource.

The API supports the following HTTP methods:

Method	Description
GET	Retrieves information about an individual resource or retrieves a list of resources of a given type. GET is a synchronous operation.

Method	Description
POST	<p>Adds (creates) a resource for collections (for example creating a service group or archiving a task). This method also runs an action resource (for example, cancelling a service or suspending a schedule).</p> <p>You must provide values for all of the attributes of a resource that do not have default values. To override a default value, include the attribute and provide an override value for that attribute in the request body.</p> <p>POST is an asynchronous operation.</p>
PUT	<p>Edits a resource.</p> <p>When editing a resource, supply values only for the attributes that you want to change. Attributes that are not specified in the request body remain unchanged.</p> <p>PUT is an asynchronous operation.</p>
DELETE	<p>Deletes a resource.</p> <p>DELETE is an asynchronous operation.</p>

POST, PUT, and DELETE are asynchronous operations. When a request is submitted for one of these methods, you can only tell whether or not the action is successful, but you cannot know when the operation is completed.

Security and authentication

Each API request must be authenticated—you must successfully prove your identity to make requests and get responses to those requests.

The Automation Director API uses basic access authentication and authentication by an HSSO token. This allows a user to authenticate with a simple user name and password using HTTP Basic Authentication Access and leverage a simple user name bind to an LDAP server for authentication.

```
WWW-Authenticate: HSSO hssso token
Authorization: HSSO hssso token
```

The Automation Director supports both HTTP and HTTPS protocols. For security purposes, use the HTTPS protocol.

Resource attributes

Resources share common attributes and structure and can be found in the request header and body, and the response header and body.

Attributes are specified by name/value pairs that describe or define the resources in the PUT (modify or edit) and POST (create or add) methods. These name and value pairs are included in the body of the message.

For example, the URL specification to change the description name of "Oracle ASM" to "Oracle ASM for Sales Department" for a service with an `instanceID` of 633:

```
PUT https://172.17.9.36:22016/Automation/v1/objects/Services/633
```

with body attributes of:

```
{
  "instanceID" : 633,
  "name" : "Oracle ASM",
  "description" : "Oracle ASM for Sales Department",
  "category" : "Storage Services/Provisioning",
  "createTime" : "2014-01-08T14:34:20.000+09:00",
  "modifyTime" : "2014-01-08T14:55:17.000+09:00",
  "serviceGroupName" : "All Resources",
  "serviceGroupID" : 2
}
```

Request header

The request header must contain the following information:

```
Host: host-address
Accept: {application/xml | application/json}
Accept-Language: en
User-Agent: user-agent
Content-Type: {application/xml | application/json}
```

The following table lists the required attributes of the request header for all resources.



Note: The PUT and POST methods require a Content-Type header.

Header	Description	Supported value	Default
Accept	Media-Type* expected by a response	application/json, xml, multipart/form-data**, or text/html**	*/* (json)
Accept-Language	The localization character string expected by the response data.	en (English) or ja (Japanese) only	en
Content-Type	Media-Type* of a request body	application/json, xml, or application/octet-stream**	application/json
X-HTTP-Method-Override	Call a different method from the specified method. Use when PUT, DELETE, or POST are not supported either by proxy or client mounting. Priority is given to <code>_method</code> .	PUT, DELETE, or POST	No default value
Authorization	Specify the authentication information.	HSSO <i>hssso-token</i> or Basic <i>user information</i>	No default value
<p>Notes:</p> <p>* Only UTF-8 is supported as a character code.</p> <p>** Only a specific URL is effective.</p>			

Response header

The response header must contain the following:

```
Content-Type: {application/xml | application/json}
```

The following table lists the required elements of the response header common to all resources:

Header	Description	Default
Cache-Control	Performs cache-control on a GET request.	--
Content-Type	Media-Type of the response data.	application/json
Language	The localization character string of the response data.	en
Content-disposition	Defines an attachment.	--
Location	Redirects the recipient to a location other than the Request-URI for completion of the request or identification of a new resource.	--
WWW-Authenticate	Shows the accepted authentication method.	--
Warning	The status of the API server cannot be determined.	

Response job

For responses with the `invoke` action, the job response tracks the status of the request and returns the following:

```
{
  "instanceID":,
  "state":,
  "created":,
  "updated":,
  "completed":,
  "affectedResource": [],
  "result":,
  "resultType":
}
```

The modified URL is provided under `AffectedResources`.

Input and output formats

When you create/add (POST) or modify/edit (PUT) a resource through the API, you can use JSON (the default format) or XML to specify the resource attributes. When you retrieve (GET) information about a resource, the response is returned as JSON unless you specify XML.

All responses returned through the API are UTF-8 encoded. All request bodies you create for input to the API must also be UTF-8 encoded.

In a JSON request or response body:

- Attributes are name/value pairs. For example, the name/value pair that corresponds to the status attribute of a schedule is:

```
"status": "waiting"
```

- A list of resources is represented by a name/value pair, where the name is the name of the attribute used to identify each resource and the value is a comma-separated list of the resource identifiers. For example, the response body for the access permissions for a resource group may include the following:

```
"accessPermission" : [ "View", "Execute", "Develop", "Modify", "Admin" ]
```

- For a PUT (modify/edit) request, specify only the attributes that you want to change. If you specify an attribute without a value, you will blank out or empty any existing content for that attribute.
- If you are coding your programs/scripts in Python (as are the supplied example files), specify:
 - string entries in quotes
 - number entries without quotes
 - Boolean entries as either `True` or `False` (case sensitive) without quotes



Note: JSON translates Boolean `True` or `False` to lower case (`true` or `false`) in its responses. Follow the syntax rules for the language you are using to write your programs and scripts.

Supported API resources

The following table lists all the resources supported by the Automation Director API.



Note: For additional information on roles, see the *Hitachi Command Suite Automation Director User Guide*, MK-92HC205.

Table 1 Service

Request	Method	URI	Minimum Role
Getting a list of services (on page 183)	GET	Automation/v1/objects/Services	Submit
Selecting a service (on page 188)	GET	Automation/v1/objects/Services/{id}	Submit
Editing a service (on page 191)	PUT	Automation/v1/objects/Services/{id}	Submit
Deleting a service (on page 196)	DELETE	Automation/v1/objects/Services/{id}	Modify
Getting a list of service actions (on page 198)	GET	Automation/v1/objects/Services/{id}/actions	Submit
Preparing to submit a service (on page 203)	GET	Automation/v1/objects/Services/{id}/actions/submit	Submit
Submitting a service (on page 207)	POST	Automation/v1/objects/Services/{id}/actions/submit/invoke	Submit
Preparing to reset a service (on page 210)	GET	Automation/v1/objects/Services/{id}/actions/reset	Modify
Resetting the counter of a service (on page 212)	POST	Automation/v1/objects/Services/{id}/actions/reset/invoke	Modify
Preparing to release a service (on page 215)	GET	Automation/v1/objects/Services/{id}/actions/release	Modify
Releasing a service (on page 217)	POST	Automation/v1/objects/Services/{id}/actions/release/invoke	Modify
Preparing to change the configuration type of a service to maintenance (on page 220)	GET	Automation/v1/objects/Services/{id}/actions/maintenance	Modify

Request	Method	URI	Minimum Role
Changing the configuration type of a service to maintenance (on page 222)	POST	Automation/v1/objects/Services/{id}/actions/maintenance/invoke	Modify
Preparing to disable a service (on page 225)	GET	Automation/v1/objects/Services/{id}/actions/disable	Modify
Disabling a service (on page 227)	POST	Automation/v1/objects/Services/{id}/actions/disable/invoke	Modify
Getting service help (on page 230)	GET	Automation/v1/objects/Services/{id}/actions/detailhelp	Submit
Preparing to apply a service template (on page 232)	GET	Automation/v1/objects/Services/{id}/actions/applyTemplate	Modify
Applying a service template (on page 235)	POST	Automation/v1/objects/Services/{id}/actions/applyTemplate/invoke	Submit

Table 2 Schedule

Request	Method	URI	Minimum Role
Getting a list of scheduled services (on page 239)	GET	Automation/v1/objects/Schedules	Submit
Selecting a targeted service schedule (on page 242)	GET	Automation/v1/objects/Schedules/{id}	Submit
Getting a list of scheduled actions (on page 245)	GET	Automation/v1/objects/Schedules/{id}/actions	Submit
Preparing to cancel a scheduled service (on page 248)	GET	Automation/v1/objects/Schedules/{id}/actions/cancel	Submit

Request	Method	URI	Minimum Role
Canceling a scheduled service (on page 250)	POST	Automation/v1/objects/Schedules/{id}/actions/cancel/invoke	Submit
Preparing to suspend a scheduled service (on page 253)	GET	Automation/v1/objects/Schedules/{id}/actions/suspend	Submit
Suspending a scheduled service (on page 255)	POST	Automation/v1/objects/Schedules/{id}/actions/suspend/invoke	Submit
Preparing to resume a scheduled service (on page 258)	GET	Automation/v1/objects/Schedules/{id}/actions/resume	Submit
Resuming a scheduled service (on page 260)	POST	Automation/v1/objects/Schedules/{id}/actions/resume/invoke	Submit

Table 3 Task

Request	Method	URI	Minimum Role
Getting a list of tasks (on page 263)	GET	Automation/v1/objects/Tasks	Submit
Selecting a task (on page 267)	GET	Automation/v1/objects/Tasks/{id}	Submit
Getting a list of task actions (on page 269)	GET	Automation/v1/objects/Tasks/{id}/actions	Submit
Preparing to stop a task (on page 273)	GET	Automation/v1/objects/Tasks/{id}/actions/stop	Submit
Stopping a task (on page 275)	POST	Automation/v1/objects/Tasks/{id}/actions/stop/invoke	Submit
Preparing to force stop a task (on page 278)	GET	Automation/v1/objects/Tasks/{id}/actions/forcestop/	Submit
Forcibly stopping a task (on page 280)	POST	Automation/v1/objects/Tasks/{id}/actions/forcestop/invoke	Submit

Request	Method	URI	Minimum Role
Preparing to resubmit a task (on page 283)	GET	Automation/v1/objects/Tasks/{id}/actions/resubmit	Submit
Resubmitting a task (on page 286)	POST	Automation/v1/objects/Tasks/{id}/actions/resubmit/invoke	Submit
Guide to archiving a task (on page 290)	DELETE	Automation/v1/objects/Tasks/{id}	Modify
Retrieving information to archive a task (on page 291)	GET	Automation/v1/objects/Tasks/{id}/actions/archive	Modify
Archiving a task (on page 293)	POST	Automation/v1/objects/Tasks/{id}/actions/archive/invoke	Modify
Preparing to rerun a task from the failed step (on page 296)	GET	Automation/v1/objects/Tasks/{id}/actions/rerunStart	Submit
Rerunning a task from the failed step (on page 297)	POST	Automation/v1/objects/Tasks/{id}/actions/rerunStart/invoke	Submit
Preparing to rerun a task after the failed step (on page 300)	GET	Automation/v1/objects/Tasks/{id}/actions/rerunStepStart	Submit
Rerunning a task after the failed step (on page 302)	POST	Automation/v1/objects/Tasks/{id}/actions/rerunStepStart/invoke	Submit
Updating a task (on page 304)	PUT	Automation/v1/objects/Tasks/{id}	Submit
Preparing to respond to a task (on page 308)	GET	Automation/v1/objects/Tasks/{id}/actions/response	Submit
Responding to a task (on page 311)	POST	Automation/v1/objects/Tasks/{id}/actions/response/invoke	Submit

Table 4 Task history

Request	Method	URI	Minimum Role
Getting a list of task histories (on page 314)	GET	Automation/v1/objects/TaskHistories	Submit
Deleting task histories (on page 317)	DELETE	Automation/v1/objects/TaskHistories	Modify
Selecting a task history (on page 320)	GET	Automation/v1/objects/TaskHistories/{id}	Submit
Deleting a task history (on page 323)	DELETE	Automation/v1/objects/TaskHistories/{id}	Modify
Getting a list of task history actions (on page 325)	GET	Automation/v1/objects/TaskHistories/{id}/actions	Submit

Table 5 Property Definition

Request	Method	URI	Minimum Role
Getting a list of property definitions (on page 327)	GET	Automation/v1/objects/PropertyDefinitions	Submit
Getting a property definition (on page 330)	GET	Automation/v1/objects/PropertyDefinitions/{id}	Submit
Getting a list of property definitions actions (on page 333)	GET	Automation/v1/objects/PropertyDefinitions/{id}/actions	Submit

Table 6 Property Value

Request	Method	URI	Minimum Role
Getting a list of property values (on page 334)	GET	Automation/v1/objects/PropertyValues	Submit

Request	Method	URI	Minimum Role
Getting a property value (on page 338)	GET	Automation/v1/objects/PropertyValues/{id}	Submit
Editing a specified property value (on page 339)	PUT	Automation/v1/objects/PropertyValues/{id}	Modify
Editing multiple instances of a property value (on page 342)	PUT	Automation/v1/objects/PropertyValues	Modify
Getting a list of property values actions (on page 346)	GET	Automation/v1/objects/PropertyValues/{id}/actions	Submit

Table 7 Service group

Request	Method	URI	Minimum Role
Getting a list of service groups (on page 348)	GET	Automation/v1/objects/ServiceGroups	Submit
Creating a service group (on page 351)	POST	Automation/v1/objects/ServiceGroups	Admin
Selecting a service group (on page 353)	GET	Automation/v1/objects/ServiceGroups/{id}	Submit
Editing a service group (on page 355)	PUT	Automation/v1/objects/ServiceGroups/{id}	Admin
Deleting a service group (on page 358)	DELETE	Automation/v1/objects/ServiceGroups/{id}	Admin
Getting a list of service group actions (on page 360)	GET	Automation/v1/objects/ServiceGroups/{id}/actions	Submit
Preparing to assign a service group to a user group with a role (on page 363)	GET	Automation/v1/objects/ServiceGroups/{id}/actions/assign	Admin and User management

Request	Method	URI	Minimum Role
Assigning a service group to a user group (on page 365)	POST	Automation/v1/objects/ServiceGroups/{id}/actions/assign/invoke	Admin and User management
Preparing to unassign a service group (on page 369)	GET	Automation/v1/objects/ServiceGroups/{id}/actions/unassign	Admin and User management
Unassigning a service group (on page 371)	POST	Automation/v1/objects/ServiceGroups/{id}/actions/unassign/invoke	Admin and User management

Table 8 Service template

Request	Method	URI	Minimum Role
Getting a list of service templates (on page 374)	GET	Automation/v1/objects/ServiceTemplates	Modify
Selecting a service template (on page 377)	GET	Automation/v1/objects/ServiceTemplates/{id}	Modify
Deleting a service template (on page 380)	DELETE	Automation/v1/objects/ServiceTemplate/{id}	Develop
Getting a list of service template actions (on page 382)	GET	Automation/v1/objects/ServiceTemplates/{id}/actions	Modify
Preparing to import a service template (on page 385)	GET	Automation/v1/services/ServiceTemplates/actions/import	Develop
Importing a service template (on page 387)	POST	Automation/v1/services/ServiceTemplates/actions/import/invoke	Develop
Preparing to export a service template (on page 390)	GET	Automation/v1/objects/ServiceTemplates/{id}/actions/export	Submit
Exporting a service template (on page 392)	POST	Automation/v1/objects/ServiceTemplates/{id}/actions/export/invoke	Develop

Request	Method	URI	Minimum Role
Getting service template help (on page 393)	GET	Automation/v1/objects/ServiceTemplates/{id}/actions/detailhelp	Modify
Preparing to bind and run a service template (on page 395)	GET	Automation/v1/objects/ServiceTemplates/{id}/actions/bind	Modify
Binding and running a service template (on page 398)	POST	Automation/v1/objects/ServiceTemplates/{id}/actions/bind/invoke	Modify

Table 9 Property information

Request	Method	URI	Minimum Role
Getting property information (on page 402)	GET	Automation/v1/objects/PropertyInformations	Submit

Table 10 Property group

Request	Method	URI	Minimum Role
Getting a list of property groups (on page 407)	GET	Automation/v1/objects/PropertyGroups	Submit

Table 11 Task log

Request	Method	URI	Minimum Role
Getting a task log (on page 409)	GET	Automation/v1/objects/TaskLogs	Submit

Table 12 Tag group

Request	Method	URI	Minimum Role
Getting a list of tag groups (on page 412)	GET	Automation/v1/objects/TagGroups	Submit

Table 13 Tag

Request	Method	URI	Minimum Role
Getting a list of tags for a resource (on page 415)	GET	Automation/v1/objects/Tags	Submit

Table 14 External server connection

Request	Method	URI	Minimum Role
Getting a list of external server connections (on page 419)	GET	Automation/v1/objects/ExternalServerConnections	Submit

Table 15 Host

Request	Method	URI	Minimum Role
Getting a list of hosts (on page 421)	GET	Automation/v1/objects/Hosts	Submit

Table 16 Storage systems

Request	Method	URI	Minimum Role
Getting a list of storage systems (on page 425)	GET	Automation/v1/objects/StorageSystems	Submit

Table 17 Other

Request	Method	URI	Minimum Role
Getting user information (on page 427)	GET	Automation/v1/user	Submit
Getting the version information (on page 428)	GET	Automation/v1/configuration/version	Submit

Common resource attributes

The API responses present the following set of Cloud Data Management Interface (CDMI)-based attributes that provide hierarchical reference for the request.

Table 18 Service

Attribute	Type	Description	HQL::filter applicable?
instanceID	long	Instance identifier	Y
name	string	Service display name. Internationalization (i18n) and localization (i10n) of name is supported.	Y
description	string	Description of the resource	Y
tags	string	Category (tag) information, listed as comma-separated values (csv)	N
serviceTemplateName	string	Service template name which the service is based on.	Y
createTime	ISO8601String	Creation date and time of the service	Y
modifyTime	ISO8601String	Updated date and time of the service	Y

Attribute	Type	Description	HQL::filter applicable?
serviceState	enum	Status of the service. Possible values are: <ul style="list-style-type: none"> ▪ debug ▪ test ▪ release ▪ disabled ▪ maintenance 	Y
serviceGroupName	string	Name of service group to which the service belongs.	Y
iconURL	URLString	Icon image of the URL	N
vendorName	string	Display name of the vendor. Internationalization (i18n) and localization (l10n) of name is supported.	Y
version	string	Version of the service template	Y
lastSubmitTime	ISO8601String	Date and timestamp of the last submitted login time for a user.	Y
favorite	Boolean	Returns <code>True</code> if the service is in the list of favorites of the logged-in user.	Y
failedCount	int	Number of failed tasks	Y
completedCount	int	Number of successful tasks	Y
lastFailedTime	ISO8601String	The time at which a task that runs this service last failed	Y

Attribute	Type	Description	HQL::filter applicable?
resetTime	ISO8601String	Time at which the counter was reset	Y
executedCount	int	Number of finished (failed or successful) tasks	Y
latest	Boolean	Returns <code>True</code> if the service uses a latest template.	Y
imageUrl	URLString	Absolute path information for ImageURL.	N
supportedScheduleType	enum	Schedule types supported by the service. The types are a subset of those supported by the template that was used to create the service. Values are listed as comma-separated values. Possible values are: <ul style="list-style-type: none"> ▪ immediate ▪ schedule ▪ recurrence 	Y
supportedActionType	string	List of supported actions (such as "forciblyStop" or "retry") of task	Y
submitCount	int	Number of times this service was submitted.	Y
serviceTemplateID	long	ID of the template that was used to create this service	Y
serviceGroupID	long	ID of the service group to which this service belongs	Y

Table 19 Schedule

Attribute	Type	Description	HQL::filter applicable?
instanceID	long	ID of the instance of the task	Y
name	string	Task name	Y
submitter	string	Name of the user who submitted the task	Y
status	enum	Status of a fixed run schedule. This the state that generates a task. Possible values are: <ul style="list-style-type: none"> ▪ Under execution - This state does not generate a task. ▪ Completion - Indicates running (schedule is being run) ▪ Complete - Completed schedule. 	Y
scheduleType	enum	Type of schedule. Possible values are: <ul style="list-style-type: none"> ▪ immediate ▪ schedule ▪ recurrence 	Y
createTime	ISO8601String	Submit date and time of schedule	Y
modifyTime	ISO8601String	Date and time that the task was modified.	Y
description	string	Description of submitted task	Y

Attribute	Type	Description	HQL::filter applicable?
scheduleStartTime	ISO8601String	Start date and time of scheduled or recurring task	Y
recurrenceInterval	enum	Interval type of recurring task. Possible values are: <ul style="list-style-type: none"> ▪ daily ▪ weekly ▪ monthly 	Y
recurrenceMinutes	int	Valid only if <code>daily</code> is specified at <code>recurrenceInterval</code> . Specify the time interval in minutes. Valid values are 60,120,180,240,360,480,720,1440. When omitted, 1440 is assumed.	N
recurrenceDayOfWeek	string	Interval of weekly job by day of the week. Comma-separated values are 1 (Sunday) to 7 (Saturday).	N
recurrenceDayOfMonth	string	Recurrence of monthly job by month. Comma-separated values are 1 (January) to 12 (December).	N
recurrenceLastDayOfMonth	Boolean	Specify whether or not to run a task on the last day of the month.	Y
recurrenceStartDate	ISO8601String	Start date of recurring task	Y

Attribute	Type	Description	HQL::filter applicable?
recurrenceTime	string	Start time of recurring task.	Y
serviceState	enum	Status of service. Possible values are: <ul style="list-style-type: none"> ▪ debug ▪ test ▪ release ▪ maintenance 	Y
serviceID	long	ID of service	Y

Table 20 Task

Attribute	Type	Description	HQL::filter applicable?
instanceID	long	ID instance of the task	Y
name	string	Name of the task	Y
status	enum	Status of the task. Possible values are: <ul style="list-style-type: none"> ▪ failed ▪ completed ▪ canceled ▪ inProgressTerminating ▪ inProgressWithError ▪ waitingForInput ▪ inProgress ▪ suspended ▪ waiting ▪ longRunning 	Y
startTime	ISO8601String	Start date and time of the task	Y

Attribute	Type	Description	HQL::filter applicable?
completionTime	ISO8601String	End date and time of the task	Y
scheduledStartTime	ISO8601String	Scheduled date and time of the task.	Y
submitter	string	Name of the user who submits the task	Y
submitTime	ISO8601String	Date and time of the task.	Y
modifyTime	ISO8601String	Date and time the task was last updated.	Y
serviceState	enum	State of the service to which this task belongs. Possible values are: <ul style="list-style-type: none"> ▪ debug ▪ test ▪ release ▪ maintenance ▪ buildDebug 	Y
scheduleType	enum	Schedule type of the task. Possible values are: <ul style="list-style-type: none"> ▪ immediate ▪ schedule ▪ recurrence 	Y
description	string	Description of the task, provided by the user who submits the task.	Y

Attribute	Type	Description	HQL::filter applicable?
serviceName	string	Service display name. Internationalization (i18n) and localization (i10n) of name is supported.	Y
tags	string	Category (tag) information listed as comma-separated values	N
recurrenceInterval	enum	Interval type of recurring task. Possible values are: <ul style="list-style-type: none"> ▪ daily ▪ weekly ▪ monthly 	Y
recurrenceTime	string	Exec time of day for recurrence task	Y
recurrenceStartDate	ISO8601String	Start date of recurring task	Y
serviceGroupName	string	Service group to which the task belongs. The name must be the same as the service group that is associated with the service to which the task belongs.	Y
toDo	Boolean	A flag that the task marks as to-do.	Y
notes	string	Additional information regarding the task.	Y
stepStartTime	ISO8601String	Start time of a long-running step.	Y

Attribute	Type	Description	HQL::filter applicable?
supportedActionType	string	List of supported actions (such as "forciblyStop" or "retry") of task	Y
serviceTemplateID	long	ID of the service template that was used to run the task.	Y
scheduleID	long	Definitions (schedule) for the corresponding task.	Y
serviceGroupID	long	ID of the service group to which the task belongs. The ID must be the same as that of the service group that is associated with the service to which the task belongs.	Y
serviceID	long	ID of the service to which the task belongs.	Y

Table 21 Task history

Attribute	Type	Description	HQL::filter applicable?
instanceID	long	ID of the task history instance	Y
name	string	Name of the task	Y
submitter	string	Name of the user who submitted the task	Y
serviceName	string	Service name associated with the task.	Y

Attribute	Type	Description	HQL::filter applicable?
tags	string	Category information	Y
scheduleType	enum	Schedule type of the task. Possible values are: <ul style="list-style-type: none"> ▪ immediate ▪ schedule ▪ recurrence 	Y
scheduledStartTime	ISO8601String	Scheduled date and time of the task	Y
startTime	ISO8601String	Actual start date and time of the task	Y
completionTime	ISO8601String	End date and time of the task	Y
stepStartTime	ISO8601String	Step start time of the task	Y
recurrenceInterval	enum	Interval type. Possible values are: <ul style="list-style-type: none"> ▪ daily ▪ weekly ▪ monthly 	Y
recurrenceMinutes	int	Valid only if daily is specified at <code>recurrenceInterval</code> . Specify the time interval in minutes. Valid values are 60,120,180,240,360,480,720,1440. When omitted, 1440 is assumed.	N
recurrenceDayOfWeek	string	Interval of weekly job, as DayOfWeek (1:Sun to 7:Sat), csv.	N

Attribute	Type	Description	HQL::filter applicable?
recurrenceDayOfMonth	string	Interval of monthly job, run specified DayOfMonth, csv.	N
executeLastDayOfMonth	Boolean	Returns <code>True</code> , run on the last day of the month.	Y
recurrenceTime	string	Start time of recurring task	Y
archiveTime	ISO8601String	Date and time the task was archived	Y
taskID	long	Task identifier	Y
submitTime	ISO8601String	Date and time of the task was created	Y
recurrenceStartDate	ISO8601String	Start date of the recurring task.	Y
status	enum	Status of the task. Possible values are: <ul style="list-style-type: none"> ▪ waiting ▪ holding ▪ inprogress ▪ awaiting response ▪ abnormal end ▪ suspended ▪ canceled ▪ completed ▪ failed 	Y
description	string	Description of the task.	Y
serviceState	enum	State of the service to which this task	Y

Attribute	Type	Description	HQL::filter applicable?
		<p>belongs. Possible values are:</p> <ul style="list-style-type: none"> ▪ test ▪ release ▪ maintenance ▪ buildDebug 	
todo	Boolean	The to-do flag that is applied to the task	Y
notes	string	Additional information for task.	Y
serviceGroupName	string	Service group to which the task belongs. The name must be the same as the service group that is associated with the service to which the task belongs.	Y
serviceGroupID	long	ID of the service group to which the task belongs. The ID is the same as that of the service group that is associated with the service to which the task belongs.	Y

Table 22 Property definition

Attribute	Type	Description	HQL::filter applicable?
instanceID	long	ID of the instance.	Y

Attribute	Type	Description	HQL::filter applicable?
keyName	string	Key name of the property. The name must be in ASCII format and can be up to 128 characters long.	Y
displayName	string	Display name of the property. Internationalization (i18n) and localization (i10n) of name is supported.	N Note: Localized string cannot be filtered.
defaultValue	string	Default value of the property.	Y
type	enum	Type of the property. Possible values are: <ul style="list-style-type: none"> ▪ boolean ▪ integer ▪ string ▪ double ▪ timestamp ▪ password ▪ list ▪ file 	Y

Attribute	Type	Description	HQL::filter applicable?
visibility	enum	<p>Access control (or visibility) for a service property. Possible values are:</p> <ul style="list-style-type: none"> ▪ exec ▪ work ▪ config <p>If the property is set to <code>exec</code>, run parameters for submitting tasks are visible to users with the Submit role. If the property is set to <code>work/config</code>, configuration parameters are visible only to users with the Modify role.</p>	Y
scope	enum	<p>Scope of the property. Possible values are:</p> <ul style="list-style-type: none"> ▪ share ▪ local <p>If the property value is set to <code>share</code>, the property can be shared with other service instances. If the value is set to <code>local</code>, the property cannot be shared.</p>	Y

Attribute	Type	Description	HQL::filter applicable?
description	string	Description of the property. Internationalization (i18n) and localization (i10n) of name is supported. This value can be localized through <code>resource.properties</code> .	N Note: A localized string cannot be filtered.
mode	enum	Mode attribute of the property. Possible values are: <ul style="list-style-type: none"> ▪ in ▪ out ▪ inout in is used for submit/config. out for taskdetail	Y
required	Boolean	If <code>True</code> , require that the property be specified during the submit action.	Y
maxLength	integer	Maximum length for a string property.	Y
minLength	integer	Minimum length for a string property.	Y
minValue	string	Minimum value for a numeric property.	Y
maxValue	string	Maximum value for a numeric property.	Y
pattern	string	Regular expression pattern for validate string/password property.	Y

Attribute	Type	Description	HQL::filter applicable?
valueList	string	List of values shown as comma-separated values (CSV).	Y
propertyGroupName	string	Property group name.	Y
validationScript	string	Validates function for input property, in Javascript. An API call can be used to check the input through this function. Function (propertyValue, language):string. Returns error message if a value is invalid. Otherwise, returns nothing.	N
readOnly	Boolean	Returns <code>True</code> if the property is locked or hidden.	N
hidden	Boolean	Returns <code>True</code> if the property is hidden.	N
reference	Boolean	Whether or not the value of the property is referring other property values.	N
serviceTemplateID	long	ID of the related service template	Y

Table 23 Property value

Attribute	Type	Description	HQL::filter applicable?
instanceID	long	ID of the instance.	Y

Attribute	Type	Description	HQL::filter applicable?
type	enum	Type of the property. Possible values are: <ul style="list-style-type: none"> ▪ boolean ▪ integer ▪ string ▪ double ▪ timestamp ▪ password ▪ list ▪ file 	Y
keyName	string	Key name of the property. The name must be in ASCII format and can be up to 128 characters long.	Y
value	string	Current value of the property.	Y
readOnly	Boolean	Returns <code>True</code> if the property is locked or hidden	Y
hidden	Boolean	Returns <code>True</code> if the property is hidden	Y
serviceID	long	Service identifier of the resource.	Y
scheduleID	long	Schedule identifier of the resource.	Y
taskID	long	Task identifier of the resource.	Y

Table 24 Service group

Attribute	Type	Description	HQL::filter applicable?
instanceID	long	ID of the Instance.	Y
objectID	string	Group identifier of the resource.	Y
name	string	Service group name (name can be up to 62 characters long)	Y
description	string	Description (name can be up to 79 characters long).	Y

Table 25 User group

Attribute	Type	Description	HQL::filter applicable?
instanceID	string	A user group's ID	N
applicationType	string	Product name	N
deviceType	string	Unit type	N
deviceNumber	string	Unit number	N
name	string	User group name	N
description	string	Description of a user group	N
groupType	string	Type of group Note: For a built-in user-group, Automation Director shows as "Builtin"	N
distinguishedName	string	A distinctive secondary name	N
domainName	string	Name of the domain	N
role	IRoleVO	User group role	N

Table 26 User info

Attribute	Type	Description	HQL::filter applicable?
userName	string	User name	N
accessPermission	string[]	Access permissions associated with the user	N
fullName	string	Full user name	N
description	string	User description	N
email	string	User email address	N
resourceGroup	ResourceGroup[]	Access permissions associated with the user for each resource group	N
logonTime	ISO8601String	Contains the last logon date/time of the user	N

Table 27 Resource group

Attribute	Type	Description	HQL::filter applicable?
instanceID	string	Resource group ID instance	N
name	string	Resource group name	N
description	string	Description of the resource group	N
accessPermission	string[]	Access permissions associated with the user of a resource group	N

Table 28 Version info

Attribute	Type	Description	HQL::filter applicable?
productName	string	The product name	N
productVersion	string	The product version	N
apiVersion	string	The API version	N

Table 29 ServiceTemplate

Attribute	Type	Description	HQL::filter applicable?
instanceID	long	The instance ID	N
keyName	string	The service template key name (ASCII max 64 length)	N
displayName	string	The service template display name (can be i18n/i10n, max 64 length)	N
iconURL	URLString	The URL string	Y
vendorID	string	The vendor ID (FQDN-like style identifier)	N
version	string	The version of the service template	N
vendorName	string	The display name of the vendor, can be i18n/i10n	N
tags	string	The list of tag names for the template applied.	Y
createTime	List of tag names the template applied.	The registered date time of the service template	N
modifyTime	ISO8601String	The updated date time of the service template	N

Attribute	Type	Description	HQL::filter applicable?
description	string	The description of the service template, short version	N
releaseState	enum	The release status of the service template archive. Possible values are: <ul style="list-style-type: none"> ▪ debug ▪ release 	N
latest	boolean	This is the latest version of the service template. It is only set for a released service.	N
imageUrl	URLString	The image URL for the overview-image	Y
supportedScheduleType	enum	Support schedule types that the Service template can apply. Possible values are: <ul style="list-style-type: none"> ▪ immediate ▪ schedule ▪ recurrence 	N
supportedActionType	string	List of supported actions (such as "forciblyStop" or "retry") of task	Y
needVUP	boolean	The template with services that is waiting to apply this version	N (the system -- unidentified)
componentOutdated	boolean	The template is waiting to create a new version and is currently using an outdated component.	N (the system -- unidentified)

Attribute	Type	Description	HQL::filter applicable?
usedServices	int	The number of services being used by the template	N
usedTemplates	int	The number of templates being used	N

Table 30 Property information

Attribute	Type	Description	HQL::filter applicable?
instanceID	long	The instance ID	N
keyName	string	The key name of the property (ASCII, max 128 length)	N
displayName	string	The display name of the property (i18n/ i18n)	Y Note: Localized string cannot be filtered.
defaultValue	string	The default value of the property, defined in a service template	N
value	string	The current value of the property	N
type	enum	Type of property. Possible values are: <ul style="list-style-type: none"> ▪ boolean ▪ integer ▪ string ▪ double ▪ timestamp ▪ password ▪ list ▪ file 	N

Attribute	Type	Description	HQL::filter applicable?
visibility	enum	Visibility of the property that represents access control for a service property. Possible values are: <ul style="list-style-type: none"> ▪ exec ▪ work ▪ config exec parameter is visible for submit user on submit/task details. config parameter is only visible for expert user.	N
scope	enum	The scope of the property. Possible values are: <ul style="list-style-type: none"> ▪ local ▪ share Shared property will share with different service instance.	N
description	string	The description of the property. This value can be localize through resource properties.	Y Note: Localized string cannot be filtered.
mode	enum	Mode attribute of the property. Possible values are: <ul style="list-style-type: none"> ▪ in ▪ out ▪ inout in is used for submit/config.	N

Attribute	Type	Description	HQL::filter applicable?
		out for taskdetail.	
required	boolean	Returns <code>True</code> , it is required that the property be specified during the submit action.	N
maxLength	int	The max length for string based property	N
minLength	int	The min length for string based property	N
minValue	string	The min value for numeric property	N
maxValue	string	The max value for numeric property	N
pattern	string	The "string"/"password" property [regular expression pattern for validate]	N
valueList	string	The CSV list of value, in "List" type	N
propertyGroupName	string	The Property Group name	N

Attribute	Type	Description	HQL::filter applicable?
validationScript	string	The validate function for input property, in javascript. API calls can check their input through the function. Function(propertyValue, language):string. Return error message if value invalid. Otherwise, return nothing.	Y
readOnly	boolean	Returns <code>True</code> if the property is locked or hidden	Y
hidden	boolean	Returns <code>True</code> if the property is hidden	Y
reference	boolean	This represents the value defined as a variable. It replaces the referred value. PUT for the value will be ignored. GUI will display this value as read-only.	Y
serviceTemplateID	long	The related service template	N
serviceID	long	The related service	N
taskID	long	The related taskID	N
scheduleID	long	The related schedule	N

Table 31 PropertyGroup

Attribute	Type	Description	HQL::filter applicable?
keyName	string	The identifier name of the property group	N
displayName	string	The user friendly name of the property group	N
description	string	The description of the group	N
ordinal	int	The ordinal of the group. Note: The service window will display by the order.	N
validationScript	string	This is the validate function for input property, in javascript. API calls can check their input through the function. Function(propertyValue[], language):string[]. Return error messages as string array. if value invalid. Otherwise, return nothing.	N
display	enum	List of windows that the property group uses as a display property. Possible values are: <ul style="list-style-type: none"> ▪ submit ▪ config ▪ taskdetail 	N
configViewURL	URLString	UI information for the group.	N

Attribute	Type	Description	HQL::filter applicable?
configEditURL	URLString	UI information for the group.	N
submitViewURL	URLString	UI information for the group.	N
submitEditURL	URLString	UI information for the group.	N
taskDetailURL	URLString	UI information for the group.	N

Table 32 ResponseInput

Attribute	Type	Description	HQL::filter applicable?
dialogText	string	Body of input response dialog	N
labelButton0	string	Choice	N
labelButton1	string	Choice	N
labelButton2	string	Choice	N
labelButton3	string	Choice	N
labelButton4	string	Choice	N
labelButton5	string	Choice	N
labelButton6	string	Choice	N
labelButton7	string	Choice	N
labelButton8	string	Choice	N
labelButton9	string	Choice	N
screenURL	string	Relative path to start custom UI	N
taskID	long	The taskID	N

Attribute	Type	Description	HQL::filter applicable?
instanceID	long	The instanceID	N
text	string	The text	N
totalSize	long	The total size of a task log (Byte)	N
readSize	long	The size of the acquired task log (Byte)	N
lineCount	long	The number of lines of the acquired task log	N
offset	long	The offset specified at the time of acquisition (Byte)	N
reverse	boolean	Returns <code>True</code> if you used the offset as a terminal point	N

Table 33 Tag

Attribute	Type	Description	HQL::filter applicable?
instanceID	long	The instanceID	N
name	string	The tag name (max length = 256)	N
tagGroupID	long	The group ID for the Tag	

Table 34 TagGroup

Attribute	Type	Description	HQL::filter applicable?
instanceID	long	ID of the instance	N
name	string	The tag group name (max length = 256)	N

Attribute	Type	Description	HQL::filter applicable?
tags	long	The list of tag names, as CSV	Y

Table 35 ExternalServer Connection

Attribute	Type	Description	HQL::filter applicable?
instanceID	long	The instance ID.	N
name	string	The external server connection name.	N
createTime	ISO8601String	The time the connection was created.	N
modifyTime	ISO8601String	The time the connection was last modified.	N
productName	string	The product name that operates with DeviceManager/ vCenter.	N
protocol	string	The access protocol (for every product) and the current support condition for http and https .	N
ipAddress	string	The IP Address (v4, v6) or hostname.	N
port	integer	The port number.	N
userID	string	The user ID used for the connection.	N

Attribute	Type	Description	HQL::filter applicable?
password	string	The user password of userID. Note: The password is not returned at the time of acquisition and is not updated during a null period. In addition, "" is specified when clearing a password.	Y
status	enum	State of the connection. Possible values are: <ul style="list-style-type: none"> ▪ success ▪ error ▪ unknown 	N
active	boolean	Status flag of linked HRpM in the case of Device Manager.	N
connectedTime	ISO8601String	The last connected time.	N
useProxy	boolean	Returns True if you use proxy.	N
proxyHost	string	Returns the host name or IP address of proxy if you use proxy.	N
proxyPort	integer	Returns the port number if you use proxy. If not, this attribute is not shown.	N
proxyAuthenticate	enum	Returns the proxy authentication type (basic or digest) if you use proxy. If not, "none" is returned.	N

Attribute	Type	Description	HQL::filter applicable?
proxyUser	string	Returns the user ID if you use proxy.	N

Table 36 Host

Attribute	Type	Description	HQL::filter applicable?
instanceID	string	Instance identifier	N
hostName	string	The host name acquired from	N
hostID	long	The host ID acquired from Device Manager	N
wwn	string	The WWN acquired from Device Manager	N
wwnNickname	string	The WWN nickname acquired from Device Manager	N
iscsiName	string	The iSCSI name acquired from Device Manager	N
ipAddress	string	The IP address info acquired from Device Manager	N
operatingSystem	string	The operation system info acquired from Device Manager	N
capacityInKb	long	The capacity in Kb info acquired from Device Manager	N
cluster	string	The cluster info acquired from Device Manager	N

Attribute	Type	Description	HQL::filter applicable?
model	string	The model info acquired from Device Manager	N
hostType	string	The type info acquired from Device Manager	N
fileServerType	string	The file server type info acquired from Device Manager	N
deviceManagerName	string	The Device Manager name info acquired from Device Manager.	N
displayName	string	The name displayed for a host. Note: This is usually same value as the <code>hostName</code> . This also shows the ":Device Manager name" behind the host name.	N
hostInfoID	long	The ID of the host	N
externalServerConnectionID	long	The <code>instanceID</code> of the connection information on Device Manager	N

Table 37 StorageSystem

Attribute	Type	Description	HQL::filter applicable?
instanceID	string	Instance identifier	Y
storageArrayID	long	Unique ID of Device Manager for the storage device.	Y
name	string	Name of the storage device	Y

Attribute	Type	Description	HQL::filter applicable?
displayName	string	Display name of the storage device. Note: This is usually the same value as the name of the storage device. However, if there is more than one storage device with the same name on the list, it is not differentiated in the window. So if the name is duplicated, the Device Manager name is added after the storage device name.	Y
storageSystemInfoID	long	ID of the StorageSystemInfo	Y
externalServerConnectionID	long	The <code>instanceID</code> of the connection to Device Manager.	Y

Query string

The query string describes a resource request from the client side and provides information for controlling the format of the response.

The following table describes and lists the values for the supported parameters of a query string:

Parameter	Description	Value	Default	Range	Target
HQL::filter	Perform filtering on a specified column and conditions.	Specify query filter separately.	N/A	N/A	GET Collection
HQL::offset	Specify the beginning line offset to acquire. offset=pageSize*(page-1)	0,1,2,...	0	0 to 2147483647	GET Collection
HQL::count	Specify the maximum number of the objects included in a response. When 0 is specified, acquire all the objects. When the total of count and offset exceeds 2147483647, acquire the object from the value specified as the offset to the 2147483647th.	0,1,2,3,...	100	0 to 2147483647	GET Collection
HQL::fields	Specify the field included in a return information.	N/A	N/A	N/A	GET Collection
HQL::sortBy	Sort in a specify column.	<column>[{ASC DESC}], <column>[{ASC DESC}])*	ASC	N/A	GET Collection
page	Acquire the information on	1,2,3,...	N/A	1 to 2147483647	GET Collection

Parameter	Description	Value	Default	Range	Target
	a specify page. It is necessary to specify with <code>pageSize</code> . Priority is given over offset, and it changes into offset and is interpreted.				
<code>pageSize</code>	Specify a page size. It becomes the maximum number of objects to return. Priority is given over <code>HQL::count</code> and it is interpreted as the count. When 0 is specified, this field acquires all the objects.	0,1,2,3,...	N/A	0 to 2147483647	GET Collection
<code>alt</code>	Specify the format treated instead of a <code>Content-Type/Accept</code> header. The feature for testing by simple clients, e.g. a browser	>xml json	N/A	N/A	All the methods
<code>_method</code>	Call a different method than the specified one.	PUT POST DELETE	N/A	N/A	All the methods

Parameter	Description	Value	Default	Range	Target
	Use when PUT, DELETE, or POST are not supported by proxy or client mounting policies. _method is given priority over X-HTTP-Method-Override.				

Specifying pageSize and page parameters

The `pageSize` specifies the number of lines on a page to use for a service list, for example, or the number of lines on a GUI display. You can specify the `pageSize` (such as 100 lines per page) and you can also specify the page number in a request.

Since the total number of resources and the number of pages can be accessed in the pagination object that is returned through the `page` and `pageSize` parameters, the user must be able to determine the location of the target data.

Use the `page` and `pageSize` to calculate the `HQL::offset`. If the range of the `HQL::offset` is exceeded, Hitachi Automation Director returns a `Bad Request` response (status code 400). Moreover, when the sum total of the value `offset` and `pageSize` exceeds 2147483647, the request acquires only objects from the `offset` to the 2147483647th position.

Using the query filter

The Automation Director API query filter allows you to specify and refine the collection of data by using query parameters such as `HQL::filter` and supported expressions.

Syntax

Use the following expressions to define the target data for a resource request:

```
expression ::= "(" expression ")" | binary-expression | expression
junction expression
junction ::= ( "and" | "or" )
binary-expression ::= (compare-expression | tuple-expression)
compare-expression ::= name-expression compare-operation value-expression
tuple-expression ::= name-expression tuple-operation tuple-value-expression
tuple-value-expression ::= "[" value-expression ("," value-expression)* "]"
name-expression ::= property-name | "[" property-name "]"
value-expression ::= ( string-expression | number-expression | boolean-
expression )
string-expression ::= "'" ([^'] | [']{2})* "'"
number-expression ::= ( "0" | "1" | "2" | "3" | "4" | "5" | "6" | "7" |
"8" | "9" )+
boolean-expression ::= "true" | "false" | "TRUE" | "FALSE"
compare-operation ::= ( "eq" | "=" | "ne" | "<>" | "!=" | "gt" | ">" |
"lt" | "<" | "ge" | ">=" | "le" | "<=" | "starts" | "ends" | "like" )
tuple-operation ::= ( "in" | "not in" )
```

Where:

- *property-name* is a property name (`Property.name` returned by properties) that is specified with a resource type.
- The value-expression shows whether the expression is a Boolean value, the string expression (enclosed by single quotes) or the numeric expression as JSON representation as the property information, and it is different from the actual type of Property. For example, since Calendar/Date type is treated as the character string of ISO8601 representation, it becomes a string expression.

Expression support

This table lists the supported expressions.

Model name	Expression
int/long	number-expression
enum	string-expression
string	string-expression
ISO8601String	string-expression
URLString	string-expression
Boolean	Boolean-expression
other	not supported

This API uses the Contextual Query Language (CQL) observes the following guidelines:

- Keywords are case insensitive.
- Arithmetic functions have priority. It is understood as $a=1$ and $b=2$ or $a=1$ and $c=2$ ($a=1$ and $b=2$) or ($a=1$ and $c=2$).

For example, the following expression performs filtering on the specified columns:

```
...?HQL::filter=instanceID%20in%20['1000',%20'1001','1002']%20and%20status%20=%20'Running'
```

Operation list

The following table shows the supported operations and expressions.

Operation	Description	The grammar that can be specified	Priority level
and	Are they both true?	compare-expression, tuple-expression	2
eq	Is it equal?	string, number, boolean	1
ne	Is it not equal?	string, number, boolean	1
gt	Is it larger?	string, number	1
lt	Is it smaller?	string, number	1
ge	Is it greater than or is it equal?	string, number	1
le	Is it smaller or is it equal?	string, number	1
starts	Is it a starting value?	string	1
ends	Is it an exit value?	string	1
in	Is it contained?	string, number, boolean	1
not in	Is it not contained?	string, number, boolean	1
like*	Is a regular expression matched?	string	1

Operation	Description	The grammar that can be specified	Priority level
or	Is either true?	compare-expression, tuple-expression	3
contains*	Multiple conditions can be specified. Is one of the specified elements contained?	string, number, Boolean, enum	1
contains any*	Same as "contains".	string, number, Boolean, enum	1
contains none*	Multiple conditions can be specified. Are all of the elements not contained (not present)?	string, number, Boolean, enum	1

* The HAD API does not support this operation.

Domain object convention

The domain is one of the main resources in HAD. Most HAD resources are found in the `objects` domain.

Primitive data types

The primitive data types in the JSON/XML representation of a supported resource are shown in the following table.

Type	Values
Boolean	true or false
Int	Signed 32-bit integer
Long	Signed 64-bit integer
String	Text

Date and Time

Specify the date and time using the ISO8601 format. The format can omit all information except "year." However, if the date or time is omitted, the minimum valid value is added automatically. If the time zone is omitted, the time zone set at the host service is added (by default). However, if you specify the date and time with the parameter, the day (dd) and time cannot be omitted.

The following table lists the formats for specifying the date and time.

Format	Example	Time processed by Automation Director
yyyy-mm-ddThh:mm:ss.mmmTZD	2014-12-09T18:50:30.500+09:00	2014-12-09T18:50:30.500+09:00
yyyy-mm-ddThh:mm:ss.mmm	2014-12-09T18:50:30.500.000	2014-12-09T18:50:30.500.000 [time zone of host server]
yyyy-mm-ddThh:mm:ssTZD	2014-12-09T18:50:30+09:00	2014-12-09T18:50:30.000+09:00
yyyy-mm-ddThh:mmTZD	2014-12-09T18:50+09:00	2014-12-09T18:50:00.000+09:00
yyyy-mm-ddThhTZD	2014-12-09T18+09:00	2014-12-09T18:00:00.000+09:00
yyyy-mm-dd	2014-12-09	2014-12-09T00:00:00.000 [time zone of host server]
yyyy-mm	2014-12	2014-12-01T00:00:00.000 [time zone of host server]
yyyy	2014	2014-01-01T00:00:00.000 [time zone of host server]

Using the output of an action object

Express a possible operation and its transition URL to a resource.

For example, the following operation:

```
GET https://host:port/Automation/version/objects/Services/id/actions
```

can return a collection of multiple action objects.

```
{
  "data" : [ {
    "name" : "update",
    "href" : "https://host:port/Automation/version/objects/Services/id",
    "method" : "PUT",
    "parameters" : []
  }, {
    "name" : "submit",
    "href" : " https://host:port/Automation/version/objects/Services/id/
actions/submit/invoke",
    "method" : "POST",
    "parameters" : []
  } ],
  .....
}
```

The following table define the objects.

Name	Type	Description
name	string	Action name
href	string	Action URL
method	string	HTTP method
type	string	Media-type
parameters	Object[]	Parameters to invoke the action

Providing message responses to URI request errors

The following function and table provides and describes error responses for a request when the specified URI is not valid.

```
{
  "errorSource" : "anyURI"
  "message" : "",
  "messageID" : "",
  "application" : "Automation",
  "messageData" : "javax.ws.rs.WebApplicationException/r/n/tat ..."
}
```

Name	Type	Description
errorSource	string	Identifying information of the source resource of the error (URI)
message	string	User message
messageID	string	Identifier of the format string for the message
application	string	Application in which the error occurred
messageData	string	Additional error information, for example, the stack trace for debugging (optional)

Requesting the status of an invoked action

The following function returns the status and result of an invoked action (such as an update) by specifying the `instanceID` and the URL of the affected resource (for example, a Task or Property resource).

```
{
  "instanceID":,
  "created":,
  "updated":,
  "completed":,
  "state":, "affectedResource" :[]
  "result":[],
  "resultType" : ""
}
```

The following table describes the available fields for this function.

Name	Type	Description
instanceID	string	Unique identifier for the job
created	string	Generation time of this object
updated	string	Time when this object was updated during asynchronous processing. In synchronous processing, it is the time created.
completed	string	Time which processing completed in asynchronous processing. In synchronous processing, it is time created.
state	string	<code>queued</code> : Indicates that the operation has not yet begun processing. Allowable action in this state is: stop. <code>running</code> : Indicates that the operation is still being run. Allowable action in this state is: stop.

Name	Type	Description
		<p><i>failed</i>: Indicates that the operation failed to complete successfully.</p> <p><i>success</i>: Indicates that the operation completed successfully .</p> <p><i>stopping</i>: Indicates that the operation is stopping. Allowable action in this state is stop.</p> <p><i>stopped</i>: Indicates that the operation was stopped before completion.</p>
affectedResource	string[]	Link to affected resource URL.
result	object[]	Result of the job (optional)
resultType	string	The content type of the result object (optional)

Specifying collection information

Use the following elements in a container for returning a collection of object information.

Name	Type	Description
pagination	Object	Pagination information (optional) Note: Use the pagination element, only if <code>page</code> and <code>pageSize</code> are specified at the request.
data	Object[]	List of resources
count	integer	Number of resources in the collection (optional)

Specifying pagination properties

The following function block provides an example for specifying pagination properties.

```
{
  "pagination" : {
    "page" : 1,
    "pageSize" : 10,
    "numPages" : 3,
    "totalCount" : 24
  }
}
```

Name	Type	Description
page	integer	Page number which user requested
pageSize	integer	Page size which user requested
numPages	integer	Number of the all pages
totalCount	integer	Number of the all resources

Warning message format for failure to connect to the external server

When updating the `ExternalServerConnection` status, use the following warning header in response to a server connection failure or ERROR state.

Message: Warning: 199 Automation "Failed to connect external server [Entry-name]"

Chapter 2: Hitachi Automation Director REST API use cases

Use case reference table

The following table provides a quick reference list that includes the use case category, name (containing a link), and description.

It also includes the name of the folder that contains sample programs.

To access the sample code files referenced in the following use cases and get information on how to set up your environment to run the sample code, go to <https://community.hitachivantara.com/docs/DOC-1007318>.

Category	Use case	Description	UC# (Folder name of sample program)
Find services	Find service by service name (on page 85)	Get all service information and find a service by name	UC_GET_SERVICE_BY_NAME
	Get top 10 most frequently used services (on page 87)	Get a maximum of 10 services in descending order of submitCount and in ascending order of name.	UC_GET_TOP10_FREQUENTLY_USED_SERVICES
Update service	Change service state to release (on page 90)	Change the state of a service to release.	UC_CHANGE_SERVICE_STATUS_TO_RELEASE
	Change service state to maintenance (on page 94)	Change the state of a service to maintenance.	UC_CHANGE_SERVICE_STATUS_TO_MAINTENANCE
	Delete a service by service name (on page 97)	Delete a service by service Name.	UC_DELETE_SERVICE_BY_NAME
Create and Submit Service Request	Create and submit a service request (Execute immediately) (on page 100)	Search for the Allocate Volumes for Generic Application service, then create a service request to allocate volumes to specified host and submit it.	UC_CREATE_REQUEST
	Create and submit service	Search for the Allocate Volumes for	UC_CREATE_REQUEST_SCHEDULE

Category	Use case	Description	UC# (Folder name of sample program)
	request (Schedule) (on page 105)	Generic Application service, then create a service request to allocate volumes to specified host. This service is run at the specified date and time.	
	Create and submit service request after input validation (on page 110)	Find the Allocate Volumes for Generic Application service by filtering services by name, then create a service request to allocate volumes to the specified host and submit if the user's input is valid.	UC_CREATE_REQUEST_AFTER_INPUT_VALIDATION
	Create and submit service request then get the result after the task is completed (on page 117)	Create service request for Allocate Volumes for Generic Application to allocate volumes to a host, and get the LUN Path Information regarding allocated volumes after the task is completed or failed.	UC_CREATE_REQUEST_AND_GET_RESULT

Category	Use case	Description	UC# (Folder name of sample program)
	Get result by task ID after task completed (on page 124)	Get LUN Path Information after the task for the Allocate Volumes for Generic Application service is done by using given task id.	UC_GET_RESULT_BY_TASK_ID
Find tasks	Find long-running tasks (on page 126)	Find tasks running longer than expected by filtering tasks by the task status of longRunning.	UC_GET_LONG_RUNNING_TASKS
	Find tasks waiting for user input (on page 129)	Find tasks waiting for user's input by filtering tasks by the status of waitingForInput.	UC_GET_TASKS_WAITING_INPUT
Manage tasks	Stop running all tasks by service name (on page 131)	Stop running all tasks by service name.	UC_STOP_ALL_RUNNING_TASKS_BY_NAME
	Stop running a task by task ID (on page 136)	Stop running task by task id.	UC_STOP_RUNNING_TASK
	Archive completed tasks (on page 139)	Archive old tasks that completed 24 hours or more from the current time and are not marked as a TODO task.	UC_ARCHIVE_TASKS

Category	Use case	Description	UC# (Folder name of sample program)
	Cancel all scheduled tasks by service name (on page 144)	Get all scheduled tasks for the service with the specified service name, then cancel the scheduled tasks.	UC_CANCEL_ALL_SCHEDULED_TASKS_BY_NAME
	Cancel scheduled task by task ID (on page 148)	Cancel scheduled task by task id.	UC_CANCEL_SCHEDULED_TASK_BY_TASK_ID
	Suspend all scheduled tasks by service name (on page 152)	Get all scheduled tasks for the service with the specified service name, then suspend the scheduled tasks.	UC_SUSPEND_ALL_SCHEDULED_TASKS_BY_SERVICE_NAME
	Suspend a scheduled task by task ID (on page 156)	Suspend a scheduled task based on task id.	UC_SUSPEND_SCHEDULED_TASK_BY_TASK_ID
	Resume all suspended tasks by service name (on page 160)	Resume all scheduled tasks based on service name.	UC_RESUME_ALL_SCHEDULED_TASKS_BY_SERVICE_NAME
	Resume a suspended task by task ID (on page 164)	Resume a suspended scheduled task for the specified task id.	UC_RESUME_SCHEDULED_TASK_BY_TASK_ID
	Resubmit a task (on page 168)	Resubmit a task.	UC_RESUBMIT_A_TASK

Use cases for finding and managing services

Learn how to use the Automation Director REST API to find and manage services.

To access the sample code files referenced in the following use cases and get information on how to set up your environment to run the sample code, go to <https://community.hitachivantara.com/docs/DOC-1007318>.

Find service by service name

Overview

Find a service by name and get all related service information.

Name	Description
Use case title	Find service by service name
Description	Find the Allocate Volumes for Generic Application service by filtering services by name.
Files	<p>sample_code.py, uri_creator.py</p> <p>These files are located in the following sample code download folder: UC_GET_SERVICE_BY_NAME</p>

REST APIs to call

```
GET http(s)://{host}:{port}/Automation/v1/objects/Services?
HQL::filter=name='Allocate Volumes for Generic Application'
```

- Find Allocate Volumes for Generic Application service by filtering services by name.
- Specify the query string `HQL::filter=name='Allocate Volumes for Generic Application'` to get services with the specified name.
- For details about the query string and resource attributes such as `name`, see the API command set topics.

In the following sample code, the URIs are created by `uri_creator.py`. See *URI Creation and Utility Functions* for details.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	User name of API user account
PASS	Password of API user account
SERVICE_NAME	Name of service

Find a service by filtering services by name.

```

"""
Find a service by filtering services by name
"""
uri = uri_creator.create_get_service_by_name_uri(SERVICE_NAME)
r = requests.get(uri, headers=headers, auth=(USER, PASS))
data = r.json()['data']
if len(data) > 0:
    #Possibly there are more than one services having same name belonging
    different service group
    service = data[0]
    prettyPrint(service)
else:
    print("There is no service having specified name: \"\" + SERVICE_NAME +
    "\"")
    sys.exit(1)

sys.exit(0)

```

URI creation and utility functions

URI creation:

```

"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_service_by_name_uri(self, name):
        uri = self.create_url_base() + "/objects/Services?
HQL::filter=name='"+name+"'"
        return uri

```

Utility functions in sample code:

```

"""
Print json object in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

```

Get top 10 most frequently used services

Overview

Get a maximum of 10 services in descending order of `submitCount` and in ascending order of `name`.

Name	Description
Use case title	Get top 10 most frequently run services.
Description	Get up to 10 most frequently used services in descending order of run count and ascending order of name.

Name	Description
Files	<p>sample_code.py, uri_creator.py</p> <p>These files are located in the following sample code download folder: UC_GET_TOP10_FREQUENTLY_USED_SERVICES.</p>

REST APIs to call

```
GET http(s)://{host}:{port}/Automation/v1/objects/Services?
HQL::filter=executedCount>0&HQL::count=10&HQL::sortBy=executedCount%20DESC,
name%20ASC
```

- Get a maximum of 10 services descending order of `executedCount` and in ascending order of `name`
- Specify the query string `HQL::filter=executedCount >0` to get only services which have been used more than once
- Specify the query string `HQL::count=10` to get the maximum of 10 services
- Specify the query string `HQL::sortBy=executedCount%20DESC, name%ASC`
`executedCount` means the number of run tasks. If you want to count the number of submissions only, use `submitCount` instead of `executedCount`.
- For details about the query string and resource attributes such as `name`, see the API command set topics.

In the following sample code, the URIs are created by `uri_creator.py`. See *URI Creation and Utility Functions* for details.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	User name of API user account
PASS	Password of API user account

Get a maximum of 10 services in descending order of `executedCount` and in ascending order of name.

```

"""
Get 10 services at maximum in descendant order of executedCount and in
ascendant order of name
"""
filterCriteria = "HQL::filter=executedCount>0"
countCriteria = "HQL::count=10"
sortCriteria = "HQL::sortBy=executedCount%20DESC,name%20ASC"
criteria = filterCriteria + "&" + countCriteria + "&" + sortCriteria

uri = uri_creator.create_services_with_criteria_uri(criteria)
r = requests.get(uri, headers=headers, auth=(USER, PASS))

data = r.json()['data']
if len(data) == 0:
    print("There is no services executed")
    sys.exit(1)

count = 1
for service in data:
    print(str(count) + "\t" + service['name'] + "\t" +
          str(service['executedCount']))
    count = count + 1

sys.exit(0)

```

URI creation and utility functions

URI creation

```

"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_services_with_criteria_uri(self, criteria):
        uri = self.create_url_base() + "/objects/Services?" + criteria
        return uri

```

Utility functions in sample code

```

"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

```

Change service state to release

Overview

Change the state of a service to release.

Name	Description
Use case title	Change service state to release
Description	Find the Allocate Volumes for Generic Application service by filtering services by name, then update service state to release

Name	Description
Files	<p>sample_code.py, uri_creator.py</p> <p>sample_code_2.py, uri_creator_2.py (changing service status only)</p> <p>These files are located in the following sample code download folder: UC_CHANGE_SERVICE_STATUS_TO_RELEASE</p>

REST APIs to call

1. GET `http(s)://host:port/Automation/v1/objects/Services?HQL::filter=name='Allocate Volumes for Generic Application'`
 - Find the Allocate Volumes for Generic Application service by filtering services by name
 - Specify the query string `HQL::filter=name='Allocate Volumes for Generic Application'` to get only services with the specified name
 - For details about the query string and resource attributes such as name, see the API command set topics.
2. PUT `https://host:port/Automation/v1/objects/Services/instanceID`
 - Update service information after changing the service state to `release`

You can use the previous API call not only for status changes, but also for other properties such as name, description and tags. However, if service status is the only property that you want to change, you can use the `release` action as follows. See the sample code files (`sample_code_2.py`, `uri_creator_2.py`) for additional detail.

1. GET `https://host:port/Automation/v1/objects/Services?HQL::filter=name='Allocate Volumes for Generic Application'`
2. GET `https://host:port/Automation/v1/objects/Services/instanceID/actions/release`
 - Get property list to invoke the release action
3. POST `https://host:port/Automation/v1/objects/Services/instanceID/actions/release/invoke`
 - Invoke the release action by passing the property list obtained in Step 2

In the following sample code, the uri(s) are created by `uri_creator.py`.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	Username of API user account
PASS	Password of API user account
SERVICE_NAME	Name of the service

1. Find a service by filtering services by name.

```

"""
Find a service by filtering services by name
"""
uri = uri_creator.create_get_service_by_name_uri(SERVICE_NAME)
r = requests.get(uri, headers=headers, auth=(USER, PASS))
data = r.json()['data']
if len(data) > 0:
    #Possibly there are more than one services having same name
    belonging different service group
    service = data[0]
else:
    print("There is no service having specified name: \"\" +
SERVICE_NAME + "\"")
    exit(1)

```

2. Update service information after changing the service state to release.

```

"""
Update service information after changing service state to 'release'
"""
if service['serviceState'] != 'release':
    service['serviceState'] = 'release'
    uri = uri_creator.create_put_service_uri(service['instanceID'])
    ret = do_action("put", uri, service, USER, PASS).json()
else:
    print("The service is already released.")

```

URI creation and utility functions

URI creation

```

"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product

```

```

self.protocol = protocol
self.version = version
self.encode = "utf-8"

def create_url_base(self):
    uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
    return uri

def create_get_service_by_name_uri(self, name):
    uri = self.create_url_base() + "/objects/Services?
HQL::filter=name='"+name+"'"
    return uri

def create_put_service_uri(self, id):
    uri = self.create_url_base() + "objects/Services" + "/" + str(id)
    return uri

```

Utility functions in sample code

```

"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
execute the HTTP request (POST or PUT)
@param method_type HTTP request method (POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type, uri, body, user, passwd):
    try:
        if method_type == "put":
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        elif method_type == "post":
            r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r
        else:
            raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
            return None
    except requests.exceptions.ConnectionError as e:
        print(e.message)
        print("URI : " + uri)
        sys.exit("failed to connect to REST API server. Please check URI
parameters.")

```

```

except requests.HTTPError as e:
    print(e.message)
    sys.exit("HTTP error.")
except Exception as e:
    print(e.message)
    sys.exit("failed to request.")

```

Change service state to maintenance

Overview

Change the state of a service to maintenance.

Name	Description
Use case title	Change service state to maintenance
Description	Find the Allocate Volumes for Generic Application service by filtering services by name, then update service state to maintenance
Files	<p>sample_code.py, uri_creator.py</p> <p>sample_code_2.py, uri_creator_2.py (changing service status only)</p> <p>These files are located in the following sample code download folder: UC_CHANGE_SERVICE_STATUS_TO_MAINTENANCE</p>

REST APIs to call

1. GET `https://host:port/Automation/v1/objects/Services?HQL::filter=name='Allocate Volumes for Generic Application'`
 - Find the Allocate Volumes for Generic Application service by filtering services by name
 - Specify the query string `HQL::filter=name='Allocate Volumes for Generic Application'` to get only services with the specified name
 - For details about the query string and resource attributes such as `name`, see the API command set topics.
2. PUT `https://host:port/Automation/v1/objects/Services/ServiceID`
 - Update service information after changing the service state to `release`

You can use the previous API call not only for status changes, but also for other properties such as name, description and tags. However, if service status is the only

property that you want to change, you can use the `maintenance` action as follows. See the sample code files (`sample_code_2.py`, `uri_creator_2.py`) for additional detail.

1. GET `https://host:port/Automation/v1/objects/Services?HQL::filter=name='Allocate Volumes for Generic Application'`
2. GET `https://host:port/Automation/v1/objects/Services/instanceID/actions/maintenance`
 - Get property list to invoke the maintenance action
3. POST `https://host:port/Automation/v1/objects/Services/instanceID/actions/maintenance/invoke`
 - Invoke the `maintenance` action by passing the property list obtained in Step 2

In the following sample code, the URIs are created by `uri_creator.py`. See the *URI Creation and Utility Functions* for details.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	Username of API user account
PASS	Password of API user account
SERVICE_NAME	Name of the service

1. Find a service by filtering services by name.

```

"""
Find a service by filtering services by name
"""
uri = uri_creator.create_get_service_by_name_uri(SERVICE_NAME)
r = requests.get(uri, headers=headers, auth=(USER, PASS))
data = r.json()['data']
if len(data) > 0:
    #Possibly there are more than one services having same name
    belonging different service group
    service = data[0]
else:
    print("There is no service having specified name: \"\" +
SERVICE_NAME + "\"")

```

2. Update service information after changing the service state to maintenance.

```

"""
Update service state
"""
if service['serviceState'] != 'maintenance':
    service['serviceState'] = 'maintenance'
    uri = uri_creator.create_put_service_uri(service['instanceID'])

```

```

    ret = do_action("put", uri, service, USER, PASS).json()
else:
    print("The service is already released.")

```

URI creation and utility functions

URI creation

```

"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_service_by_name_uri(self, name):
        uri = self.create_url_base() + "/objects/Services?
HQL::filter=name='" + name + "'"
        return uri

    def create_put_service_uri(self, id):
        uri = self.create_url_base() + "objects/Services" + "/" + str(id)
        return uri

```

Utility functions in sample code

```

"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
execute the HTTP request (POST or PUT)
@param method_type HTTP request method (POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type, uri, body, user, passwd):
    try:

```



```

    if(method_type == "put"):
        r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
    elif(method_type == "post"):
        r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
    if r.status_code == http.client.OK:
        return r
    else:
        raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
        return None
except requests.exceptions.ConnectionError as e:
    print(e.message)
    print("URI : " + uri)
    sys.exit("failed to connect to REST API server. Please check URI
parameters.")
except requests.HTTPError as e:
    print(e.message)
    sys.exit("HTTP error.")
except Exception as e:
    print(e.message)
    sys.exit("failed to request.")

```

Delete a service by service name

Overview

Delete a service by service name.

Name	Description
Use case title	Delete a service specified by service name
Description	Find the Allocate Volumes for Generic Application service by filtering services by name, update service state to maintenance, then delete the service
Files	sample_code.py, uri_creator.py These files are located in the following sample code download folder: UC_DELETE_SERVICE_BY_NAME

REST APIs to call

1. GET `https://host:port/Automation/v1/objects/Services?HQL::filter=name='Allocate Volumes for Generic Application'`
 - Find the Allocate Volumes for Generic Application service by filtering services by name
 - Specify the query string `HQL::filter=name='Allocate Volumes for Generic Application'` to get services that match the specified name
 - For details about the query string and resource attributes such as `name`, see the API command set topics.
2. DELETE `https://host:port/Automation/v1/objects/Services/serviceID`
 - Delete the service

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	Username of API user account
PASS	Password of API user account
SERVICE_NAME	Name of the service to delete

1. Find a service by filtering services by name.

```

"""
Find a service by filtering services by name
"""
uri = uri_creator.create_get_services_by_service_name_uri(SERVICE_NAME)
services = requests.get(uri, headers=headers, auth=(USER,
PASS)).json()

if len(services) == 0:
    print("There is no service having specified name: \"\" +
SERVICE_NAME + "\"")
    sys.exit(1)

for service in services['data']:
    """
    Delete the service --> See #2 section
    """

sys.exit(0)

```

2. Delete the service.

```

"""
Delete the service
"""
uri = uri_creator.create_get_service_uri(service['instanceID'])
do_action("delete", uri, None, USER, PASS)

```

URI creation and utility functions

URI creation

```

"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_services_by_service_name_uri(self, serviceName):
        uri = self.create_url_base() + "objects/Services?
HQL::filter=name='"+serviceName +"'"
        return uri

    def create_get_service_uri(self, serviceID):
        uri = self.create_url_base() + "objects/Services/"+str(serviceID)
        return uri

```

Utility functions in sample code

```

"""
execute the HTTP request (POST or PUT)
@param method_type HTTP request method (POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type, uri, body, user, passwd):
    try:
        if method_type == "put":
            r = requests.put(uri, headers=headers, data=json.dumps(body),

```

```

auth=(user, passwd)
    elif(method_type == "delete"):
        r = requests.delete(uri, headers=headers,
data=json.dumps(body), auth=(user, passwd)
    elif(method_type == "post"):
        r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
    if r.status_code == http.client.OK or r.status_code==204:
        return r
    else:
        raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
        return None
except requests.exceptions.ConnectionError as e:
    print(e.message)
    print("URI : " + uri)
    sys.exit("failed to connect to REST API server. Please check URI
parameters.")
except requests.HTTPError as e:
    print(e.message)
    sys.exit("HTTP error.")
except Exception as e:
    print(e.message)
    sys.exit("failed to request.")

```

Use cases for creating and submitting service requests

Learn how to use the Automation Director REST API to create and update services.

To access the sample code files referenced in the following use cases and get information on how to set up your environment to run the sample code, go to <https://community.hitachivantara.com/docs/DOC-1007318>.

Create and submit service request (run immediately)

Overview

Search for the Allocate Volumes for Generic Application service and then create a service request to allocate volumes to specified host and submit it.

Name	Description
Use case title	Create and submit a service request
Description	Find the Allocate Volumes for Generic Application service by filtering services by name, then create a service request to allocate volumes to the specified host and submit it

Name	Description
Files	<p>sample_code.py, uri_creator.py</p> <p>These files are located in the following sample code download folder:</p> <p>UC_CREATE_REQUEST</p>

REST APIs to call

1. GET `https://host:port/Automation/v1/objects/Services?HQL::filter=name='Allocate Volumes for Generic Application'`
 - Find the Allocate Volumes for Generic Application service by filtering services by name
 - Specify the query string `HQL::filter=name='Allocate Volumes for Generic Application'` to get only services with the specified name
 - For details about the query string and resource attributes such as `name`, see the API command set topics.
2. GET `https://host:port/Automation/v1/objects/Services/instanceID/actions/submit`
 - Acquire the service property list to fill property values such as target host and volume settings before submitting a service request
3. POST `https://host:port/Automation/v1/objects/Services/instanceID/actions/submit/invoke`
 - Submit a service request with a filled property list

In the following sample code, the URIs are created by `uri_creator.py`. See *URI Creation and Utility Functions* for details.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	Username of API user account
PASS	Password of API user account
SERVICE_NAME	Service name for which you want to create a service request
TARGET_HOST	Target host to which volumes are allocated
HDVM_NAME	Device Manager name to which the target host is registered

1. Find a service by filtering services by name.

```

"""
Find a service by specified name from all services
"""
uri = uri_creator.create_get_service_by_name_uri(SERVICE_NAME)
r = requests.get(uri, headers=headers, auth=(USER, PASS))
data = r.json()['data']
if len(data) > 0:
    service = data[0]
else:
    print("There is no service having specified name: \"\" +
SERVICE_NAME + "\"")
    exit(1)

instanceID = service['instanceID']

```

2. Acquire the service property list to fill property values such as target host and volume settings before submitting a service request.

```

"""
Acquiring property list of the service in order to fill property
values such as target host and volume settings before submitting
service request
"""
uri = uri_creator.create_prepare_submit_service_uri(instanceID)
submitForm = requests.get(uri, headers=headers, auth=(USER,
PASS)).json()
# Update host settings
hostSetting = find(submitForm['parameters'], 'keyName',
"provisioning.hostSetting.targetHosts.value")
hostSettingValue = {
    "values": {
        "deviceManagerName": HDVM_NAME,
        "hosts" : [
            { "name": TARGET_HOST }
        ]
    }
}
hostSetting['value'] = json.dumps(hostSettingValue)

# Update volume settings
volumeSetting = find(submitForm['parameters'], 'keyName',
"provisioning.volumeSetting.volumeSettings.value")
volumeSettingValue = json.loads(volumeSetting['value'])
usageOS = find(volumeSettingValue['values'], "usage", "OS")
usageOS.update({
    'ldevLabel' : 'OS',
    'capacity' : '10GB'
})
usageApp = find(volumeSettingValue['values'], "usage", "App")

```

```
usageApp.update({
    'ldevLabel' : 'App',
    'capacity' : '10GB'
})
usageData = find(volumeSettingValue['values'], "usage", "Data")
usageData.update({
    'ldevLabel' : 'Data',
    'capacity' : '10GB'
})
volumeSetting['value'] = json.dumps(volumeSettingValue)

# Update task settings
taskSettings = findByProperty(submitForm['parameters'], 'scheduleType')
taskSettings.update({
    'name' : 'Task from API'
})
```

3. Submit a service request with a filled property list.

```
"""
Submit service request with filled property list
"""
uri = uri_creator.create_submit_service_uri(instanceID)
ret = do_action("post", uri, submitForm, USER, PASS).json()
```

URI creation and utility functions

Get result information of the task such as LUN path information.

```
"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"
    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_service_by_name_uri(self, name):
        uri = self.create_url_base() + "/objects/Services?
HQL::filter=name='"+name+"'"
        return uri
```

```

def create_prepare_submit_service_uri(self, id):
    uri = self.create_url_base() + "/objects/Services/" + str(id) + "/"
    actions/submit"
    return uri

def create_submit_service_uri(self, id):
    uri = self.create_url_base() + "/objects/Services/" + str(id) + "/"
    actions/submit/invoke"
    return uri

```

Utility functions in sample code

```

"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
Find element of which property and value equals to specified ones from
array
"""
def find(array, property, value):
    for elem in array:
        if property in elem.keys() and elem[property] == value:
            return elem
    return

"""
Find element of which property name equals to specified one from array
"""
def findByProperty(array, property):
    for elem in array:
        if property in elem.keys():
            return elem
    return

"""
execute the HTTP request (POST or PUT)
@param method_type HTTP request method (POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type, uri, body, user, passwd):
    try:
        if method_type == "put":
            r = requests.put(uri, headers=headers, data=json.dumps(body),
            auth=(user, passwd))
        elif method_type == "post":

```



```

        r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r
        else:
            raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
            return None
    except requests.exceptions.ConnectionError as e:
        print(e.message)
        print("URI : " + uri)
        sys.exit("failed to connect to REST API server. Please check URI
parameters.")
    except requests.HTTPError as e:
        print(e.message)
        sys.exit("HTTP error.")
    except Exception as e:
        print(e.message)
        sys.exit("failed to request.")

```

Create and submit service request (schedule)

Overview

Search for the Allocate Volumes for Generic Application service, then create a service request to allocate volumes to specified host. This service is run at the specified date and time.

Name	Description
Use case title	Create and submit a service request with a schedule.
Description	Find the Allocate Volumes for Generic Application service by filtering services by name, then create a service request to allocate volumes to specified host and submit it with a the specified date/time for running the service.
Files	sample_code.py, uri_creator.py These files are located in the following sample code download folder: UC_CREATE_REQUEST_SCHEDULE.

REST APIs to call

1. GET `https://host:port/Automation/v1/objects/Services?HQL::filter=name='Allocate Volumes for Generic Application'`
 - Find the Allocate Volumes for Generic Application service by filtering services by name
 - Specify the query string `HQL::filter=name='Allocate Volumes for Generic Application'` to get only services with the specified name
 - For details about the query string and resource attributes such as `name`, see the API command set topics.
2. GET `https://host:port/Automation/v1/objects/Services/instanceID/actions/submit`
 - Acquire the service property list to fill property values such as target host and volume settings before submitting service request
 - Also, specify a date/time schedule that specifies when to run the service
3. POST `https://host:port/Automation/v1/objects/Services/instanceID/actions/submit/invoke`
 - Submit a service request with a filled property list

In the following sample code, the URIs are created by `uri_creator.py`. See *URI Creation and Utility Functions* for details.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	Username of API user account
PASS	Password of API user account
SERVICE_NAME	Service name for which you want to create a service request
TARGET_HOST	Target host to which volumes are allocated
SCHEDULE_TIME	Date/time when the service will run

1. Find a service by filtering services by name.

```

"""
Find a service by filtering services by name
"""
uri = uri_creator.create_get_service_by_name_uri(SERVICE_NAME)
r = requests.get(uri, headers=headers, auth=(USER, PASS))
data = r.json()['data']
if len(data) > 0:

```

```

    #Possibly there are more than one services having same name
    belonging different service group
    service = data[0]
else:
    print("There is no service having specified name: \"\" +
SERVICE_NAME + "\"")
    exit(1)
instanceID = service['instanceID']

```

2. Acquire the service property list to fill property values such as target host and volume settings before submitting a service request.

```

"""
Acquiring property list of the service in order to fill property
values such as target host and volume settings before submitting
service request
"""
uri = uri_creator.create_prepare_submit_service_uri(instanceID)
submitForm = requests.get(uri, headers=headers, auth=(USER,
PASS)).json()
# Update host settings
hostSetting = find(submitForm['parameters'], 'keyName',
"provisioning.hostSetting.targetHosts.value")
hostSettingValue = {
    "values": {
        "deviceManagerName": HDVM_NAME,
        "hosts" : [
            { "name": TARGET_HOST }
        ]
    }
}
hostSetting['value'] = json.dumps(hostSettingValue)

# Update volume settings
volumeSetting = find(submitForm['parameters'], 'keyName',
"provisioning.volumeSetting.volumeSettings.value")
volumeSettingValue = json.loads(volumeSetting['value'])
usageOS = find(volumeSettingValue['values'], "usage", "OS")
usageOS.update({
    'ldevLabel' : 'OS',
    'capacity' : '10GB'
})
usageApp = find(volumeSettingValue['values'], "usage", "App")
usageApp.update({
    'ldevLabel' : 'App',
    'capacity' : '10GB'
})
usageData = find(volumeSettingValue['values'], "usage", "Data")
usageData.update({
    'ldevLabel' : 'Data',
    'capacity' : '10GB'

```

```

}))
volumeSetting['value'] = json.dumps(volumeSettingValue)

# Update task settings
taskSettings = findByProperty(submitForm['parameters'], 'scheduleType')
taskSettings.update({
    'name' : 'Task from API',
    'scheduleType' : 'schedule',
    'scheduledStartTime' : SCHEDULE_TIME
})

```

3. Submit a service request.

```

"""
Send service request
"""
uri = uri_creator.create_submit_service_uri(instanceID)
ret = do_action("post", uri, submitForm, USER, PASS).json()

```

URI creation and utility functions

URI creation

```

"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"
    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_service_by_name_uri(self, name):
        uri = self.create_url_base() + "/objects/Services?
HQL::filter=name='"+name+"'"
        return uri

    def create_prepare_submit_service_uri(self, id):
        uri = self.create_url_base() + "/objects/Services/" + str(id) + "/"
actions/submit"
        return uri

    def create_submit_service_uri(self, id):

```

```

        uri = self.create_url_base() + "/objects/Services/" + str(id) + "/
actions/submit/invoke"
        return uri

```

Utility functions in sample code

```

"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
Find element of which property and value equals to specified ones from
array
"""
def find(array, property, value):
    for elem in array:
        if property in elem.keys() and elem[property] == value:
            return elem
    return

"""
Find element of which property name equals to specified one from array
"""
def findByProperty(array, property):
    for elem in array:
        if property in elem.keys():
            return elem
    return

"""
execute the HTTP request (POST or PUT)
@param method_type HTTP request method (POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type, uri, body, user, passwd):
    try:
        if method_type == "put":
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        elif method_type == "post":
            r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r
        else:
            raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
    return None

```

```

except requests.exceptions.ConnectionError as e:
    print(e.message)
    print("URI : " + uri)
    sys.exit("failed to connect to REST API server. Please check URI
parameters.")
except requests.HTTPError as e:
    print(e.message)
    sys.exit("HTTP error.")
except Exception as e:
    print(e.message)
    sys.exit("failed to request.")

```

Create and submit service request after input validation

Overview

Find the `Allocate Volumes for Generic Application` service by filtering services by name, then create a service request to allocate volumes to the specified host and submit if the user's input is valid.

Name	Description
Use case title	Create and submit a service request after input validation
Description	Find the <code>Allocate Volumes for Generic Application</code> service by filtering services by name, then create a service request to allocate volumes to specified host and submit it if user input is valid
Files	<p><code>sample_code.py</code>, <code>uri_creator.py</code></p> <p>These files are located in the following sample code download folder: <code>UC_CREATE_REQUEST_AFTER_INPUT_VALIDATION</code></p>

REST APIs to call

1. GET `https://host:port/Automation/v1/objects/Services?HQL::filter=name='Allocate Volumes for Generic Application'`
 - Find the `Allocate Volumes for Generic Application` service by filtering services by `name`
 - Specify the query string `HQL::filter=name='Allocate Volumes for Generic Application'` to get only services with the specified name
 - For details about the query string and resource attributes such as `name`, see the API command set topics.
2. GET `https://host:port/Automation/v1/objects/Services/instanceID/actions/submit`
 - Acquire the service property list to fill property values such as target host and volume settings before submitting service request
3. GET `https://host:port/Automation/v1/objects/PropertyDefinitions/?serviceID=instanceID`
 - Acquire the property definition to validate the user input such as volume label and volume capacity
 - Specify the query string `serviceID=instanceID` to get only property definitions related to the service
4. POST `https://host:port/Automation/v1/objects/Services/instanceID/actions/submit/invoke`
 - Submit a service request with a filled property list

In the following sample code, the URIs are created by `uri_creator.py`. See *URI Creation and Utility Functions* for details.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	Username of API user account
PASS	Password of API user account
SERVICE_NAME	Service name for which you want to create a service request
TARGET_HOST	Target host to which volumes are allocated
HDVM_NAME	Device Manager name to which target host is registered

1. Find a service by filtering services by name.

```

"""
Find a service by filtering services by name
"""
uri = uri_creator.create_get_service_by_name_uri(SERVICE_NAME)
r = requests.get(uri, headers=headers, auth=(USER, PASS))
data = r.json()['data']
if len(data) > 0:
    #Possibly there are more than one services having same name
    #belonging different service group
    service = data[0]
else:
    print("There is no service having specified name: \"\" +
SERVICE_NAME + "\"")
    exit(1)
instanceID = service['instanceID']

```

2. Acquire the service property list to fill property values such as target host and volume settings before submitting a service request.

```

"""
Acquiring property list of the service in order to fill property
values such as target host and volume settings before submitting
service request
"""
uri = uri_creator.create_prepare_submit_service_uri(instanceID)
submitForm = requests.get(uri, headers=headers, auth=(USER,
PASS)).json()
# Update host settings
hostSetting = find(submitForm['parameters'], 'keyName',
"provisioning.hostSetting.targetHosts.value")
hostSettingValue = {
    "values": {

```



```

        "deviceManagerName": HDVM_NAME,
        "hosts" : [
            { "name": TARGET_HOST }
        ]
    }
}
hostSetting['value'] = json.dumps(hostSettingValue)

# Update volume settings
volumeSetting = find(submitForm['parameters'], 'keyName',
"provisioning.volumeSetting.volumeSettings.value")
volumeSettingValue = json.loads(volumeSetting['value'])
usageOS = find(volumeSettingValue['values'], "usage", "OS")
usageOS.update({
    'ldevLabel' : 'OS',
    'capacity' : '10GB'
})
usageApp = find(volumeSettingValue['values'], "usage", "App")
usageApp.update({
    'ldevLabel' : 'App',
    'capacity' : '10GB'
})
usageData = find(volumeSettingValue['values'], "usage", "Data")
usageData.update({
    'ldevLabel' : 'Data',
    'capacity' : '10GB'
})
volumeSetting['value'] = json.dumps(volumeSettingValue)

# Update task settings
taskSettings = findByProperty(submitForm['parameters'], 'scheduleType')
taskSettings.update({
    'name' : 'Task from API'
})

```

3. Acquire the property definition to validate whether the user input is valid.

```

"""
Get Property Definition to check if input is valid
"""
uri = uri_creator.create_get_property_definitions_uri(instanceID)
r = requests.get(uri, headers=headers, auth=(USER, PASS)).json()
volumeSettingDefinition = find(r['data'], 'keyName',
'provisioning.volumeSetting.volumeSettings.definition')
volumeSettingDefinitionValue =
json.loads(volumeSettingDefinition['defaultValue'])
volumeLabelDefinition = volumeSettingDefinitionValue['items']
['properties']['ldevLabel']
volumeCapacityDefinition = volumeSettingDefinitionValue['items']
['properties']['capacity']

```

```

"""
Check if volume label is valid
"""
def checkVolumeLabel(value):
    if volumeLabelDefinition['minLength'] > len(value):
        return False
    if volumeLabelDefinition['maxLength'] < len(value):
        return False
    if re.match(volumeLabelDefinition['pattern'], value) == None:
        return False
    return True

if checkVolumeLabel(usageApp['ldevLabel']) == False:
    print("Label for Usage App is invalid")
if checkVolumeLabel(usageOS['ldevLabel']) == False:
    print("Label for Usage OS is invalid")
if checkVolumeLabel(usageData['ldevLabel']) == False:
    print("Label for Usage Data is invalid")

"""
Get capacity in MB
"""
def getCapacityInMB(value):
    obj = re.match("^[1-9]+[.]?[0-9]*(MB|GB|TB)$", value)
    num = float(obj.group(1))
    if obj.group(2) == "MB":
        num = num * 1
    if obj.group(2) == "GB":
        num = num * 1024
    if obj.group(2) == "TB":
        num = num * 1024 * 1024
    return num

"""
Check if volume capacity is valid
"""
def checkVolumeCapacity(value):
    capacityInMB = getCapacityInMB(value)
    if getCapacityInMB(volumeCapacityDefinition['minValue']) >
capacityInMB:
        return False
    if getCapacityInMB(volumeCapacityDefinition['maxValue']) <
capacityInMB:
        return False
    return True

if checkVolumeCapacity(usageApp['capacity']) == False:
    print("Capacity for Usage App is invalid")
if checkVolumeCapacity(usageOS['capacity']) == False:
    print("Capacity for Usage OS is invalid")
if checkVolumeCapacity(usageData['capacity']) == False:

```

```
print("Capacity for Usage Data is invalid")
```

4. Submit a service request.

```
"""
Send service request
"""
uri = uri_creator.create_submit_service_uri(instanceID)
ret = do_action("post", uri, submitForm, USER, PASS).json()
```

URI creation and utilities

URI creation

```
"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"
    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_service_by_name_uri(self, name):
        uri = self.create_url_base() + "/objects/Services?
HQL::filter=name='"+name+"'"
        return uri

    def create_prepare_submit_service_uri(self, id):
        uri = self.create_url_base() + "/objects/Services/" + str(id) + "/"
actions/submit"
        return uri

    def create_submit_service_uri(self, id):
        uri = self.create_url_base() + "/objects/Services/" + str(id) + "/"
actions/submit/invoke"
        return uri

    def create_get_property_definitions_uri(self, serviceID):
        uri = self.create_url_base() + "/objects/PropertyDefinitions?
serviceID=" + str(serviceID)
        return uri
```

Utility functions in sample code

```

"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
Find element of which property and value equals to specified ones from
array
"""
def find(array, property, value):
    for elem in array:
        if property in elem.keys() and elem[property] == value:
            return elem
    return

"""
Find element of which property name equals to specified one from array
"""
def findByProperty(array, property):
    for elem in array:
        if property in elem.keys():
            return elem
    return

"""
execute the HTTP request(POST or PUT)
@param method_type HTTP request method(POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type,uri,body, user, passwd):
    try:
        if(method_type == "put"):
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        elif(method_type == "post"):
            r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r
        else:
            raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
            return None
    except requests.exceptions.ConnectionError as e:
        print(e.message)
        print("URI : " + uri)
        sys.exit("failed to connect to REST API server. Please check URI
parameters.")

```

```
except requests.HTTPError as e:
    print(e.message)
    sys.exit("HTTP error.")
except Exception as e:
    print(e.message)
    sys.exit("failed to request.")
```

Create and submit service request, then get the result after the task is completed

Overview

Create a service request for `Allocate Volumes for Generic Application` to allocate volumes to a host, and get the LUN Path Information regarding allocated volumes after the task has completed or failed.

Name	Description
Use case title	Create and submit a service request, then get result after the task is completed
Description	Create a service request of <code>Allocate Volumes for Generic Application</code> to allocate volumes to a host, and get LUN Path Information for the allocated volumes after the task is finished.
Files	<p><code>sample_code.py</code>, <code>uri_creator.py</code></p> <p>These files are located in the following sample code download folder: <code>UC_CREATE_REQUEST_AND_GET_RESULT</code></p>

REST APIs to call

- GET `https://host:port/Automation/v1/objects/Services?HQL::filter=name='Allocate Volumes for Generic Application'`
 - Find the `Allocate Volumes for Generic Application` service by filtering services by name
 - Specify the query string `HQL::filter=name='Allocate Volumes for Generic Application'` to get only services with the specified name
 - For details about the query string and resource attributes such as name, see the API command set topics.
- GET `https://host:port/Automation/v1/objects/Services/instanceID/actions/submit`
 - Acquire the service property list to fill in property values such as target host and volume settings before submitting the service request

Create and submit service request, then get the result after the task is completed

3. POST `https://host:port/Automation/v1/objects/Services/instanceID/actions/submit/invoke`
 - Submit service request with filled property list
4. GET `https://host:port/Automation/v1/objects/Tasks/instanceID`
 - Get task information to check if the task is done
5. GET `https://host:port/Automation/v1/objects/PropertyValues?taskID=instanceID`
 - Get result information (property values) of the task including LUN Path Information, then find the LUN Path Information by using the `keyName` of the LUN Path Information, which ends with `provisioning.taskResultRawData.lunPaths`

In the following sample code, the URIs are created by `uri_creator.py`. See *URI Creation and Utility Functions* for details.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	Username of API user account
PASS	Password of API user account
SERVICE_NAME	Service name for which you want to create a service request
TARGET_HOST	Target host to which volumes are allocated
HDVM_NAME	Device Manager name to which the target host is registered
LOOP_TIME	Time interval to check if the task is completed

1. Find a service by filtering services by name.

```
"""
Find a service by filtering services by name
"""
uri = uri_creator.create_get_service_by_name_uri(SERVICE_NAME)
r = requests.get(uri, headers=headers, auth=(USER, PASS))
data = r.json()['data']

if len(data) > 0:
    #Possibly there are more than one services having same name
    belonging different service group
    service = data[0]
else:
```

```
print("There is no service having specified name: \"" +
SERVICE_NAME + "\"")
exit(1)
instanceID = service['instanceID']
```

2. Acquire the service property list to create a service request, then fill property values such as target host and volume settings as needed.

```
"""
Acquiring property list of the service in order to fill property
values such as target host and volume settings before submitting
service request
"""
uri = uri_creator.create_prepare_submit_service_uri(instanceID)
submitForm = requests.get(uri, headers=headers, auth=(USER,
PASS)).json()
# Update host settings
hostSetting = find(submitForm['parameters'], 'keyName',
"provisioning.hostSetting.targetHosts.value")
hostSettingValue = {
    "values": {
        "deviceManagerName": HDVM_NAME,
        "hosts" : [
            { "name": TARGET_HOST }
        ]
    }
}
hostSetting['value'] = json.dumps(hostSettingValue)
# Update volume settings
volumeSetting = find(submitForm['parameters'], 'keyName',
"provisioning.volumeSetting.volumeSettings.value")
volumeSettingValue = json.loads(volumeSetting['value'])
usageOS = find(volumeSettingValue['values'], "usage", "OS")
usageOS.update({
    'ldevLabel' : 'OS',
    'capacity' : '10GB'
})
usageApp = find(volumeSettingValue['values'], "usage", "App")
usageApp.update({
    'ldevLabel' : 'App',
    'capacity' : '10GB'
})
usageData = find(volumeSettingValue['values'], "usage", "Data")
usageData.update({
    'ldevLabel' : 'Data',
    'capacity' : '10GB'
})
volumeSetting['value'] = json.dumps(volumeSettingValue)
# Update task settings
taskSettings = findByProperty(submitForm['parameters'], 'scheduleType')
taskSettings.update({
```

```
'name' : 'Task from API'  
})
```

3. Submit the service request.

```
""  
Submit service request  
""  
uri = uri_creator.create_submit_service_uri(instanceID)  
ret = do_action("post", uri, submitForm, USER, PASS).json()
```

4. Wait for the task to finish.

```
""  
Wait for task is done  
""  
def wait_for_task_done(uri):  
    status = ""  
    while(status != "completed" and status != "failed"):  
        time.sleep(LOOP_TIME)  
        r = requests.get(uri, headers=headers, auth=(USER, PASS)).json()  
        status = r["status"]  
    return status  
  
uri = ret["affectedResource"][1]  
taskStatus = wait_for_task_done(uri)  
  
if taskStatus != "completed":  
    sys.exit(1)
```

5. Get result information from the task such as LUN path information.

```
""  
Get result (LUN Path information)  
""  
taskId = extract_taskId_from_getUri(uri)  
uri = uri_creator.create_get_propertyValues_for_task_uri(taskId)  
r = requests.get(uri, headers=headers, auth=(USER, PASS)).json()  
  
def propertyValueEndsWith(elem):  
    return  
elem["keyName"].endswith("provisioning.taskResultRawData.lunPaths")  
  
elem = findElem(r["data"], propertyValueEndsWith)  
lunPaths = json.loads(elem["value"])["values"]  
for lunPath in lunPaths:  
    print("-----")  
    print("Storage\t"+str(lunPath["storageSystemName"]))  
    print("LDEV#\t"+str(lunPath["volLdevId"]))  
    print("LUN\t"+str(lunPath["volLuNumber"]))  
    print("Port\t"+str(lunPath["portName"]))
```



```
print("WWN\t"+str(lunPath["hostPortName"]))
print("-----")
```

URI Creation and utility functions

URI creation

```
"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_service_by_name_uri(self, name):
        uri = self.create_url_base() + "/objects/Services?
HQL::filter=name='"+name+"'"
        return uri

    def create_prepare_submit_service_uri(self, id):
        uri = self.create_url_base() + "/objects/Services/" + str(id) + "/"
actions/submit"
        return uri

    def create_submit_service_uri(self, id):
        uri = self.create_url_base() + "/objects/Services/" + str(id) + "/"
actions/submit/invoke"
        return uri

    def create_get_propertyValues_for_task_uri(self, taskID):
        uri = self.create_url_base() + "/objects/PropertyValues?taskID=" +
str(taskID)
        return uri
```

Utility functions in sample code

```
"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
```

```
print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
Find element of which property and value equals to specified ones from
array
"""
def find(array, property, value):
    for elem in array:
        if property in elem.keys() and elem[property] == value:
            return elem
    return

"""
Find element of which property name equals to specified one from array
"""
def findByProperty(array, property):
    for elem in array:
        if property in elem.keys():
            return elem
    return

"""
Find elem satisfying specified condition from array
"""
def findElem(array, func):
    for elem in array:
        if func(elem):
            return elem
    return None

"""
execute the HTTP request(POST or PUT)
@param method_type HTTP request method(POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type,uri,body, user, passwd):
    try:
        if(method_type == "put"):
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        elif(method_type == "post"):
            r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r
        else:
            raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
            return None
    except requests.exceptions.ConnectionError as e:
        print(e.message)
```

```
print("URI : " + uri)
sys.exit("failed to connect to REST API server. Please check URI
parameters.")
except requests.HTTPError as e:
    print(e.message)
    sys.exit("HTTP error.")
except Exception as e:
    print(e.message)
    sys.exit("failed to request.")

"""
Wait for task done (completed/failed)
"""
def wait_for_task_done(uri):
    print("Waiting task")
    status = ""
    while(status != "completed" and status != "failed"):
        print(".", end="")
        time.sleep(LOOP_TIME)
        r = requests.get(uri, headers=headers, auth=(USER, PASS)).json()
        status = r["status"]
    print("")
    print("Task is finished: " + status)
    return status

"""
Extract instanceID of Task from URI 'http://...../Tasks/{instanceID}'
"""
def extract_taskId_from_getUri(uri):
    m = re.search(r"[.]*\./([\d]+)$", uri)
    return m.group(1)
```

Get result by task ID after task completed

Overview

Get LUN Path Information after the task for the `Allocate Volumes for Generic Application` service is done by using the given task ID.

Name	Description
Use case title	Get result by task ID after the task completes
Description	Get LUN Path Information after the <code>Allocate Volumes for Generic Application</code> service task is done by using the specified task ID.
Files	<code>sample_code.py</code> , <code>uri_creator.py</code> These files are located in the following sample code download folder: <code>UC_GET_RESULT_BY_TASK_ID</code>

REST APIs to call

```
GET https://host:port/Automation/v1/objects/PropertyValues?
taskID=instanceID
```

- Get result information (property values) for the task including LUN Path Information, then find LUN Path Information from the result by using the LUN Path Information `keyname`, which ends with `provisioning.taskResultRawData.lunPaths`

In the following sample code, the URIs are created by `uri_creator.py`. See *URI Creation and Utility Functions* for details.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	Username of API user account
PASS	Password of API user account
TASK_ID	The task ID to use for viewing property values

Get task result information such as LUN path information

```

"""
Get result (LUN Path information)
"""
uri = uri_creator.create_get_propertyValues_for_task_uri(TASK_ID)
r = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

if r['count'] == 0:
    print("There is no task having specified ID: " + str(TASK_ID))
    sys.exit(1)

def propertyValueEndsWith(elem):
    return
elem["keyName"].endswith("provisioning.taskResultRawData.lunPaths")
elem = findElem(r["data"], propertyValueEndsWith)

lunPaths = json.loads(elem["value"])["values"]
for lunPath in lunPaths:
    print("-----")
    print("Storage\t"+str(lunPath["storageSystemName"]))
    print("LDEV#\t"+str(lunPath["volLdevId"]))
    print("LUN\t"+str(lunPath["volLuNumber"]))
    print("Port\t"+str(lunPath["portName"]))
    print("WWN\t"+str(lunPath["hostPortName"]))
print("-----")

```

URI creation and utility functions

URI creation

```

"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_propertyValues_for_task_uri(self, taskID):
        uri = self.create_url_base() + "/objects/PropertyValues?taskID=" +

```

```
str(taskID)
    return uri
```

Utility functions in sample code

```
"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
Find element of which property and value equals to specified ones from
array
"""
def find(array, property, value):
    for elem in array:
        if property in elem.keys() and elem[property] == value:
            return elem
    return

"""
Find elem satisfying specified condition from array
"""
def findElem(array, func):
    for elem in array:
        if func(elem):
            return elem
    return None
```

Use cases for finding and managing tasks

Learn how to use the Automation Director REST API to find and manage tasks.

To access the sample code files referenced in the following use cases and get information on how to set up your environment to run the sample code, go to <https://community.hitachivantara.com/docs/DOC-1007318>.

Find long-running tasks

Overview

Find tasks running longer than expected by filtering tasks using the task status of `longRunning`.

Name	Description
Use case title	Find long running tasks
Description	Find tasks running longer than expected by filtering tasks by status <code>longRunning</code>
Files	<code>sample_code.py</code> , <code>uri_creator.py</code> These files are located in the following sample code download folder: <code>UC_GET_LONG_RUNNING_TASKS</code>

REST APIs to call

```
GET https://host:port/Automation/v1/objects/Tasks?
HQL::filter=status='longRunning'&HQL::sortBy=stepStartTime%20ASC
```

- Find long running tasks by filtering tasks by the status `longRunning` in ascending order of `startTime`
- Specify the query string `HQL::filter=status='longRunning'` to get only tasks that are running long
- Specify the query string `HQL::sortBy=stepStartTime%20ASC` to get tasks in ascending order of `stepStartTime`
- For details about the query string and resource attributes such as `name`, see the API command set topics.

In the following sample code, the URIs are created by `uri_creator.py`. See *URI Creation and Utility Functions* for details.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	User name of API user account
PASS	Password of API user account

Find tasks that are running long.

```

"""
Find long running tasks
"""
filterCriteria = "HQL::filter=status='longRunning'"
sortCriteria = "HQL::sortBy=stepStartTime%20ASC"
criteria = filterCriteria + "&" + sortCriteria

uri = uri_creator.create_get_tasks_with_criteria_uri(criteria)
r = requests.get(uri, headers=headers, auth=(USER, PASS))

data = r.json()['data']
if len(data) == 0:
    print("There are no long running tasks")
    sys.exit(1)
for task in data:
    print(task['name'] + "\t" + "Step Start Time: " +
          task['stepStartTime'])
sys.exit(0)

```

URI creation and utility functions

URI creation

```

"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_tasks_with_criteria_uri(self, criteria):
        uri = self.create_url_base() + "/objects/Tasks?" + criteria
        return uri

```


Utility functions in sample code

```
"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))
```

Find tasks waiting for user input

Overview

Find tasks waiting for user's input by filtering tasks through the `waitingForInput` status.

Name	Description
Use case title	Find tasks waiting for user input
Description	Find tasks waiting for user input by filtering tasks by status <code>waitingForInput</code>
Files	<p><code>sample_code.py</code>, <code>uri_creator.py</code></p> <p>These files are located in the following sample code download folder: <code>UC_GET_TASKS_WAITING_INPUT</code></p>

REST APIs to call

```
GET https://host:port/Automation/v1/objects/Tasks?
HQL::filter=status='waitingForInput,'&HQL::sortBy=startTime%20ASC
```

- Find tasks waiting for user input by filtering tasks by status `waitingForInput`, in ascending order of `startTime`
- Specify the query string `HQL::filter=status='waitingForInput,'` to get only tasks waiting for user input
- Specify the query string `HQL::sortBy=startTime%20ASC` to get tasks in ascending order of `startTime`
- For details about the query string and resource attributes such as `name`, see the API command set topics.

In the following sample code, the URIs are created by `uri_creator.py`. See *URI Creation and Utility Functions* for details.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	User name of API user account
PASS	Password of API user account

Find tasks waiting for user input.

```

"""
Find tasks waiting for user's input
"""
filterCriteria = "HQL::filter=status='waitingForInput'"
sortCriteria = "HQL::sortBy=startTime%20ASC"
criteria = filterCriteria + "&" + sortCriteria

uri = uri_creator.create_get_tasks_with_criteria_uri(criteria)
r = requests.get(uri, headers=headers, auth=(USER, PASS))

data = r.json()['data']
if len(data) == 0:
    print("There are no long running tasks")
    sys.exit(1)
for task in data:
    print(task['name'] + "\t" + "Start Time: " + task['startTime'])
sys.exit(0)

```

URI creation and utility functions

URI creation

```

"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +

```

```
self.product + "/" + self.version + "/"
    return uri

def create_get_tasks_with_criteria_uri(self, criteria):
    uri = self.create_url_base() + "/objects/Tasks?" + criteria
    return uri
```

Utility functions in sample code

```
"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))
```

Stop running all tasks by service name

Overview

Stop running all tasks associated with a service name.

Name	Description
Use case title	Stop all running tasks by service name
Description	Stop all running tasks by specified service name
Files	sample_code.py, uri_creator.py These files are located in the following sample code download folder: UC_STOP_ALL_RUNNING_TASKS_BY_NAME

REST APIs to call

1. GET `https://host:port/Automation/v1/objects/Tasks?HQL::filter=serviceName='Allocate Volumes for Generic Application'%20and%20status%20in`

```
%20['InProgress','InProgressWithError','waitingForInput','longRunning']"
```

- Find all running tasks related to the specified service by filtering tasks by `serviceName` and status
 - Specify the query string HQL: `::filter=serviceName='Allocate Volumes for Generic Application'%20and%20status%20in%20['InProgress','InProgressWithError','waitingForInput','longRunning']'` to get only running tasks related to the specified service
 - For details about the query string and resource attributes such as `serviceName`, see the API command set topics.
2. GET `https://host:port/Automation/v1/objects/Tasks/instanceID/actions/stop`
 - Acquire the property list of the task to stop
 3. POST `https://host:port/Automation/v1/objects/Tasks/instanceID/actions/stop/invoke`
 - Submit a stop request with the property list
 4. GET `https://host:port/Automation/v1/objects/Tasks/instanceID`
 - Get task information to check if the task is stopped

In the following sample code, the URIs are created by `uri_creator.py`. See *URI Creation and Utility Functions* for details.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	Username of API user account
PASS	Password of API user account
SERVICE_NAME	Service name of the tasks you want to stop

1. Find all running tasks related to the specified service.

```
"""
Find all running tasks regarding specified service
"""
uri =
uri_creator.create_get_running_tasks_by_service_name_uri(SERVICE_NAME)
tasks = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

if tasks['count'] == 0:
    print("There is no running task regarding specified service: " +
SERVICE_NAME)
```

```

sys.exit(1)

"""
Stop tasks by loop
"""
for t in tasks['data']:
    instanceID = t['instanceID']
    print ("stopping task with instanceID:"+str(instanceID)+"...")
    """
    Prepare a stop request -> See Section #2
    """

    """
    Commit a stop request -> See Section #3
    """

    """
    Wait for task stopped -> See Section #4
    """

```

2. Acquire the property list of the task to stop.

```

"""
Acquiring property list of the task to stop it
"""
uri = uri_creator.create_prepare_stop_tasks_uri(instanceID)
task = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

```

3. Submit the stop request.

```

"""
Submit stop request
"""
uri = uri_creator.create_stop_tasks_uri(instanceID)
res = do_action("post", uri, task, USER, PASS).json()

```

4. Get the task information to check if the task is stopped.

```

"""
Wait for task stopped
"""
#You can get url from response of stop request, or construct uri by
yourself.
#uri = ret["affectedResource"][1]
uri = uri_creator.create_get_task_uri(instanceID)
wait_for_task_done(uri)

```

URI creation and utility functions

URI creation

```

"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"
    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_task_uri(self, taskID):
        uri = self.create_url_base() + "objects/Tasks/" + str(taskID)
        return uri

    def create_get_running_tasks_by_service_name_uri(self, serviceName):
        uri = self.create_url_base() + "objects/Tasks?
HQL::filter=serviceName='"+serviceName+"'%20and%20status%20in
%20['InProgress','InProgressWithError','waitingForInput','longRunning']"
        return uri

    def create_prepare_stop_tasks_uri(self, taskID):
        uri = self.create_url_base() + "objects/Tasks/"+str(taskID)+"/
actions/stop"
        return uri

    def create_stop_tasks_uri(self, taskID):
        uri = self.create_url_base() + "objects/Tasks/"+str(taskID)+"/
actions/stop/invoke"
        return uri

```

Utility functions in sample code

```

"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
execute the HTTP request (POST or PUT)

```

```

@param method_type HTTP request method(POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type,uri,body, user, passwd):
    try:
        if(method_type == "put"):
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        elif(method_type == "post"):
            r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r
        else:
            raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
            return None
    except requests.exceptions.ConnectionError as e:
        print(e.message)
        print("URI : " + uri)
        sys.exit("failed to connect to REST API server. Please check URI
parameters.")
    except requests.HTTPError as e:
        print(e.message)
        sys.exit("HTTP error.")
    except Exception as e:
        print(e.message)
        sys.exit("failed to request.")

"""
Wait for task done (completed/failed)
"""
def wait_for_task_done(uri):
    print("Waiting task")
    status = ""
    while(status != "completed" and status != "failed"):
        print(".", end="")
        time.sleep(LOOP_TIME)
        r = requests.get(uri, headers=headers, auth=(USER, PASS)).json()
        status = r["status"]
    print("")
    print("Task is finished: " + status)
    return status

```

Stop running a task by task ID

Overview

Stop running task by the task ID.

Name	Description
Use case title	Stop the running task specified by the task ID
Description	Stop the running task specified by the task ID
Files	<p>sample_code.py, uri_creator.py</p> <p>These files are located in the following sample code download folder: UC_STOP_RUNNING_TASK</p>

REST APIs to call

1. GET `https://host:port/Automation/v1/objects/Tasks/instanceID`
 - Get the task specified by the task ID, and check if the task is running
2. GET `https://host:port/Automation/v1/objects/Tasks/instanceID/actions/stop`
 - Acquiring the property list of the task to stop
3. POST `https://host:port/Automation/v1/objects/Tasks/instanceID/actions/stop/invoke`
 - Submit a stop request with the property list
4. GET `http(s)://host:port/Automation/v1/objects/Tasks/instanceID`
 - Get task information to check if the task is stopped

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	Username of API user account
PASS	Password of API user account
TASK_ID	Task ID of the task to stop

1. Get the tasks with the specified task ID, and stop the task if it is running.

```

"""
Get the task by given taskID, and stop it if the task is running
"""
uri = uri_creator.create_get_task_uri(TASK_ID)
t = requests.get(uri, headers=headers, auth=(USER, PASS)).json()
if t['status']=='InProgress':
    instanceID = t['instanceID']
    print ("stopping task with instanceID:"+str(instanceID)+"...")
    """
    Prepare a stop request --> See Section #2
    """

    """
    Commit a stop request --> See Section #3
    """

    """
    Wait for task stopped --> See Section #4
    """

else:
    print("The specified task is not running.")

```

2. Acquire the property list of the task to stop.

```

"""
Acquiring property list of the task to stop it
"""
uri = uri_creator.create_prepare_stop_tasks_uri(instanceID)
task = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

```

3. Submit the stop request.

```

"""
Submit stop request
"""
uri = uri_creator.create_stop_tasks_uri(instanceID)
do_action("post", uri, task, USER, PASS).json()

```

4. Wait for the task to stop.

```

"""
Wait for task stopped
"""
#You can get url from response of stop request, or construct uri by
yourself.
#uri = ret["affectedResource"][1]

```

```
uri = uri_creator.create_get_task_uri(instanceID)
wait_for_task_done(uri)
```

URI creation and utility functions

URI creation

```
"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_task_uri(self, taskID):
        uri = self.create_url_base() + "objects/Tasks/" + str(taskID)
        return uri

    def create_prepare_stop_tasks_uri(self, taskID):
        uri = self.create_url_base() + "objects/Tasks/"+str(taskID)+"/
actions/stop"
        return uri

    def create_stop_tasks_uri(self, taskID):
        uri = self.create_url_base() + "objects/Tasks/"+str(taskID)+"/
actions/stop/invoke"
        return uri
```

Utility functions in sample code

```
"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
execute the HTTP request(POST or PUT)
@param method_type HTTP request method(POST or PUT)
@param uri URI to execute HTTP method?
```

```

@param body the information of resource
"""
def do_action(method_type,uri,body, user, passwd):
    try:
        if(method_type == "put"):
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        elif(method_type == "post"):
            r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r
        else:
            raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
            return None
    except requests.exceptions.ConnectionError as e:
        print(e.message)
        print("URI : " + uri)
        sys.exit("failed to connect to REST API server. Please check URI
parameters.")
    except requests.HTTPError as e:
        print(e.message)
        sys.exit("HTTP error.")
    except Exception as e:
        print(e.message)
        sys.exit("failed to request.")

"""
Wait for task done (completed/failed)
"""
def wait_for_task_done(uri):
    print("Waiting task")
    status = ""
    while(status != "completed" and status != "failed"):
        print(".", end="")
        time.sleep(LOOP_TIME)
        r = requests.get(uri, headers=headers, auth=(USER, PASS)).json()
        status = r["status"]
    print("")
    print("Task is finished: " + status)
    return status

```

Archive completed tasks

Overview

Archive old tasks that have completed 24 hours or more from the current time and are not marked as a TODO task.

Name	Description
Use case title	Archive completed tasks
Description	Archive tasks that completed 24 hours or more from the current time and are not marked as a TODO task.
Files	<p>sample_code.py, uri_creator.py</p> <p>These files are located in the following sample code download folder:</p> <p>UC_ARCHIVE_TASKS</p>

REST APIs to call

1. GET `https://host:port/Automation/v1/objects/Tasks?HQL::filter=status='completed'%20and%20todo=false%20and%20completionTime<'{24 hours before current time}'`
 - Get tasks that completed 24 hours or more from the current time and are not marked as a TODO task.
 - Filter criteria `status='completed'` is to filter tasks with a status of 'completed'
 - Filter criteria `todo=false` is to filter tasks that are marked as TODO
 - Filter criteria `completionTime<'{24 hours before current time}'` is to filter tasks that completed 24 hours or more before the current time. The actual date/time must be specified for {24 hours before current time} in ISO86010 format.
 - For details about the query string and resource attribute such as `status`, see the API command set topics.
2. GET `https://host:port/Automation/v1/objects/Tasks/instanceID/actions/archive`
 - Acquire the task property list to archive
3. POST `https://host:port/Automation/v1/objects/Tasks/instanceID/actions/archive/invoke`
 - Submit a stop request with the property list
4. GET `https://host:port/Automation/v1/objects/TaskHistories/instanceID`
 - Get archived task information (TaskHistories)
 - Obtain the URL from the response of the API call for the archiving task in Step 3.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	User name of API user account
PASS	Password of API user account
TASK_ID	Task ID of the tasks you want to stop

1. Get tasks that completed before 24 hours or more from now, and not marked as TODO task.

```

"""
"""
    currentTime = datetime.datetime.now().replace(microsecond=0)
    before24Hour = currentTime -datetime.timedelta(hours=24)
    criteria = "HQL::filter=status='completed'%20and%20toDo=false%20and
%20completionTime<"
+ before24Hour.isoformat() + ""

    uri = uri_creator.create_get_tasks_with_criteria_uri(criteria)
    r = requests.get(uri, headers=headers,auth=(USER, PASS))

data = r.json()['data']
if len(data) == 0:

    print("There are no long running tasks")
    sys.exit(1)

for task in data:
    print("Trying to archive task: " + task['name'])

    """
    Acquiring property list of the task to archive it --> See
Section #2
    """

    """
    Archive tasks --> See Section #3
    """

sys.exit(0)

```

2. Obtain task property list of the task to archive.

```

"""
Acquiring property list of the task to archive it
"""

```

```
uri = uri_creator.create_prepare_archive_task_uri(task["instanceID"])
form = requests.get(uri, headers=headers, auth=(USER, PASS)).json()
```

3. Submit the archive request.

```
"""
Submit archive request
"""
uri = uri_creator.create_archive_task_uri(task["instanceID"])
ret = do_action("post", uri, form, USER, PASS).json()
```

4. Get archived task information.

```
"""
Check archived history
"""
def findTaskHistoriesURI(elem):
    return "TaskHistories" in elem

uri = findElem(ret["affectedResource"], findTaskHistoriesURI)
ret = requests.get(uri, headers=headers, auth=(USER, PASS)).json()
prettyPrint(ret)
```

URI creation and utility functions

URI creation

```
"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_tasks_with_criteria_uri(self, criteria):
        uri = self.create_url_base() + "/objects/Tasks?" + criteria
        return uri

    def create_prepare_archive_task_uri(self, instanceID):
        uri = self.create_url_base() + "/objects/Tasks/" + str(instanceID)
```

```

+ "/actions/archive"
    return uri

    def create_archive_task_uri(self, instanceID):
        uri = self.create_url_base() + "/objects/Tasks/" + str(instanceID)
+ "/actions/archive/invoke"
    return uri

```

Utility functions in sample code

```

"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
Find elem satisfying specified condition from array
"""
def findElem(array, func):
    for elem in array:
        if func(elem):
            return elem
    return None

"""
execute the HTTP request(POST or PUT)
@param method_type HTTP request method(POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type,uri,body, user, passwd):
    try:
        if(method_type == "put"):
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        elif(method_type == "post"):
            r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r
        else:
            raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
            return None
    except requests.exceptions.ConnectionError as e:
        print(e.message)
        print("URI : " + uri)
        sys.exit("failed to connect to REST API server. Please check URI
parameters.")
    except requests.HTTPError as e:

```

```

print(e.message)
sys.exit("HTTP error.")
except Exception as e:
    print(e.message)
    sys.exit("failed to request.")

```

Cancel all scheduled tasks by service name

Overview

Get all the scheduled tasks for the service through the specified service name, then cancel the scheduled tasks.

Name	Description
Use case title	Cancel all scheduled tasks for the specified service name
Description	Get all scheduled tasks for the service with the specified service name, and then cancel the scheduled tasks
Files	<p>sample_code.py, uri_creator.py</p> <p>These files are located in the following sample code download folder: UC_CANCEL_ALL_SCHEDULED_TASKS_BY_NAME</p>

REST APIs to call

- GET `https://host:port/Automation/v1/objects/Tasks?HQL::filter=serviceName='Allocate Volumes for Generic Application'%20and%20status='waiting`

 - Get scheduled tasks for the service `Allocate Volumes for Generic Application` by filtering tasks by service name and task status
 - Specify the query string `HQL::filter=serviceName='Allocate Volumes for Generic Application'%20and%20status='waiting'` to get only scheduled tasks related to the services with the specified name
 - For details about the query string and resource attributes such as `serviceName`, see the API command set topics.
- GET `https://host:port/Automation/v1/objects/Schedules/instanceID/actions/cancel`

 - Acquire the property list of the scheduled task to cancel by using the scheduled ID assigned to the task

3. POST `https://host:port/Automation/v1/objects/Schedules/instanceID/actions/cancel/invoke`
 - Submit a cancellation request with the property list
4. GET `https://host:port/Automation/v1/objects/Tasks/instanceID`
 - Get task to check if the status is canceled

For other actions for the scheduled tasks, you can use same approach as above. The only difference is the name of actions such as `resume`, `suspend`.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	User name of API user account
PASS	Password of API user account
SERVICE_NAME	Service name of the tasks you want to cancel

1. Get waiting tasks with the specified service name.

```

"""
Get waiting tasks with given service name
"""
criteria = "HQL::filter=serviceName='" + SERVICE_NAME + "'%20and
%20status='waiting'"

uri = uri_creator.create_get_tasks_with_criteria_uri(criteria)
tasks = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

if len(tasks) == 0:
    print("There is no waiting tasks to be canceled")
    sys.exit(1)

for task in tasks['data']:
    scheduleID = task['scheduleID']
    print("Canceling scheduled task: " + task["name"])

    """
    Acquiring property list of the scheduled task to cancel it -->
    See #2 section
    """

    """
    Submit cancellation request--> See #3 section
    """

```

```

"""
    Get task to check if status is "canceled" --> See #4 section
"""

sys.exit(0)

```

2. Acquire property list of the scheduled task to cancel.

```

"""
    Acquiring property list of the scheduled task to cancel it
"""
uri = uri_creator.create_prepare_cancel_schedule_task_uri(scheduleID)
task = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

```

3. Submit cancellation request.

```

"""
    Submit cancellation request
"""
uri = uri_creator.create_cancel_schedule_task_uri(scheduleID)
do_action("post", uri, task, USER, PASS).json()

```

4. Get task to check if the status is canceled.

```

"""
    Get task to check if status is "canceled"
"""
uri = uri_creator.create_get_task_uri(task["instanceID"])
updatedTask = requests.get(uri, headers=headers, auth=(USER,
PASS)).json()
print(updatedTask["name"] + ": " + updatedTask["status"])

```

URI creation and utility functions

URI creation

```

"""
    This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

```

```

def create_url_base(self):
    uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
    return uri

def create_url_base(self):
    uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
    return uri

def create_get_task_uri(self, instanceID):
    uri = self.create_url_base() + "objects/Tasks/" + str(instanceID)
    return uri

def create_get_tasks_with_criteria_uri(self, criteria):
    uri = self.create_url_base() + "objects/Tasks?" + criteria
    return uri

def create_prepare_cancel_schedule_task_uri(self, schduleID):
    uri = self.create_url_base() + "objects/Schedules/" + str(schduleID)
+ "/actions/cancel"
    return uri

def create_cancel_schedule_task_uri(self, schduleID):
    uri = self.create_url_base() + "objects/Schedules/" + str(schduleID)
+ "/actions/cancel/invoke"
    return uri

```

Utility functions in sample code

```

"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
execute the HTTP request (POST or PUT)
@param method_type HTTP request method (POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type, uri, body, user, passwd):
    try:

        if (method_type == "put"):
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))

```

```

elif(method_type == "post"):
    r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
    if r.status_code == http.client.OK:
        return r
    else:
        raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
        return None
except requests.exceptions.ConnectionError as e:
    print(e.message)
    sys.exit("failed to connect to REST API server. Please check URI
parameters.")
except requests.HTTPError as e:
    print(e.message)
    sys.exit("HTTP error.")
except Exception as e:
    print(e.message)
    sys.exit("failed to request.")

```

Cancel scheduled task by task ID

Overview

Cancel a scheduled task by the task ID.

Name	Description
Use case title	Cancel the scheduled task with the specified task ID
Description	Get a task by task ID and cancel it if the task is waiting
Files	<p>sample_code.py, uri_creator.py</p> <p>These files are located in the following sample code download folder: UC_CANCEL_SCHEDULED_TASK_BY_TASK_ID</p>

REST APIs to call

1. GET `https://host:port/Automation/v1/objects/Tasks/instanceID`
 - Get waiting task for the specified task ID
2. GET `https://host:port/Automation/v1/objects/Schedules/instanceID/actions/cancel`
 - Acquire the property list of the scheduled task to cancel by using the task scheduled ID

3. POST `https://host:port/Automation/v1/objects/Schedules/instanceID/actions/cancel/invoke`
 - Submit a cancellation request with the property list
4. GET `https://host:port/Automation/v1/objects/Tasks/instanceID`
 - Get task to check if the status is canceled

For other actions for the scheduled tasks, you can use same approach as above. The only difference is the name of actions such as `resume`, `suspend`.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	User name of API user account
PASS	Password of API user account
TASK_ID	Task ID of the task you want to cancel

1. Get waiting task for the specified task ID.

```

"""
Get the task given taskID
"""
uri = uri_creator.create_get_task_uri(TASK_ID)
t = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

if t['status']=='waiting':
    scheduleID = t['scheduleID']

    """
    Acquiring property list of the scheduled task to cancel it
    """
    uri =
uri_creator.create_prepare_cancel_schedule_task_uri(scheduleID)
    task = requests.get(uri, headers=headers, auth=(USER,
PASS)).json()

    """
    Commit a cancellation
    """
    uri = uri_creator.create_cancel_schedule_task_uri(scheduleID)
    do_action("post", uri, task, USER, PASS).json()

    """
    Check if task is canceled
    """
    uri = uri_creator.create_get_task_uri(task["instanceID"])

```

```

        updatedTask = requests.get(uri, headers=headers, auth=(USER,
PASS)).json()
        print(updatedTask["name"] + ": " + updatedTask["status"])

else:
    print("Failed to cancel: the task is not waiting.")
    sys.exit(1)

sys.exit(0)

```

2. Acquire the property list of the scheduled task to cancel it.

```

"""
Acquiring property list of the scheduled task to cancel it
"""
uri = uri_creator.create_prepare_cancel_schedule_task_uri(scheduleID)
task = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

```

3. Submit a cancellation request.

```

"""
Submit cancellation request
"""
uri = uri_creator.create_cancel_schedule_task_uri(scheduleID)
do_action("post", uri, task, USER, PASS).json()
print("The task with taskId as "+str(TASK_ID)+" was cancelled
successfully.")

```

4. Get task to check if the status is canceled.

```

"""
Get task to check if status is "canceled"
"""
uri = uri_creator.create_get_task_uri(task["instanceID"])
updatedTask = requests.get(uri, headers=headers, auth=(USER,
PASS)).json()
print(updatedTask["name"] + ": " + updatedTask["status"])

```

URI Creation and Utility Functions

URI creation

```

# coding:utf-8
"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product

```

```

self.protocol = protocol
self.version = version
self.encode = "utf-8"

def create_url_base(self):
    uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
    return uri

def create_get_task_uri(self, taskID):
    uri = self.create_url_base() + "objects/Tasks/"+str(taskID)
    return uri

def create_prepare_cancel_schedule_task_uri(self, schduleID):
    uri = self.create_url_base() + "objects/Schedules/"+str(schduleID)
+ "/actions/cancel"
    return uri

def create_cancel_schedule_task_uri(self, schduleID):
    uri = self.create_url_base() + "objects/Schedules/"+str(schduleID)
+ "/actions/cancel/invoke"
    return uri

```

Utility functions in sample code

```

"""
execute the HTTP request(POST or PUT)
@param method_type HTTP request method(POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type,uri,body, user, passwd):
    try:

        if(method_type == "put"):
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        elif(method_type == "post"):
            r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r
        else:
            raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
            return None
    except requests.exceptions.ConnectionError as e:
        print(e.message)
        print("URI : " + uri)
        sys.exit("failed to connect to REST API server. Please check URI
parameters.")

```

```

except requests.HTTPError as e:
    print(e.message)
    sys.exit("HTTP error.")
except Exception as e:
    print(e.message)
    sys.exit("failed to request.")

```

Suspend all scheduled tasks by service name

Overview

Get all scheduled tasks for the specified service name, then suspend the scheduled tasks.

Name	Description
Use case title	Suspend all scheduled tasks given service name
Description	Get all scheduled tasks for the service having given service name, then suspend the scheduled tasks
Files	<p>sample_code.py, uri_creator.py</p> <p>These files are located in the following sample code download folder: UC_ALL_SUSPEND_SCHEDULED_TASKS_BY_SERVICE_NAME</p>

REST APIs to call

- GET `https://host:port/Automation/v1/objects/Tasks?HQL::filter=serviceName='Allocate Volumes for Generic Application'%20and%20status='waiting'`

 - Get scheduled tasks for the service `Allocate Volumes for Generic Application` by filtering tasks by service name and task status
 - Specify query string `HQL::filter=serviceName='Allocate Volumes for Generic Application'%20and%20status='waiting'` to get only scheduled tasks related to the services having the name.
 - For detail of query string and resource attribute such as `serviceName`, see the API command set topics.
- GET `https://host:port/Automation/v1/objects/Schedules/instanceID/actions/suspend`

 - Acquiring property list of the scheduled task to suspend it by using scheduled ID assigned to the task

3. POST `https://host:port/Automation/v1/objects/Schedules/instanceID/actions/suspend/invoke`
 - Submit suspend request with property list
4. GET `https://host:port/Automation/v1/objects/Tasks/instanceID`
 - Get task to check if status is suspended

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	Username of API user account
PASS	Password of API user account
SERVICE_NAME	Service name of the tasks you want to cancel

1. Get waiting tasks with given service name

```

"""
Get waiting tasks with given service name
"""
criteria = "HQL::filter=serviceName='" + SERVICE_NAME + "'%20and
%20status='waiting'"

uri = uri_creator.create_get_tasks_with_criteria_uri(criteria)
tasks = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

if len(tasks) == 0:
    print("There is no waiting tasks to be canceled")
    sys.exit(1)

for task in tasks['data']:
    scheduleID = task['scheduleID']
    print("Suspending scheduled task: " + task["name"])

    """
    Prepare to suspend task --> See #2 section
    """

    """
    Commit suspend task --> See #3 section
    """

```

```

"""
Check if task is suspended--> See #4 section
"""

sys.exit(0)

```

2. Acquiring property list of the scheduled task to suspend it by using scheduled ID assigned to the task

```

"""
Acquiring property list of the scheduled task to suspend it by using
scheduled ID assigned to the task
"""
uri = uri_creator.create_prepare_suspend_schedule_task_uri(scheduleID)
task = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

```

3. Submit suspend request

```

"""
Submit suspend request
"""
uri = uri_creator.create_suspend_schedule_task_uri(scheduleID)
do_action("post", uri, task, USER, PASS).json()

```

4. Get task to check if status is suspended

```

"""
Get task to check if status is "suspended"
"""
uri = uri_creator.create_get_task_uri(task["instanceID"])
updatedTask = requests.get(uri, headers=headers, auth=(USER,
PASS)).json()
print(updatedTask["name"] + ": " + updatedTask["status"])

```

URI creation and utility functions

URI creation

```

"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

```

```

def create_url_base(self):
    uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
    return uri

def create_get_task_uri(self, instanceID):
    uri = self.create_url_base() + "objects/Tasks/" + str(instanceID)
    return uri

def create_get_tasks_with_criteria_uri(self, criteria):
    uri = self.create_url_base() + "objects/Tasks?" + criteria
    return uri

def create_prepare_suspend_schedule_task_uri(self, schduleID):
    uri = self.create_url_base() + "objects/Schedules/" + str(schduleID)
+ "/actions/suspend"
    return uri

def create_suspend_schedule_task_uri(self, schduleID):
    uri = self.create_url_base() + "objects/Schedules/" + str(schduleID)
+ "/actions/suspend/invoke"
    return uri

```

Utility functions in sample code

```

"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
execute the HTTP request(POST or PUT)
@param method_type HTTP request method(POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type,uri,body, user, passwd):
    try:

        if(method_type == "put"):
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        elif(method_type == "post"):
            r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r
        else:
            raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))

```

```

        return None
    except requests.exceptions.ConnectionError as e:
        print(e.message)
        sys.exit("failed to connect to REST API server. Please check URI
parameters.")
    except requests.HTTPError as e:
        print(e.message)
        sys.exit("HTTP error.")
    except Exception as e:
        print(e.message)
        sys.exit("failed to request.")

```

Suspend a scheduled task by task ID

Overview

Suspend a scheduled task based on a task ID.

Name	Description
Use case title	Suspend a scheduled task with the specified task ID
Description	Suspend a scheduled task with the specified task ID
Files	<p>sample_code.py, uri_creator.py</p> <p>These files are located in the following sample code download folder: UC_SUSPEND_SCHEDULED_TASK_BY_TASK_ID</p>

REST APIs to call

1. GET `https://host:port/Automation/v1/objects/Tasks/instanceID`
 - Get a task with the specified ID, and then check if the status is waiting
2. GET `https://host:port/Automation/v1/objects/Schedules/scheduleID/actions/suspend`
 - Acquiring the property list of the scheduled task to suspend by using the scheduled ID assigned to the task
3. POST `https://host:port/Automation/v1/objects/Schedules/scheduleID/actions/suspend/invoke`
 - Submit suspend request with the information parameters filled
4. GET `https://host:port/Automation/v1/objects/Tasks/instanceID`
 - Get task to check if the status is suspended.

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	Username of API user account
PASS	Password of API user account
TASK_ID	Task ID of the task you want to suspend

1. Get task by the specified task ID ("TestB" in this example) .

```

"""
Get task by task ID
"""
uri = uri_creator.create_get_task_uri(TASK_ID)
task = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

if task["status"] == "waiting":
    scheduleID = task['scheduleID']
    print("Suspending scheduled task: " + task["name"])

    """
    Prepare to suspend task --> See #2 section
    """

    """
    Commit suspend task --> See #3 section
    """

    """
    Check if task is suspended --> See #4 section
    """

else:
    print("The task can not be suspended")
    sys.exit(1)

sys.exit(0)

```

2. Acquire the property list of the scheduled task to suspend by using the scheduled ID assigned to the task.

```

"""

```

```

Acquiring property list of the scheduled task to suspend it by using
scheduled ID assigned to the task
"""
uri = uri_creator.create_prepare_suspend_schedule_task_uri(scheduleID)
task = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

```

3. Submit suspend request

```

"""
Submit suspend request
"""
uri = uri_creator.create_suspend_schedule_task_uri(scheduleID)
do_action("post", uri, task, USER, PASS).json()

```

4. Get task to check if status is suspended

```

"""
Get task to check if status is "suspended"
"""
uri = uri_creator.create_get_task_uri(task["instanceID"])
updatedTask = requests.get(uri, headers=headers, auth=(USER,
PASS)).json()
print(updatedTask["name"] + ": " + updatedTask["status"])

```

URI Creation and Utility Functions

URI creation

```

# coding:utf-8
"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_task_uri(self, instanceID):
        uri = self.create_url_base() + "objects/Tasks/" + str(instanceID)
        return uri

```

```

def create_prepare_suspend_schedule_task_uri(self, schduleID):
    uri = self.create_url_base() + "objects/Schedules/" + str(schduleID)
    + "/actions/suspend"
    return uri

def create_suspend_schedule_task_uri(self, schduleID):
    uri = self.create_url_base() + "objects/Schedules/" + str(schduleID)
    + "/actions/suspend/invoke"
    return uri

```

Utility functions in sample code

```

"""
execute the HTTP request (POST or PUT)
@param method_type HTTP request method (POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type, uri, body, user, passwd):
    try:

        if (method_type == "put"):
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        elif (method_type == "post"):
            r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r
        else:
            raise (Exception('ERROR HTTP Status = ' + str(r.status_code)))
            return None
    except requests.exceptions.ConnectionError as e:
        print(e.message)
        print("URI : " + uri)
        sys.exit("failed to connect to REST API server. Please check URI
parameters.")
    except requests.HTTPError as e:
        print(e.message)
        sys.exit("HTTP error.")
    except Exception as e:
        print(e.message)
        sys.exit("failed to request.")

```

Resume all suspended tasks by service name

Overview

Resume all suspended tasks based on the service name.

Name	Description
Use case title	Resume all suspended tasks specified by service name
Description	Resume all suspended tasks specified by service name
Files	<p>sample_code.py, uri_creator.py</p> <p>These files are located in the following sample code download folder: UC_RESUME_ALL_SUSPENDED_TASKS_BY_SERVICE_NAME</p>

REST APIs to call

- GET `https://host:port/Automation/v1/objects/Tasks?HQL::filter=serviceName='Allocate Volumes for Generic Application'%20and%20status='suspended''`
 - Get suspended tasks for the Allocate Volumes for Generic Application service by filtering tasks by service name and task status
 - Specify the query string `HQL::filter=serviceName='Allocate Volumes for Generic Application'%20and%20status='suspended'` to get only suspended tasks related to the services with the specified name
 - For details about the query string and resource attributes such as name, see the API command set topics.
- GET `https://host:port/Automation/v1/objects/Schedules/scheduleID/actions/resume`
 - Acquire the property list of the suspended task to resume by using the scheduled ID assigned to the task
- POST `https://host:port/Automation/v1/objects/Schedules/scheduleID/actions/resume/invoke`
 - Submit resume request with property list
- GET `https://host:port/Automation/v1/objects/Tasks/instanceID`
 - Get task to check if the status is waiting

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	User name of API user account
PASS	Password of API user account
SERVICE_NAME	Service name of the tasks to cancel

1. Get suspended tasks with the specified service name.

```

"""
Get suspended tasks with given service name
"""
criteria = "HQL::filter=serviceName='" + SERVICE_NAME + "'%20and
%20status='waiting'"

uri = uri_creator.create_get_tasks_with_criteria_uri(criteria)
tasks = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

if len(tasks) == 0:
    print("There is no waiting tasks to be canceled")
    sys.exit(1)

for task in tasks['data']:
    scheduleID = task['scheduleID']
    print("Suspending scheduled task: " + task["name"])

    """
    Acquiring property list of the suspended task to resume by using
    scheduled ID assigned to the task --> See #2 section
    """

    """
    Submit resume request --> See #3 section
    """

    """
    Check if task is waiting--> See #4 section
    """

sys.exit(0)

```

2. Acquire a property list of the suspended task to resume by using scheduled ID assigned to the task

```

"""

```

```

Prepare resume suspended task
"""
uri = uri_creator.create_prepare_resume_schedule_task_uri(scheduleID)
task = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

```

3. Submit a request to resume.

```

"""
Submit resuming request
"""
uri = uri_creator.create_resume_schedule_task_uri(scheduleID)
do_action("post", uri, task, USER, PASS).json()

```

4. Get task to check if the status is waiting.

```

"""
Get task to check if status is "waiting"
"""
uri = uri_creator.create_get_task_uri(task["instanceID"])
updatedTask = requests.get(uri, headers=headers, auth=(USER,
PASS)).json()
print(updatedTask["name"] + ": " + updatedTask["status"])

```

URI Creation and Utility Functions

URI creation

```

"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_task_uri(self, instanceID):
        uri = self.create_url_base() + "objects/Tasks/" + str(instanceID)
        return uri

    def create_get_tasks_with_criteria_uri(self, criteria):
        uri = self.create_url_base() + "objects/Tasks?" + criteria

```

```

        return uri

    def create_prepare_resume_schedule_task_uri(self, scheduleID):
        uri = self.create_url_base() + "objects/Schedules/"+str(scheduleID)
        +"/actions/resume"
        return uri

    def create_resume_schedule_task_uri(self, scheduleID):
        uri = self.create_url_base() + "objects/Schedules/"+str(scheduleID)
        +"/actions/resume/invoke"
        return uri

```

Utility functions in sample code

```

"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
execute the HTTP request (POST or PUT)
@param method_type HTTP request method (POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type, uri, body, user, passwd):
    try:

        if (method_type == "put"):
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        elif (method_type == "post"):
            r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r
        else:
            raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
            return None
    except requests.exceptions.ConnectionError as e:
        print(e.message)
        sys.exit("failed to connect to REST API server. Please check URI
parameters.")
    except requests.HTTPError as e:
        print(e.message)
        sys.exit("HTTP error.")
    except Exception as e:
        print(e.message)
        sys.exit("failed to request.")

```

Resume a suspended task by task ID

Overview

Resume a suspended task for the specified task ID.

Name	Description
Use case title	Resume a suspended task for the specified task ID
Description	Resume a suspended task for the specified task ID
Files	<p>sample_code.py, uri_creator.py</p> <p>These files are located in the following sample code download folder: UC_RESUME_SUSPENDED_TASK_BY_TASK_ID</p>

REST APIs to call

1. GET `https://host:port/Automation/v1/objects/Tasks/instanceID`
 - Get task by as specified by the task ID
2. GET `https://host:port/Automation/v1/objects/Schedules/scheduleID/actions/resume`
 - Acquire a property list of the suspended task to resume by using the scheduled ID assigned to the task
3. POST `https://host:port/Automation/v1/objects/Schedules/scheduleID/actions/resume/invoke`
 - Submit a resume request with a property list
4. GET `https://host:port/Automation/v1/objects/Tasks/instanceID`
 - Get task to check if the status is waiting

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	User name of API user account
PASS	Password of API user account
TASK_ID	Instance ID of scheduled task to resume

1. Get task by specified task ID.

```

"""
Get task by task ID
"""
uri = uri_creator.create_get_task_uri(TASK_ID)
task = requests.get(uri, headers=headers, auth=(USER, PASS)).json()

if task["status"] == "suspended":
    scheduleID = task['scheduleID']
    print("Resuming scheduled task: " + task["name"])

    """
    Acquiring property list of the suspended task to resume by using
    scheduled ID assigned to the task --> See #2 section
    """

    """
    Submit resume request --> See #3 section
    """

    """
    Check if task is waiting --> See #4 section
    """

else:
    print("The task can not be resumed")
    sys.exit(1)

sys.exit(0)

```

2. Acquiring the property list of the suspended task to resume using the scheduled ID assigned to the task.

```

"""
Prepare resume suspended task
"""
uri = uri_creator.create_prepare_resume_schedule_task_uri(scheduleID)

```

```
task = requests.get(uri, headers=headers, auth=(USER, PASS)).json()
```

3. Submit a request to resume.

```
"""
Submit resuming request
"""
uri = uri_creator.create_resume_schedule_task_uri(scheduleID)
do_action("post", uri, task, USER, PASS).json()
```

4. Get task to check if the status is waiting.

```
"""
Check if task is waiting
"""
uri = uri_creator.create_get_task_uri(task["instanceID"])
updatedTask = requests.get(uri, headers=headers, auth=(USER,
PASS)).json()
print(updatedTask["name"] + ": " + updatedTask["status"])
```

URI creation and utility functions

URI creation

```
"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_get_task_uri(self, instanceID):
        uri = self.create_url_base() + "objects/Tasks/" + str(instanceID)
        return uri

    def create_prepare_resume_schedule_task_uri(self, schduleID):
        uri = self.create_url_base() + "objects/Schedules/" + str(schduleID)
        + "/actions/resume"
        return uri
```

```

def create_resume_schedule_task_uri(self, schduleID):
    uri = self.create_url_base() + "objects/Schedules/"+str(schduleID)
    +"/actions/resume/invoke"
    return uri

```

Utility functions in sample code

```

"""
Print json object information in human readable format
"""
def prettyPrint(jsonObj):
    print(json.dumps(jsonObj, sort_keys=True, indent=4))

"""
execute the HTTP request(POST or PUT)
@param method_type HTTP request method(POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type,uri,body, user, passwd):
    try:

        if(method_type == "put"):
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        elif(method_type == "post"):
            r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r
        else:
            raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
            return None
    except requests.exceptions.ConnectionError as e:
        print(e.message)
        sys.exit("failed to connect to REST API server. Please check URI
parameters.")
    except requests.HTTPError as e:
        print(e.message)
        sys.exit("HTTP error.")
    except Exception as e:
        print(e.message)
        sys.exit("failed to request.")

```

Resubmit a task

Overview

Resubmit a task through the specified task ID.

Name	Description
Use case title	Resubmit a task
Description	Resubmit a task
Files	sample_code.py, uri_creator.py These files are located in the following sample code download folder: UC_RESUBMIT_A_TASK

REST APIs to call

1. GET `https://host:port/Automation/v1/objects/Tasks/taskID/actions/resubmit`
 - Acquire the service property list for which you want to resubmit the request
2. POST `https://host:port/Automation/v1/objects/Tasks/taskID/actions/resubmit/invoke`
 - Submit service request

Sample code

Variables - The following variables are used in the sample code:

Name	Description
USER	User name of API user account
PASS	Password of API user account
TASK_ID	Task ID of the task to resubmit

1. Acquire the service property list for which you want resubmit a request.

```

"""
Acquiring property list of the service which request is submitted again
"""
uri = uri_creator.create_prepare_resubmit_service_uri(TASK_ID)
prep = requests.get(uri, headers=headers, auth=(USER, PASS)).json()
instanceID = None
for param in prep["parameters"]:
    if 'instanceID' in param:
        instanceID = param["instanceID"]

```



```

"""
Send resubmit request
"""

<!-- See #2 section -->

```

2. Submit service request

```

"""
Submit service request
"""

uri = uri_creator.create_resubmit_service_uri(TASK_ID)
ret = do_action("post", uri, prep, USER, PASS).json()

```

URI creation and utility functions

URI creation

```

# coding:utf-8
"""
This class creates URI for REST API
"""
class UriCreator():
    def __init__(self, host, port="22015", product="Automation",
protocol="http", version="v1"):
        self.host = host
        self.port = port
        self.product = product
        self.protocol = protocol
        self.version = version
        self.encode = "utf-8"

    def create_url_base(self):
        uri = self.protocol + "://" + self.host + ":" + self.port + "/" +
self.product + "/" + self.version + "/"
        return uri

    def create_prepare_resubmit_service_uri(self, id):
        uri = self.create_url_base() + "objects/Tasks/" + str(id) + "/"
actions/resubmit"
        return uri

    def create_resubmit_service_uri(self, id):
        uri = self.create_url_base() + "objects/Tasks/" + str(id) + "/"
actions/resubmit/invoke"
        return uri

```

Utility functions in sample code

```

"""
execute the HTTP request(POST or PUT)

```

```

@param method_type HTTP request method(POST or PUT)
@param uri URI to execute HTTP method?
@param body the information of resource
"""
def do_action(method_type,uri,body, user, passwd):
    try:
        if(method_type == "put"):
            r = requests.put(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        elif(method_type == "post"):
            r = requests.post(uri, headers=headers, data=json.dumps(body),
auth=(user, passwd))
        if r.status_code == http.client.OK:
            return r.json()
        else:
            raise(Exception('ERROR HTTP Status = ' + str(r.status_code)))
            return None
    except requests.exceptions.ConnectionError as e:
        print(e.message)
        print("URI : " + uri)
        sys.exit("failed to connect to REST API server. Please check URI
parameters.")
    except requests.HTTPError as e:
        print(e.message)
        sys.exit("HTTP error.")
    except Exception as e:
        print(e.message)
        sys.exit("failed to request.")

```

Running a smart provisioning service

The following use case provides an example of how to run a smart provisioning service.

You can use various tool/program languages to run the Hitachi Automation Director REST APIs. This example uses cURL commands.

In addition, the following values are assumed:

- Target service name is `Allocate Volumes for Microsoft SQL Server`
- host of Hitachi Automation Director server: `vm007223`

These are basic steps to run a smart provisioning service.

Procedure

1. Acquire the target service ID.
2. Submit the service.
 - a. Acquire a property list for submit.
 - b. Modify the property list.
 - c. Submit service with the modified property list.

3. Check the service run status and result.

Acquiring the target service ID

Use the following example call to acquire the service ID.

```
curl -v -H "Accept: application/json" -u submituser:submit -X GET
"https://vm007223:22016/Automation/v1/objects/Services"
```

Run result

```
{
  "data": [{
    "instanceID": 387,
    "name": "Allocate Like Volumes",
    .....
  }, {
    .....
  }, {
    "instanceID": 4063,
    "name": "Allocate Volumes for Microsoft SQL Server",
    "description": "Intelligent provisioning service that allocates sets of volumes from the
associated infrastructure group to be consumed by server(s) running Microsoft SQL",
    "tags": "Add New Storage.SQL Server",
    .....
    "vendorName": "Hitachi, Ltd.",
    "version": "01.00.00",
    .....
  }
}]
}
```

In this example, choose "Allocate Volumes for SQL" as a service of submit. The target service ID is "4063".

Submitting the service

This major step consists of three substeps:

- Acquiring a property list for submitting.
- Modifying the property list of a service.
- Submitting the service with the modified property list.

Acquiring a property list for submitting

Use the following example to acquire the property list.

```
curl -v -H "Accept: application/json" -u submituser:submit -X GET
"https://vm007223:22016/Automation/v1/objects/Services/4063/actions/
submit" >4063submit.json
```



Note: In this example, the target service ID is 4063.

Run result

```

{
  .....
  "parameters": [{
    "name": "Allocate Volumes for Microsoft SQL Server_20140930185800",
    .....
  }], {
    "instanceID": 4064,
    "type": "file",
    .....
  }, {
    "instanceID": 4064,
    "type": "file",
    "keyName": "provisioning.hostSetting.targetHosts.value",
    "value": "{\r\n  \"values\": {\r\n    \"deviceManagerName\": \"vm007223\", \"hosts\": [{\"name\": \"hostSPtest\"}]\r\n  },\r\n  \"readOnly\": false,\r\n  \"hidden\": false,\r\n  \"serviceID\": 4063\r\n}",
    "readOnly": false,
    "hidden": false,
    "serviceID": 4063
  }
}
    
```

Simple type properties

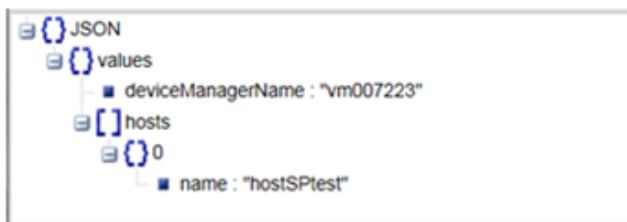
Complex type properties

- ✓All properties (key and value) are listed in the API result.
- ✓You need to check all values are set as what you expect.
- ✓You can change value by editing this list.

JSON format

```

"keyName": "provisioning.hostSetting.targetHosts.value",
"value": "{\r\n  \"values\": {\r\n    \"deviceManagerName\": \"vm007223\", \"hosts\": [{\"name\": \"hostSPtest\"}]\r\n  },\r\n  \"readOnly\": false,\r\n  \"hidden\": false,\r\n  \"serviceID\": 4063\r\n}"
    
```



Modifying the property list

This step is done by editing the list with a text editor. However, you can choose any tool or program language.

Here is an example of a modified property list.

```

}, {
  .....
  "instanceID": 4857,
  "type": "file",
  "keyName": "provisioning.hostSetting.targetHosts.value",
  "value": "{\r\n  \"values\": {\r\n    \"deviceManagerName\": \"vm007223\",
  \"hosts\": [{\"name\": \"bs2r3-073\"}]\r\n  },\r\n  \"readOnly\": false,\r\n  \"hidden\": false,\r\n  \"serviceID\": 4870\r\n}",
  "readOnly": false,
  "hidden": false,
  "serviceID": 4870
}, {
  .....
    
```

Change a target host name from "hostSPtest" to "bs2r3-073".

Submitting the service with the modified property list

Use the following example to submit the service:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u submituser:submit -X POST --data-binary @4063submit.json "https://vm007223:22016/Automation/v1/objects/Services/4063/actions/submit/invoke"
```



Note: The property list is stored as 4063submit.json.

Run result (excerpt)

```
{
  "instanceID" : "1163cf0a-07df-4a17-bb43-eb58f5964c1",
  "created" : "2014-09-30T19:16:49.402+0900",
  "updated" : "2014-09-30T19:16:49.402+0900",
  "completed" : "2014-09-30T19:16:49.402+0900",
  "state" : "success",
  "affectedResource" : [ "https://vm007223:22016/Automation/v1/objects/Schedules/23429", "https://vm007223:22016/Automation/v1/objects/Tasks/23450" ],
  "result" : []
}
```



Note: The task ID is 23450 in this example.

Checking the service results

Use the following example operation to check the results:

```
curl -v -H "Accept: application/json" -u submituser:submit -X GET "https://vm007223:22016/Automation/v1/objects/PropertyValues?taskID=23450"
```



Note: The target task ID is 23450.

Run results

```
{
  "data" : [ {
    .....
  }, {
    "instanceID" : 23439,
    "type" : "file",
    "keyName" : "provisioning.taskResult.lunPathConfigurationInformation",
    "value" : "{\r\n  \"values\" : [ {\r\n    \"usage\" : \"OS VM\", \r\n
\r\n    \"host\" : \"bs2r3-073\", \r\n    \"hostPort\" :
\r\n    \"C0.03.FF.85.16.90.00.08\", \r\n    \"lun\" : \"2\", \r\n    \"storagePort
\r\n    \"CTL1-B\", \r\n    \"portType\" : \"FC\", \r\n    \"volume\" : \"445\",
\r\n    \"dpPool\" : 0, \r\n    \"storageSystem\" :
\r\n    \"AMS2100@10.197.73.127\", \r\n    \"provisionedCapacity\" : \"2097152Blocks
\r\n    \"capacity\" : \"1.0GB\", \r\n    \"hostGroup\" : \"bs2r3-073\",
\r\n    \"deviceManagerTaskName\" : \"Automation_Director_Allocate Volumes
for Microsoft SQL Server_OS VM_2_0000\", \r\n    \"deviceManagerName\" :
\r\n    \"vm007223\" \r\n  }, {\r\n    \"usage\" : \"OS VM\", \r\n    \"host\" :
\r\n    \"bs2r3-073\", \r\n    \"hostPort\" : \"C0.03.FF.85.16.90.00.0A\",
\r\n    ..... ] \r\n}",
    "readOnly" : false,
    "hidden" : false,
    "taskID" : 23450
  }, {
    .....
  }
}
```

The example shows the following:

- host: bs2r3-073
- hostPort : C0.03.FF.85.16.90.00.08
- storagePort : CTL1-B
- storageSystem : AMS2100@10.197.73.127

Modifying a smart provisioning service

The following scenario describes how to edit an existing smart provisioning service, submit the modified service, and verify the related task results.

Editing the property list of a service

Here are the basic steps to edit the property list:

1. Acquire the target service ID (instance ID).
2. Acquire the property list ID of the service.
3. Acquire the property values.

4. Modify the property values.
5. Save the file.
6. Update the modified property list.

Perform the following detailed steps:

Procedure

1. Obtain the instance ID of a provisioning service that you want to edit:

```
curl -v -H "Accept: application/json" -u system:manager -X GET
"https:// <Automation_Director-server-IP-address-or-hostname>:22016/
Automation/v1/objects/Services"
```

The following is an excerpt of an output example.

```
{
  "data" : [ {
    "instanceID" : 11674,
    "name" : "Automation_Director_SERVICE",
    "description" : "Intelligent allocation service that uses sets of
volumes from the associated infrastructure group to be consumed by
server(s) running a generic application",
    "tags" : "Add New Storage",
    "serviceTemplateName" : "Allocate Volumes for Generic Application",
    "createTime" : "2014-11-07T21:22:27.000+09:00",
    "modifyTime" : "2014-11-12T13:03:33.000+09:00",
    "serviceState" : "release",
    "serviceGroupName" : "Default Service Group",
    "iconURL" : "https://10.197.194.100:22016/Automation/icon/
services/com.hitachi.software.dna.cts/SP_GenericApplication/01.00.00",
    "vendorName" : "MyCompany, Ltd.",
    "version" : "01.00.00",
    "lastSubmitTime" : "2014-11-12T12:45:19.000+09:00",
    "favorite" : false,
    "failedCount" : 0,
    "completedCount" : 0,
    "executedCount" : 0,
    "latest" : true,
    "imageURL" : "https://10.197.194.100:22016/Automation/services/
custom/000000000011624/SP_GenericApplication_overview.png",
    "supportedScheduleType" : "immediate,schedule",
    "supportedActionType" : "",
    "submitCount" : 0,
    "serviceTemplateID" : 11624,
    "serviceGroupID" : 3
  } ],
  "count" : 1
}
```



Note: The instanceID or serviceID of the service in the example is 11674.

2. Obtain the instance ID of the property list containing the property values that you want to edit (that belong to serviceID "11674").

```
curl -v -H "Accept: application/json" -u system:manager -X GET
"https:// <Automation_Director-server-IP-address-or-hostname>:22016/
Automation/v1/objects/PropertyValues?serviceID=11674"
```

The following is an example of an output excerpt of the property list "11687" with the keyname property

provisioning.volumeSetting.volumeSettings.restriction.

```

    "instanceID" : 11687,
    "type" : "file",
    "keyName" :
"provisioning.volumeSetting.volumeSettings.restriction",
    "value" : "{\n  \"type\": \"array\",\n  \"visibility\": \"exec\",\n
\n  \"readOnly\": true,\n  \"itemInstances\": [\n    {\n      \"type
\": \"object\",\n      \"properties\": {\n        \"usage\":
{\n          \"type\": \"string\",\n          \"visibility\": \"exec\",
\n          \"readOnly\": true,\n          \"defaultValue\": \"OS
\\\"\\n        },\n        \"numberOfVolumes\": {\n          \"type\":
\"integer\",\n          \"visibility\": \"exec\",\n          \"visibility\": \"exec\",
\n          \"readOnly\": true,\n          \"defaultValue\": \"1\"\n        },
\n        \"capacity\": {\n          \"type\": \"capacity\",
\n          \"visibility\": \"exec\",\n          \"optionValues\": {},
\n          \"defaultValue\": \"150.0GB\"\n        },\n        \"storageProfile\": {\n          \"type\": \"list\",
\n          \"visibility\": \"exec\",
\n          \"readOnly\": true,\n          \"defaultValue\": \"Gold Write\",
\n          \"ldevLabel\": {\n            \"type\": \"string\",
\n            \"visibility\": \"exec\",
\n            \"defaultValue\": \"\",
\n            \"ldevSetting\": {\n              \"type\": \"object\",
\n              \"hidden\": true,\n              \"properties\": {\n                \"fullAllocation\":
{\n                  \"type\": \"list\",
\n                  \"visibility\": \"config\",
\n                  \"defaultValue\": \"Disable\"
\n                }
\n              },
\n              \"lunSetting\": {\n                \"type
\": \"object\",
\n                \"hidden\": true,\n                \"properties
\": {\n                  \"lunStartsFrom\": {\n                    \"type\": \"hex
\",
\n                    \"visibility\": \"config\",
\n                    \"defaultValue\": \"0\"
\n                  }
\n                }
\n              }
\n            }
\n          ]\n        },
    "readOnly" : true,
    "hidden" : true,
    "serviceID" : 11674
  }
```




Note: To edit the property of a service (in steps 3 and 4), provide new values for the desired parameter(s) and follow these guidelines:

- Property values related to volume settings, must be updated through a pair of keynames as follows:
 - provisioning.volumeSetting.volumeSettings.restriction AND provisioning.volumeSetting.volumeSettings.value
 - allocatelikeyolumes.volumeSetting.volumeSettings.restriction AND allocatelikeyolumes.volumeSetting.volumeSettings.value
 - replication.volumeSetting.volumeSettings.restriction AND replication.volumeSetting.volumeSettings.value
- If the property attribute `type` is a file, and the property is not related to volume settings, edit only the properties of associated keynames that end in `.value`.

3. Run the following command to output the property values from the property list ID 11687 to a file (`prop11687.json`) that you can later edit.

```
curl -v -H "Accept: application/json" -u system:manager -X GET
"https:// <Automation_Director-server-IP-address-or-hostname>:22016/
Automation/v1/objects/PropertyValues/11687" > prop11687.json
```



Note: In this example, the property values will be written to the file `prop11687.json` in your current directory. You can change the directory location (for example), by specifying `C:\Users\YourDirectory\prop11687.json`

4. Use a text editor (such as Notepad) to change the property value `storageProfile` from `Gold Write` to `Silver` (for example).

Your modified file should appear as follows:

```
{
  "instanceID" : 11687,
  "type" : "file",
  "keyName" :
"provisioning.volumeSetting.volumeSettings.restriction",
  "value" : "{\n  \"type\": \"array\", \n  \"visibility\": \"exec\",
\n  \"readOnly\": true, \n  \"itemInstances\": [\n    {\n      \"type
\": \"object\", \n      \"properties\": {\n        \"usage\":
{\n          \"type\": \"string\", \n          \"visibility\": \"exec\",
\n          \"readOnly\": true, \n          \"defaultValue\": \"OS
\\\" \n        }, \n        \"numberOfVolumes\": {\n          \"type\":
\"integer\", \n          \"visibility\": \"exec\", \n
\n        \"optionValues\": {}, \n        \"defaultValue\": \"1\" \n      },
\n        \"capacity\": {\n          \"type\": \"capacity\",
\n          \"visibility\": \"exec\", \n          \"optionValues\": {},
\n          \"defaultValue\": \"150.0GB\" \n        }, \n
\n        \"storageProfile\": {\n          \"type\": \"list\", \n
\n          \"visibility\": \"exec\", \n          \"readOnly\": true, \n
\n          \"defaultValue\": \"Silver\" \n        }, \n        \"ldevLabel\":
{\n          \"type\": \"string\", \n          \"visibility\": \"exec\",
\n          \"defaultValue\": \"\" \n        }, \n        \"ldevSetting
\": {\n          \"type\": \"object\", \n          \"hidden\": true,
\n          \"properties\": {\n            \"fullAllocation\":
{\n              \"type\": \"list\", \n              \"visibility\":
\"config\", \n              \"defaultValue\": \"Disable\" \n            }
\n          }, \n          \"lunSetting\": {\n            \"type
\": \"object\", \n            \"hidden\": true, \n            \"properties
\": {\n              \"lunStartsFrom\": {\n                \"type\": \"hex
\", \n                \"visibility\": \"config\", \n
\n                \"defaultValue\": \"0\" \n              } \n            } \n          } \n        } \n      ] \n    } \n  ] \n }
  "readOnly" : true,
  "hidden" : true,
  "serviceID" : 11674
}
```

5. Save the file.
6. Run the following command to update the values in properties list "11687".

```
curl -v -H "Accept: application/json" -H "Content-Type: application/
json" -u system:manager -X PUT --data-binary @./prop11687.json
"https://<Automation_Director-server-IP-address-or-hostname>:22016/
Automation/v1/objects/PropertyValues/11687"
```

Submitting an updated service

After you have edited and updated the properties list for a service, you can submit the service to run the related tasks.

The following REST API example modifies the property values of a provisioning service that you can submit through the POST method. The submitted service generates a corresponding task ID that you then can monitor.



Note: When you assign new property values to a service, it takes effect when the target service is submitted to run.

Procedure

1. Run the following command to output the properties of the service you want to submit to the example file, `submit_param11674.json`.

```
curl -v -H "Accept: application/json" -u system:manager -X GET
"https:// <Automation_Director-server-IP-address-or-hostname>:22016/
Automation/v1/objects/Services/11674/actions/submit" >
submit_param11674.json
```

The following is an output excerpt listing the serviceID, 11674.

```
  }, {
    "instanceID" : 11687,
    "type" : "file",
    "keyName" : "provisioning.volumeSetting.volumeSettings.value",
    "value" : "{\n  \"values\" : [\n    {\n      \"usage\" : \"OS\",
\n      \"numberOfVolumes\" : \"1\", \n      \"capacity\" : \"150.0GB\",
\n      \"storageProfile\" : \"Silver\", \n      \"ldevLabel\" : \"\",
\n      \"lunSetting\" : {\n        \"lunStartsFrom\" : \"0\" \n      }
\n    ] \n  }",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 11674
  }, {
    "instanceID" : 11673,
    "type" : "file",
    "keyName" : "provisioning.hostSetting.targetHosts.value",
    "value" : "{\r\n  \"values\" : {\r\n    }\r\n}",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 11674
  } ]
}
```

2. Update the values of the selected properties as in the following example `submit_param11674_edited.json` file:
 - Number of volumes : 1
 - Capacity of volumes: 150GB

- Allocate host name : "host01"
- Device Manager name : "Device Manager Machine"

Your modified file must be similar to this:

```

}, {
  "instanceID" : 11687,
  "type" : "file",
  "keyName" : "provisioning.volumeSetting.volumeSettings.value",
  "value" : "{\n  \"values\": [\n    {\n      \"usage\": \"OS\",
\n      \"numberOfVolumes\": \"1\", \n      \"capacity\": \"150.0GB\",
\n      \"storageProfile\": \"Silver\", \n      \"ldevLabel\":
\n      \"\", \n      \"lunSetting\": {\n        \"lunStartsFrom\":
\n      \"0\" \n      } \n    } ] }",
  "readOnly" : false,
  "hidden" : false,
  "serviceID" : 11674
}, {
  "instanceID" : 11673,
  "type" : "file",
  "keyName" : "provisioning.hostSetting.targetHosts.value",
  "value" : "{\r\n  \"values\" : {\r\n    \"deviceManagerName\" :
\n  \"Device Manager Machine\", \r\n    \"hosts\" : [ {\r\n      \"name
\n    : \"host01\"    } ] \r\n  } \r\n}",
  "readOnly" : false,
  "hidden" : false,
  "serviceID" : 11674
} ]
}

```

3. Run the following command to submit the service.

```

curl -v -H "Accept: application/json" -H "Content-Type: application/
json" -u system:manager -X POST --data-binary @submit_param11674.json
"https:// <Automation_Director-server-IP-address-or-hostname>:22016/
Automation/v1/objects/Services/11674/actions/submit/invoke"

```

This is an output example excerpt.

```

{
  "instanceID" : "eb607b90-f17f-48c6-9c24-71df1731537e",
  "created" : "2014-11-12T13:11:50.777+09:00",
  "updated" : "2014-11-12T13:11:50.777+09:00",
  "completed" : "2014-11-12T13:11:50.777+09:00",
  "state" : "success",
  "affectedResource" : [ "https://10.197.194.100:22016/Automation/v1/
objects/Schedules/14273", "https://10.197.194.100:22016/Automation/v1/
objects/Tasks/14293" ]
}

```



Note: This example generates a task ID of 14293.

Confirming the results

After submitting an updated service, you can confirm the results by viewing the associated task ID. Whenever you submit a service, Hitachi Automation Director creates a corresponding task ID.

Procedure

1. Run the following command by specifying the run task ID (14293) to get the related task information.

```
curl -v -H "Accept: application/json" -u system:manager -X GET
"https://<Automation_Director-server-IP-address-or-hostname>:22016/
Automation/v1/objects/Tasks/14293"
```

This is an example output. The status indicates that the task is completed.

```
{
  "instanceID" : 14293,
  "name" : "Automation_Director_SERVICE_20141112130925",
  "status" : "completed",
  "startTime" : "2014-11-12T13:11:50.000+09:00",
  "completionTime" : "2014-11-12T13:13:52.000+09:00",
  "submitter" : "System",
  "submitTime" : "2014-11-12T13:11:50.000+09:00",
  "modifyTime" : "2014-11-12T13:14:13.000+09:00",
  "serviceState" : "release",
  "scheduleType" : "immediate",
  "description" : "",
  "serviceName" : "Automation_Director_SERVICE",
  "tags" : "Add New Storage",
  "serviceGroupName" : "Default Service Group",
  "toDo" : false,
  "notes" : "",
  "supportedActionType" : "",
  "serviceTemplateID" : 11624,
  "scheduleID" : 14273,
  "serviceGroupID" : 3,
  "serviceID" : 11674
}
```

2. Run following command to get details of a task result.

```
curl -v -H "Accept: application/json" -u system:manager -X GET
"https://<Automation_Director-server-IP-address-or-hostname>:22016/
Automation/v1/objects/PropertyValues?taskId=14293"
```

3. Run the following command to get task schedule information.

```
curl -v -H "Accept: application/json" -u system:manager -X GET
"https:// <Automation_Director-server-IP-address-or-hostname>:22016/
Automation/v1/objects/Schedules/14273"
```

This is an example of an output excerpt.

```
{
  "instanceID" : 14273,
  "name" : "Automation_Director_SERVICE_20141112130925",
  "submitter" : "System",
  "scheduleType" : "immediate",
  "createTime" : "2014-11-12T13:11:50.000+09:00",
  "modifyTime" : "2014-11-12T13:11:50.000+09:00",
  "description" : "",
  "serviceState" : "release",
  "serviceID" : 11674
}
```

Chapter 3: Hitachi Automation Director REST API command set

This module describes the Automation Director REST API resource commands, defines the structure and syntax, and also provides code examples.

Services

A service is an instance of a service template that has been configured to work your provisioning needs through Automation Director. An example is a service that automates volume provisioning for a server (through a submit service action). There are several management operations that are available for the Services resource.

Getting a list of services

The following URI allows you to obtain a list of services. You can obtain the `instanceID` of a service to perform a supported service operation (such as "deleting a service"). This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Services
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
serviceTemplateID	equal to the value
serviceGroupID	equal to the value
favorite	equal to the value
tags	include all the values or not (can be specified multiple times by comma delimited string)
propertyKey	equal to the value
q	<p>Search the full text of the search target schema. To include all possible values, specify multiple times using half-width space delimited strings.</p> <p>Note: Search is case-insensitive.</p> <p>Search target schema: name, description, tags, serviceTemplateName, vendorName</p>

A query parameter is a type of query string.

You can express a query parameter as follows:

```
?Query_parameter=version
```

For example:

```
?serviceGroupID=16731
```

Response

The response body structure is shown below:

```
{
  "data": [ {...} ],
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of services	Service	0..n	Service resource that matches the search condition

Return codes

The following table lists the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid query parameter.
401	Unauthorized	No login privilege.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://  
host:port/Automation/v1/objects/Services?serviceGroupID=5011
```

Request header:

```
GET /Automation/v1/objects/Services?serviceGroupID=5011 HTTP/1.1  
Authorization: Basic c3lzdGVtOmlhbmFnZXI=  
User-Agent: curl/7.36.0  
Host: host:port  
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 05:55:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
34dfb124a5fcefc089f853d1391341dfbee4cb_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data" : [ {
    "instanceID" : 5185,
    "name" : "Allocate Volumes and Add to Oracle Database for AIX",
    "description" : "The service provisions a disk at storage system and
adds a disk to a disk group for the Oracle ASM for AIX.",
    "tags" : "Add New Storage,Oracle Database",
    "serviceTemplateName" : "Allocate Volumes and Add to Oracle Database
for AIX",
    "createTime" : "2014-07-31T14:49:36.000+09:00",
    "modifyTime" : "2014-07-31T14:49:36.000+09:00",
    "serviceState" : "test",
    "serviceGroupName" : "test_Automation_Director_SG_1",
    "iconURL" : "https://host:port/Automation/icon/services/
com.hitachi.software.cts.oracle/OracleIntegration_AIX_ProvisioningVolume/
01.00.00",
    "vendorName" : "hitachi",
    "version" : "01.00.00",
    "favorite" : false,
    "failedCount" : 0,
    "completedCount" : 0,
    "executedCount" : 0,
    "latest" : true,
    "imageURL" : "https://host:port/Automation/resources/images/overview/
overview.png",
    "supportedScheduleType" : "immediate,schedule,recurrence",
    "supportedActionType" : "",
    "submitCount" : 0,
    "serviceTemplateID" : 1714,
    "serviceGroupID" : 5011
  }, {
    "instanceID" : 5427,
    "name" : "Allocate Volumes and Add to Oracle Database for Solaris",
    "description" : "The service provisions a disk at storage system and
adds a disk to a disk group for the Oracle ASM for Solaris.",
    "tags" : "Add New Storage,Oracle Database",
    "serviceTemplateName" : "Allocate Volumes and Add to Oracle Database
for Solaris",
    "createTime" : "2014-07-31T14:49:57.000+09:00",
    "modifyTime" : "2014-07-31T14:49:57.000+09:00",
    "serviceState" : "test",
    "serviceGroupName" : "test_Automation_Director_SG_1",
    "iconURL" : "https://host:port/Automation/icon/services/
com.hitachi.software.cts.oracle/
OracleIntegration_Solaris_ProvisioningVolume/01.00.00",
    "vendorName" : "hitachi",
    "version" : "01.00.00",
    "favorite" : false,
    "failedCount" : 0,
```

```

    "completedCount" : 0,
    "executedCount" : 0,
    "latest" : true,
    "imageUrl" : "https://host:port/Automation/resources/images/overview/
overview.png",
    "supportedScheduleType" : "immediate,schedule,recurrence",
    "supportedActionType" : "",
    "submitCount" : 0,
    "serviceTemplateID" : 2529,
    "serviceGroupID" : 5011
  } ],
  "count" : 2
}

```

Selecting a service

The following URI allows you to identify a service and obtain its detailed information so that you can edit an object service. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Services/id
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "instanceID" : instance-id,
  "name" : "service-display-name",
  "description" : "description-text",
  "tags" : "tags",
  "serviceTemplateName" : "service-template-name",
  "createTime" : "created-date-and-time",
  "modifyTime" : "updated-date-and-time",
  "serviceState" : "service-state",
  "serviceGroupName" : "service-group-name",
  "iconURL" : "icon-URL",
  "vendorName" : "vendor-name",
  "version" : "version",
  "lastSubmitTime" : "last-submit-time",
  "favorite" : {true|false},
  "failedCount" : failed-count,
  "completedCount" : completed-count,
  "lastFailedTime" : "last-failed-time",
  "resetTime" : "reset-time",
  "executedCount" : executed-count,
  "latest" : {true|false},
  "imageURL" : "image-URL",
  "supportedScheduleType" : "supported-schedule-type",
  "supportedActionType" : "supported-action-type",
  "submitCount" : submit-count,
  "serviceTemplateID" : service-template-id,
  "serviceGroupID" : service-group-id
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found.	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.

Status code	HTTP name	Description
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/Services/5185
```

Request header:

```
GET /Automation/v1/objects/Services/5185 HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 05:57:18 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 6dee6b613fb3ea9cec3732a1e7e6ed5513810_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : 5185,
  "name" : "Allocate Volumes and Add to Oracle Database for AIX",
  "description" : "The service provisions a disk at storage system and
adds a disk to a disk group for the Oracle ASM for AIX.",
  "tags" : "Add New Storage,Oracle Database",
  "serviceTemplateName" : "Allocate Volumes and Add to Oracle Database for
AIX",
  "createTime" : "2014-07-31T14:49:36.000+09:00",
  "modifyTime" : "2014-07-31T14:49:36.000+09:00",
  "serviceState" : "test",
  "serviceGroupName" : "test_Automation_Director_SG_1",
  "iconURL" : "https://host:port/Automation/icon/services/
com.hitachi.software.cts.oracle/OracleIntegration_AIX_ProvisioningVolume/
01.00.00",
  "vendorName" : "hitachi",
  "version" : "01.00.00",
  "favorite" : false,
  "failedCount" : 0,
  "completedCount" : 0,
  "lastFailedTime" : "2014-08-31T14:49:36.000+09:00",
  "resetTime" : "2014-08-31T14:49:36.000+09:00",
  "executedCount" : 0,
  "latest" : true,
  "imageURL" : "https://host:port/Automation/resources/images/overview/
overview.png",
  "supportedScheduleType" : "immediate,schedule,recurrence",
  "supportedActionType" : "",
  "submitCount" : 0,
  "serviceTemplateID" : 1714,
  "serviceGroupID" : 5011
}
```

Editing a service

The following URI allows you to update a service. This request requires a minimum role of Submit. However, only the `favorite` property can be updated in the Submit role. When using the Modify role or above, all valid properties can be updated.

HTTP request syntax (URI)

```
PUT https://host:port/Automation/version/objects/Services/{id}
```

Request

The request body structure is shown below:

```
{
  "instanceID" : instance-id,
  "name" : "service-display-name",
  "description" : "description-text",
  "tags" : "tags",
  "serviceTemplateName" : "service-template-name",
  "createTime" : "created-date-and-time",
  "modifyTime" : "updated-date-and-time",
  "serviceState" : "service-state",
  "serviceGroupName" : "service-group-name",
  "iconURL" : "icon-URL",
  "vendorName" : "vendor-name",
  "version" : "version",
  "lastSubmitTime" : "last-submit-time",
  "favorite" : {true|false},
  "failedCount" : failed-count,
  "completedCount" : completed-count,
  "lastFailedTime" : "last-failed-time",
  "resetTime" : "reset-time",
  "executedCount" : executed-count,
  "latest" : {true|false},
  "imageURL" : "image-URL",
  "supportedScheduleType" : "supported-schedule-type",
  "supportedActionType" : "supported-action-type",
  "submitCount" : submit-count,
  "serviceTemplateID" : service-template-id,
  "serviceGroupID" : service-group-id
}
```

The following table describes the valid properties that can be updated, when editing a service. If you specify non-valid properties (such as properties that are not listed), these fields will be ignored.

Resource Name	Element Name	Number
Service	name	1
Service	description	1
Service	tags	1
Service	Favorite	1
Service	serviceState	1
Service	supportedScheduleType	1

Response

The response body structure is shown below:

```
{
  "instanceID" : instance-id,
  "name" : "service-display-name",
  "description" : "description-text",
  "tags" : "tags",
  "serviceTemplateName" : "service-template-name",
  "createTime" : "created-date-and-time",
  "modifyTime" : "updated-date-and-time",
  "serviceState" : "service-state",
  "serviceGroupName" : "service-group-name",
  "iconURL" : "icon-URL",
  "vendorName" : "vendor-name",
  "version" : "version",
  "lastSubmitTime" : "last-submit-time",
  "favorite" : {true|false},
  "failedCount" : failed-count,
  "completedCount" : completed-count,
  "lastFailedTime" : "last-failed-time",
  "resetTime" : "reset-time",
  "executedCount" : executed-count,
  "latest" : {true|false},
  "imageURL" : "image-URL",
  "supportedScheduleType" : "supported-schedule-type",
  "supportedActionType" : "supported-action-type",
  "submitCount" : submit-count,
  "serviceTemplateID" : service-template-id,
  "serviceGroupID" : service-group-id
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid query parameter.
401	Unautho rized	No login privilege.
404	Not found	No privilege to get services or no service exists.

Status code	HTTP name	Description
412	Precondition failed	The server is not available.
413	Request Entity Too Large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X PUT --data-binary @./InputParameters.json https://host:port/Automation/v1/objects/Services/5185
```

Request header:

```
PUT /Automation/v1/objects/Services/5185 HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 1094
Expect: 100-continue
```

Response header:

```
HTTP/1.1 100 Continue
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:08:32 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
1ec763c99e71383925094685e6c28492ea4b42a_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : 5185,
  "name" : "Allocate Volumes and Add to Oracle Database for AIX (Sales)",
  "description" : "The service provisions a disk at storage system and
adds a disk to a disk group for the Oracle ASM for AIX.",
  "tags" : "Add New Storage,Oracle Database",
  "serviceTemplateName" : "Allocate Volumes and Add to Oracle Database for
AIX",
  "createTime" : "2014-07-31T14:49:36.000+09:00",
  "modifyTime" : "2014-07-31T15:08:33.000+09:00",
  "serviceState" : "test",
  "serviceGroupName" : "test_Automation_Director_SG_1",
  "iconURL" : "https://host:port/Automation/icon/services/
com.hitachi.software.cts.oracle/OracleIntegration_AIX_ProvisioningVolume/
01.00.00",
  "vendorName" : "hitachi",
  "version" : "01.00.00",
  "favorite" : false,
  "failedCount" : 0,
  "completedCount" : 0,
  "lastFailedTime" : "2014-08-31T14:49:36.000+09:00",
  "resetTime" : "2014-08-31T14:49:36.000+09:00",
  "executedCount" : 0,
  "latest" : true,
  "imageURL" : "https://host:port/Automation/resources/images/overview/
overview.png",
  "supportedScheduleType" : "immediate,schedule,recurrence",
  "supportedActionType" : "",
  "submitCount" : 0,
  "serviceTemplateID" : 1714,
  "serviceGroupID" : 5011
}
```

Deleting a service

The following URI allows you to delete a service. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
DELETE https://host:port/Automation/version/objects/Services/id
```

Request

The body of the request must be empty.

Response

None

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
204	No content	Request was successful, but if the response to return does not exist, return this code instead of 200.
401	Unauthorized	No login privilege.
403	Forbidden	This user is not allowed to perform this request. If there is no update privilege, delete the related resource.
409	Conflict	A task generated from the specified service exists.
412	Precondition failed	The server is not running.
500	Server-side error	Processing error returned by the server.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X DELETE https://host:port/Automation/v1/objects/Services/6021
```

Request header:

```
DELETE /Automation/v1/objects/Services/6021 HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 204 OK
Date: Thu, 31 Jul 2014 06:08:32 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
1ec763c99e71383925094685e6c28492ea4b42a_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
```

Getting a list of service actions

The following URI provides you with a list of actions for the Service resource. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Services/{id}/actions
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "data" : [ {
    "name" : "update",
    "href" : "https://host:port/Automation/version/objects/Services/{id}",
    "method" : "PUT",
    "parameters" : []
  }, {
    "name" : "submit",
    "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/submit/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "detailhelp",
    "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/detailhelp",
    "method" : "GET",
    "parameters" : []
  }, {
    "name" : "delete",
    "href" : "https://host:port/Automation/version/objects/Services/{id}",
    "method" : "DELETE",
    "parameters" : []
  }, {
    "name" : "reset",
    "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/reset/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "release",
    "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/release/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "maintenance",
    "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/maintenance/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "disable",
    "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/disable/invoke",
    "method" : "POST",
    "parameters" : []
  }
]
```

```

}, {
  "name" : "applyTemplate",
  "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/applyTemplate/invoke",
  "method" : "POST",
  "parameters" : []
} ],
"count" : 9
}

```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no service exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/v1/objects/Services/5185/actions
```

Request header:

```
GET /Automation/v1/objects/Services/5185/actions HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```


Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:14:25 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
a664c6399a53caae6075ac26a0ac9014d42e2081_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```

{
  "data" : [ {
    "name" : "update",
    "href" : "https://host:port/Automation/v1/objects/Services/5185",
    "method" : "PUT",
    "parameters" : []
  }, {
    "name" : "submit",
    "href" : "https://host:port/Automation/v1/objects/Services/5185/
actions/submit/invoke"
  }, {
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "delete",
    "href" : "https://host:port/Automation/v1/objects/Services/5185",
    "method" : "DELETE",
    "parameters" : []
  }, {
    "name" : "reset",
    "href" : "https://host:port/Automation/v1/objects/Services/5185/
actions/reset/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "delete",
    "href" : "https://host:port/Automation/v1/objects/Services/5185",
    "method" : "DELETE",
    "parameters" : []
  }, {
    "name" : "reset",
    "href" : "https://host:port/Automation/v1/objects/Services/5185/
actions/reset/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "release",
    "href" : "https://host:port/Automation/v1/objects/Services/5185/
actions/release/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "maintenance",
    "href" : "https://host:port/Automation/v1/objects/Services/5185/
actions/maintenance/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "disable",

```

```

    "href" : "https://host:port/Automation/v1/objects/Services/5185/
actions/disable/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "applyTemplate",
    "href" : "https://host:port/Automation/v1/objects/Services/5185/
actions/applyTemplate/invoke",
    "method" : "POST",
    "parameters" : []
  } ],
  "count" : 9
}

```

Query filters that are not supported

- HQL::fields
- HQL::filter
- HQL::sortBy

Preparing to submit a service

The following URI is the initial step to submitting a service. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Services/{id}/actions/
submit
```

Request

The body of the request must be empty.

Response

The response body structure is shown below.

```

{
  "name" : "submit",
  "url" : " https://host:port/Automation/version/objects/Services/{id}/
actions/submit/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}

```

The following table describes the objects specified as the `parameters` member.

Output	Resource Name	Number	Description
Schedule	Schedule	1	The run schedule of the service.
List of property values	PropertyValue	0..n	The input property of the service.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	No privilege to get services or no service exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/Services/3569/actions/submit
```

Request header:

```
GET /Automation/v1/objects/Services/3569/actions/submit HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:23:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
57c04c224090c645f8abc0721e96c96594692ced_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```

{
  "name" : "submit",
  "href" : "https://host:port/Automation/v1/objects/Services/3569/actions/submit/invoke",
  "method" : "POST",
  "parameters" : [ {
    "name" : "Execute remote command_20140731152315",
    "submitter" : "System",
    "scheduleType" : "immediate",
    "description" : "",
    "scheduledStartTime" : "2014-07-31T15:23:15.382+09:00",
    "recurrenceInterval" : "daily",
    "recurrenceDayOfWeek" : "",
    "recurrenceDayOfMonth" : "",
    "recurrenceLastDayOfMonth" : false,
    "recurrenceStartDate" : "2014-07-31",
    "recurrenceTime" : "00:00:00",
    "serviceID" : 3569
  }, {
    "instanceID" : 3564,
    "type" : "string",
    "keyName" : "common.targetHost",
    "value" : "172.17.9.36",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 3569
  }, {
    "instanceID" : 3565,
    "type" : "string",
    "keyName" : "common.remoteCommand",
    "value" : "date",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 3569
  }, {
    "instanceID" : 3568,
    "type" : "string",
    "keyName" : "common.remoteCommandParameter",
    "value" : "/t",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 3569
  } ]
}

```

Submitting a service

The following URI allows you to submit a service for scheduling and immediate running. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Services/{id}/actions/submit/invoke
```

Request

The request body structure is shown below:

```
{
  "name" : "submit",
  "url" : "https://host:port/Automation/version/objects/Services/id/actions/submit/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects specified as the `parameters` member.

Output	Resource Name	Number	Description
Schedule	Schedule	1	The run schedule of the service.
List of property values	PropertyValue	0..n	The input property of the service.

The tables below provide the valid properties.

- For common settings:

Resource Name	Element Name	Number
Schedule	name	1
Schedule	description	1
PropertyValue	keyName	0..n
PropertyValue	value	0..n
Schedule	scheduleType	1

- For running immediately: None
- For scheduled run:

Resource Name	Element Name	Number
Schedule	scheduledStartTime	1

- For recurring run:

Resource Name	Element Name	Number
Schedule	recurrenceInterval	1
Schedule	recurrenceMinutes	1
Schedule	recurrenceDayOfWeek	1
Schedule	recurrenceDayOfMonth	1
Schedule	recurrenceLastDayOfMont h	1
Schedule	recurrenceStartDate	1
Schedule	recurrenceTime	1

Response

The response body structure is shown below:

```
{
  "instanceID" : instance-id,
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ]
}
```

The following table describes the objects returned as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to created Schedule	String	1	The link to the created Schedule resource

Output	Resource Name	Number	Description
Link to created Task	String	1	The link to the created Task resource

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid argument or the number of tasks has reached the upper limit.
401	Unauthorized	No login privilege.
403	Forbidden	No privilege to run services.
404	Not found	No privilege to get services or no service exists.
412	Precondition failed	The server is not available or the number of tasks has reached the upper bound.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X POST --data-binary @./InputParameters.json https://host:port/Automation/v1/objects/Services/3569/actions/submit/invoke
```

Request header:

```
POST /Automation/v1/objects/Services/3569/actions/submit/invoke HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 1224
Expect: 100-continue
```

Response header:

```
HTTP/1.1 100 Continue
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:32:06 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
bcd3f7285cb238fb7d0dcfc6e74ff67cf95388_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : "51308b3c-6d32-4fd4-91fe-e6ecf9afe9b7",
  "created" : "2014-07-31T15:32:07.057+09:00",
  "updated" : "2014-07-31T15:32:07.057+09:00",
  "completed" : "2014-07-31T15:32:07.057+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/
Schedules/6163", "https://host:port/Automation/v1/objects/Tasks/6166" ],
  "result" : []
}
```

Preparing to reset a service

The following URI is the initial step to acquire the template of required arguments of a service for resetting. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Services/id/actions/reset
```

Request

The body of the request must be empty.

Response

The response body structure is shown below.

```
{
  "name" : "reset",
  "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/reset/invoke",
  "method" : "POST",
  "parameters" : []
}
```

To complete this action, reset the counter of the service.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	No privilege to get services or no service exists.
412	Precondition failed	The server is not running.
500	Server-side error	Server processing error.

Example

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/v1/objects/Services/2004/actions/reset
```

Request header:

```
GET /Automation/v1/objects/Services/2004/actions/reset HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:23:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
57c04c224090c645f8abc0721e96c96594692ced_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "reset",
  "href" : "https://host:port/Automation/v1/objects/Services/2004/actions/
reset/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Resetting the counter of a service

The following URI enables you to reset the counter of a service. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Services/id/actions/
reset/invoke
```

Request

The request body structure is shown below.

```
{
  "name" : "reset",
  "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/reset/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Response

The response body structure is shown below.

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects returned as the `affectedResources` member.

Output	Resource Name	Number	Description
link to affected Service	String	1	The link to the Service resource with specified ID.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid argument.

Status code	HTTP name	Description
401	Unauthorized	No login privilege.
403	Forbidden	No privilege to reset counter.
404	Not found	No privilege to get services or no service exists.
412	Precondition failed	The server is not running.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -H -X POST --data-binary @./InputParameters.json https://host:port/Automation/v1/objects/Services/2004/actions/reset/invoke
```

Request header:

```
POST /Automation/v1/objects/Services/2004/actions/reset/invoke HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 171
```

Response header:

```

HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:23:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
57c04c224090c645f8abc0721e96c96594692ced_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "instanceID" : "9d1ccf4f-247d-4f2a-89fa-7b3683e05e3c",
  "created" : "2015-07-30T13:52:25.949+09:00",
  "updated" : "2015-07-30T13:52:25.949+09:00",
  "completed" : "2015-07-30T13:52:25.949+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/
Services/2004" ],
  "result" : []
}

```

Preparing to release a service

The following URI is the initial step obtain the template of the URL arguments required to release and then run the target service. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```

GET https://host:port/Automation/version/objects/Services/id/actions/
release

```

Request

The body of the request must be empty.

Response

The response body structure is shown below.

```
{
  "name" : "release",
  "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/release/invoke",
  "method" : "POST",
  "parameters" : []
}
```

To complete this action, release the service.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	No privilege to get services or no service exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/v1/objects/Services/2004/actions/release
```


Request header:

```
GET /Automation/v1/objects/Services/2004/actions/release HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:23:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
57c04c224090c645f8abc0721e96c96594692ced_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "release",
  "href" : "https://host:port/Automation/v1/objects/Services/2004/actions/
release/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Releasing a service

The following URI allows you to change the configuration type of the service to `release`. This request requires a minimum role of `Modify`.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Services/id/actions/
release/invoke
```

Request

The request body structure is shown below:

```
{
  "name" : "release",
  "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/release/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects returned as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to affected Service	String	1	The link to the created Service resource

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid argument.

Status code	HTTP name	Description
401	Unauthorized	No login privilege.
404	Not found	No privilege to get services or no service exists.
409	Conflict	Service is cannot be released due to status.
412	Precondition failed	The server is not running.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X POST --data-binary @./InputParameters.json https://host:port/Automation/v1/objects/Services/2004/actions/release/invoke
```

Request header:

```
POST /Automation/v1/objects/Services/3569/actions/release/invoke HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 175
```

Response header:

```
HTTP/1.1 100 Continue
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:32:06 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
bcd3f7285cb238fb7d0dcfc6e74ff67cf95388_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : "4c63e655-1ec2-4c70-912f-c1d80be59066",
  "created" : "2015-07-30T13:55:39.457+09:00",
  "updated" : "2015-07-30T13:55:39.457+09:00",
  "completed" : "2015-07-30T13:55:39.457+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/
Services/2004" ],
  "result" : []
}
```

Preparing to change the configuration type of a service to maintenance

The following URI is the initial step to changing the configuration type of a service to maintenance. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Services/id/actions/
maintenance
```

Request

The body of the request must be empty.

Response

The response body structure is shown below.

```
{
  "name" : "maintenance",
  "href" : " http://host:port/Automation/version/objects/Services/id/
actions/maintenance/invoke",
  "method" : "POST",
  "parameters" : []
}
```

To complete this action, change the configuration type of the service to maintenance.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Statu s code	HTTP name	Description
200	OK	Success.
401	Unauth orized	No login privilege.
404	Not found	No privilege to get services or no service exists.
412	Precon dition failed	The server is not running.
500	Server- side error	Server processing error.

Example

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/version/objects/Services/2004/actions/maintenance
```

Request header:

```
GET /Automation/v1/objects/Services/3569/actions/maintenance HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:23:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
57c04c224090c645f8abc0721e96c96594692ced_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "maintenance",
  "href" : "https://host:port/Automation/v1/objects/Services/2004/actions/
maintenance/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Changing the configuration type of a service to maintenance

The following URI allows you to change the configuration type of a service to maintenance. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Services/id/actions/
maintenance/invoke
```

Request

The request body structure is shown below:

```
{
  "name" : "maintenance",
  "href" : "https://host:port/Automation/version/objects/Services/id/
actions/maintenance/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects returned as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to affected Service	String	1	The link to the Service resource

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid argument.

Status code	HTTP name	Description
401	Unauthorized	No login privilege.
404	Not found	No privilege to get services or no resource exists.
409	Conflict	Service is not able to change to maintenance mode due to status.
412	Precondition failed	The server is not running.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X POST --data-binary @./InputParameters.json https://host:port/Automation/v1/objects/Services/2004/actions/maintenance/invoke
```

Request header:

```
POST /Automation/v1/objects/Services/3569/actions/maintenance/invoke
HTTP/1.1
Authorization: Basic c3lzdgVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 183
```


Response header:

```

HTTP/1.1 100 Continue
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:32:06 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
bcd3f7285cb238fb7d0dcfc6e74ff67cf95388_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "instanceID" : "36a53982-ac92-45aa-acea-21ede67b7df2",
  "created" : "2015-07-30T14:04:41.028+09:00",
  "updated" : "2015-07-30T14:04:41.028+09:00",
  "completed" : "2015-07-30T14:04:41.028+09:00",
  "state" : "success",
  "affectedResource" : ["https://host:port/Automation/v1/objects/Services/2004" ],
  "result" : []
}

```

Preparing to disable a service

The following URI is the initial step to disable a target service. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Services/id/actions/disable
```

Request

The body of the request must be empty.

Response

The response body structure is shown below.

```
{
  "name" : "disable",
  "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/disable/invoke",
  "method" : "POST",
  "parameters" : []
}
```

To complete this action, disable the service.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Statu s code	HTTP name	Description
200	OK	Success.
401	Unauth orized	No login privilege.
404	Not found	No privilege to get services or no service exists.
412	Precon dition failed	The server is not running.
500	Server- side error	Server processing error.

Example

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/v1/objects/Services/2004/actions/disable
```

Request header:

```
GET /Automation/v1/objects/Services/2004/actions/disable HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:23:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
57c04c224090c645f8abc0721e96c96594692ced_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "release",
  "href" : "https://host:port/Automation/v1/objects/Services/2004/actions/
disable/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Disabling a service

The following URI allows you to disable a service. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Services/id/actions/
disable/invoke
```

Request

The body of the request must be empty.

```
{
  "name" : "disable",
  "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/disable/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Response

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects returned as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to affected Service	String	1	The link to the Service resource

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid argument.
401	Unauth orized	No login privilege.

Status code	HTTP name	Description
404	Not found	No privilege to get services or no service exists.
409	Conflict	Cannot change service to disable mode due to current status.
412	Precondition failed	The server is not running.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Processing error returned by the server.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -H -X POST --data-binary @./InputParameters.json https://host:port/Automation/v1/objects/Services/2004/actions/disable/invoke
```

Request header:

```
POST /Automation/v1/objects/Services/2004/actions/disable/invoke HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Length: 175
```

Response header:

```

HTTP/1.1 204 OK
Date: Thu, 31 Jul 2015 06:08:32 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
1ec763c99e71383925094685e6c28492ea4b42a_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "instanceID" : "ff785246-c3c9-425c-87a5-109336e8b387",
  "created" : "2015-07-30T14:07:58.053+09:00",
  "updated" : "2015-07-30T14:07:58.053+09:00",
  "completed" : "2015-07-30T14:07:58.053+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/
Services/2004" ],
  "result" : []
}

```

Getting service help

The following URI returns the web address to obtain detailed help of a specified service template. You can then display the help information of the target service template through a browser. This request requires the minimum role of Submit.

HTTP request syntax (URI)

```

GET https://host:port/Automation/version/objects/Services/id/actions/
detailhelp

```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "name" : "export",
  "href" : "Link-to-the-detail-help",
  "method" : "POST",
  "parameters" : []
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Stat us code	HTTP name	Description
200	OK	Success.
401	Unaut horize d	No login privilege.
404	Not found	No privilege to get services or no service exists.
412	Precon dition failed	The server is not running.
500	Server -side error	Processing error returned by the server.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -H -X GET https://  
host:port/Automation/v1/objects/ServiceTemplates/1116/actions/detailhelp
```

Request header:

```
GET /Automation/v1/objects/ServiceTemplates/1116/actions/detailhelp HTTP/
1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response body:

```
{
  "name" : "detailhelp",
  "href" : "https://host:port/Automation/services/custom/00000000000560/
remoteCommandExe.html",
  "method" : "GET",
  "parameters" : []
}
```

Preparing to apply a service template

The following URI is the initial step to get the template of required arguments to apply a template. The returned parameters shows the template that is currently bound to the service. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Services/id/actions/
applyTemplate
```

Request

The body of the request must be empty.

Response

The response body structure is shown below.

```
{
  "name" : "applyTemplate",
  "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/applyTemplate/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects specified as the `parameters` member.

Output	Resource Name	Number	Description
Current ServiceTemplate	ServiceTemplate	1	Current ServiceTemplate.

To complete this action, apply the service template.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
403	Forbidden	No privilege to get service templates.
404	Not found	No privilege to get services or no service exists.
412	Precondition failed	The server is not running.
500	Server-side error	Server processing error.

Example

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/Services/2188/actions/applyTemplate
```

Request header:

```
GET /Automation/v1/objects/Services/2188/actions/applyTemplate HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:23:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
57c04c224090c645f8abc0721e96c96594692ced_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "applyTemplate",
  "href" : "https://host:port/Automation/v1/objects/Services/2188/actions/
applyTemplate/invoke",
  "method" : "POST",
  "parameters" : [ {
    "instanceID" : 2111,
    "keyName" : "SP_GenericApplication",
    "displayName" : "Allocate Volumes for Generic Application",
    "iconURL" : "https://host:port/Automation/icon/services/
com.hitachi.software.dna.cts/SP_GenericApplication/01.14.00",
    "vendorID" : "com.hitachi.software.dna.cts",
    "version" : "01.14.00",
    "vendorName" : "Hitachi, Ltd.",
    "tags" : "Add New Storage",
    "createTime" : "2015-07-30T14:14:29.000+09:00",
    "modifyTime" : "2015-07-30T14:14:29.000+09:00",
    "description" : "Intelligent allocation service that uses sets of
volumes from the associated infrastructure group to be consumed by
server(s) running a generic application",
    "releaseState" : "release",
    "latest" : false,
    "imageURL" : "https://host:port/Automation/services/custom/
00000000002111/SP_GenericApplication_overview.png",
    "supportedScheduleType" : "immediate,schedule",
    "supportedActionType" : "",
    "needVUP" : false,
    "componentOutdated" : true,
    "usedServices" : 1,
    "usedTemplates" : 0
  } ]
}
```

Applying a service template

The following URI allows you to apply a service template. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Services/id/actions/
applyTemplate/invoke
```

Request

The request body structure is shown below:

```
{
  "name" : "applyTemplate",
  "href" : "https://host:port/Automation/version/objects/Services/{id}/
actions/applyTemplate/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects returned as the `parameters` member.

Output	Resource Name	Number	Description
ServiceTemplate	ServiceTemplate	1	The template to apply

The following table describes the valid properties.

Resource Name	Element Name	Number
ServiceTemplate	instanceID	1

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects returned as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to affected Service	String	1	The link to the Service resource

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid argument.
401	Unauthorized	No login privilege.
404	Not found	No privilege to get services or no resource exists.
409	Conflict	Invalid status of the changed destination of the template.
412	Precondition failed	The server is not running.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X POST --data-binary @./InputParameters.json https://host:port/
Automation/v1
/objects/Services/2188/actions/applyTemplate/invoke
```

Request header:

```
POST /Automation/v1/objects/Services/2188/actions/applyTemplate/invoke
HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 1199
Expect: 100-continue
```

Response header:

```
HTTP/1.1 100 Continue
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:32:06 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
bcd3f7285cb238fb7d0dcfc6e74ff67cf95388_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : "10920fed-ad4f-4be1-9015-bd2066e5312c",
  "created" : "2015-07-30T14:23:38.683+09:00",
  "updated" : "2015-07-30T14:23:38.683+09:00",
  "completed" : "2015-07-30T14:23:38.683+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/
Services/2188" ],
  "result" : []
}
```

Schedules

Automation Director enables you to schedule tasks and services. There are several management operations that are available for the Schedule resource.

Getting a list of scheduled services

The following URI provides you with a list of scheduled services. This list also includes services that are marked as `immediate`. You can also obtain the `instanceID` of the target scheduled service along with information, such as `submitter` or the associated `serviceID`. This request requires a minimum role of `Submit`.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Schedules
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
serviceID	equal to the value
serviceGroupID	equal to the value
serviceTemplateID	equal to the value
scheduleStatus	equal to the value

A query parameter is a type of query string.

You can express a query parameter as follows:

```
?Query_parameter=value
```

For example:

```
?serviceID=16731
```



Note: By specifying `?scheduleStatus=running` as a query, you can exclude the finished schedule information. This includes any tasks (immediate or scheduled) that already running or any canceled tasks. In addition, only `=running` is supported in this query.

Response

The response body structure is shown below:

```
{
  "data": [ { ... } ],
  "count " : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of schedules	Schedule	0..n	Schedule resource that matches the search condition

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad Request	Invalid query parameter.

Statu s code	HTTP name	Description
401	Unauth orized	No login privilege.
412	Precond ition Failed	The server is not available.
500	Server- side Error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/Schedules
```

Request header:

```
GET /Automation/v1/objects/Schedules HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:54:39 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
d2ac6f15f69065c555dbf25b6a6e13c32764fccd_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data" : [ {
    "instanceID" : 6163,
    "name" : "Execute remote command_20140731152315",
    "submitter" : "System",
    "scheduleType" : "immediate",
    "createTime" : "2014-07-31T15:32:06.000+09:00",
    "modifyTime" : "2014-07-31T15:32:06.000+09:00",
    "description" : "",
    "serviceState" : "test",
    "serviceID" : 3569
  }, {
    "instanceID" : 6188,
    "name" : "Execute remote command_20140731155139",
    "submitter" : "System",
    "scheduleType" : "schedule",
    "createTime" : "2014-07-31T15:52:11.000+09:00",
    "modifyTime" : "2014-07-31T15:52:11.000+09:00",
    "description" : "",
    "scheduledStartTime" : "2014-07-31T17:00:00.000+09:00",
    "serviceState" : "test",
    "serviceID" : 3569
  }, {
    "instanceID" : 6171,
    "name" : "Execute remote command_20140731152120_Resubmit",
    "submitter" : "System",
    "scheduleType" : "immediate",
    "createTime" : "2014-07-31T15:44:26.000+09:00",
    "modifyTime" : "2014-07-31T15:44:26.000+09:00",
    "description" : "",
    "serviceState" : "test",
    "serviceID" : 3569
  } ],
  "count" : 3
}
```

Selecting a targeted service schedule

The following URI allows you to select a schedule and obtain its detailed information. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Schedules/id
```



Note: Obtain the ID of the targeted service schedule from the list of scheduled services.

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "instanceID" : instance-id,
  "name" : "registered-service-name",
  "submitter" : "submit-user-name",
  "status" : "status-of-schedule",
  "scheduleType" : "type-of-schedule",
  "createTime" : "created-date-and-time",
  "modifyTime" : "updated-date-and-time",
  "description" : "description-text",
  "scheduledStartTime" : "scheduled-start-time",
  "recurrenceInterval" : "interval-type",
  "recurrenceMinutes" : "recurrence-minutes",
  "recurrenceDayOfWeek" : "interval-of-weekly-job",
  "recurrenceDayOfMonth" : "interval-of-monthly-job",
  "recurrenceLastDayOfMonth" : {true|false},
  "recurrenceStartDate" : "recurrence-start-date",
  "recurrenceTime" : "exec-time-of-day",
  "serviceState" : "service-state",
  "serviceID" : service-id
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.

Statu s code	HTTP name	Description
500	Server- side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/Schedules/6188
```

Request header:

```
GET /Automation/v1/objects/Schedules/6188 HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:55:27 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
e1f1c1e2b0e7e0b08f43d71309244dcd0f3d2d_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : 6188,
  "name" : "Execute remote command_20140731155139",
  "submitter" : "System",
  "scheduleType" : "schedule",
  "createTime" : "2014-07-31T15:52:11.000+09:00",
  "modifyTime" : "2014-07-31T15:52:11.000+09:00",
  "description" : "",
  "scheduledStartTime" : "2014-07-31T17:00:00.000+09:00",
  "serviceState" : "test",
  "serviceID" : 3569
}
```

Getting a list of scheduled actions

The following URI provides you with a list of actions for the Schedule resource. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Schedules/id/actions
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "data" : [ {
    "name" : "cancel",
    "url" : "https://host:port/Automation/version/objects/Schedules/{id}/
actions/cancel/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "suspend",
    "url" : " https://host:port/Automation/version/objects/Schedules/{id}/
actions/suspend/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "resume",
    "url" : " https://host:port/Automation/version/objects/Schedules/{id}/
actions/resume/invoke",
    "method" : "POST",
    "parameters" : []
  } ],
  "count" : 3
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauth horize d	No login privilege.
404	Not found	Invalid privilege or no resource exists
412	Precon dition Failed	The server is not available.
500	Server -side Error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/Schedules/6188/actions
```

Request header:

```
GET /Automation/v1/objects/Schedules/6188/actions HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:55:55 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
45866acc2a89370d3ed8b6e9aa26b38aec3953_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data" : [ {
    "name" : "cancel",
    "href" : "https://host:port/Automation/v1/objects/Schedules/6188/
actions/cancel/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "suspend",
    "href" : "https://host:port/Automation/v1/objects/Schedules/6188/
actions/suspend/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "resume",
    "href" : "https://host:port/Automation/v1/objects/Schedules/6188/
actions/resume/invoke",
    "method" : "POST",
    "parameters" : []
  } ],
  "count" : 3
}
```

Preparing to cancel a scheduled service

The following URI is the initial step for canceling a scheduled service. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Schedules/id/actions/
cancel
```



Note: After you cancel a scheduled service, it cannot be resumed. To temporarily suspend a scheduled service, you must prepare to suspend the service and then suspend the scheduled service.

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "name" : "cancel",
  "url" : "https://host:port/Automation/version/objects/Schedules/{id}/
actions/cancel/invoke",
  "method" : "POST",
  "parameters" : []
}
```

To complete this action, you must then cancel the service.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X GET https://host:port/Automation/v1/objects/Schedules/6188/actions/
cancel
```

Request header:

```
GET /Automation/v1/objects/Schedules/6188/actions/cancel HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:56:33 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
f9d5ade2d913312d7b656e9c89e62334c89561_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "cancel",
  "href" : "https://host:port/Automation/v1/objects/Schedules/6188/actions/cancel/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Canceling a scheduled service

The following URI allows you to complete the action of canceling a scheduled service. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Schedules/id/actions/cancel/invoke
```



Note: After you cancel a scheduled service, it cannot be resumed. You can temporarily suspend a scheduled service by preparing to suspend the service and then suspending the scheduled service.

Request

The request body structure is shown below:

```
{
  "name" : "cancel",
  "url" : "https://host:port/Automation/version/objects/Schedules/{id}/
actions/cancel/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "status" : "status",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "result-type" : "result-type"
}
```

The following table describes the objects specified as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to affected schedule	String	1	The link to the affected Schedule resource.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Statu s code	HTTP name	Description
200	OK	Success
400	Bad request	Invalid argument
401	Unauth orized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
409	Conflict	The task is not in waiting or holding status.
412	Precon dition failed	The server is not available.
413	Reques t entity too large	The request size exceeds the maximum limit.
500	Server- side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X POST --data-binary @./InputParameters.json https://host:port/Automation/v1/objects/Schedules/6188/actions/cancel/invoke
```

Request header:

```
POST /Automation/v1/objects/Schedules/6188/actions/cancel/invoke HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 170
```

Response header:

```

HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 07:15:37 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
eb4ac447cb55895949ad5e704d1f7151b5fe6f75_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "instanceID" : "6fb00e56-8749-45c5-a727-ee7b048f318c",
  "created" : "2014-07-31T16:15:38.258+09:00",
  "updated" : "2014-07-31T16:15:38.258+09:00",
  "completed" : "2014-07-31T16:15:38.258+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/Schedules/6188" ],
  "result" : []
}

```

Preparing to suspend a scheduled service

The following URI is the initial step for suspending a scheduled service. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Schedules/id/actions/suspend
```



Note: Suspending allows you to temporarily stop a scheduled service and to resume it later. To cancel a scheduled service completely, you must prepare to cancel the service and then cancel the scheduled service.

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "name" : "suspend",
  "url" : "https://host:port/Automation/version/objects/Schedules/{id}/
actions/suspend/invoke",
  "method" : "POST",
  "parameters" : []
}
```

To complete this action, you must then suspend the service.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Statu s code	HTTP name	Description
200	OK	Success.
401	Unaut horize d	No login privilege.
404	Not found	Invalid privilege or no resource exists.
412	Preco nditio n failed	The server is not available.
500	Server -side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X GET https://host:port/Automation/v1/objects/Schedules/6188/actions/
suspend
```

Request header:

```
GET /Automation/v1/objects/Schedules/6188/actions/suspend HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:57:02 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 344067ec4b45cae5115ad7246538e207a5953_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "suspend",
  "href" : "https://host:port/Automation/v1/objects/Schedules/6188/actions/
suspend/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Suspending a scheduled service

The following URI allows you to suspend a scheduled service. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Schedules/id/actions/
suspend/invoke
```



Note: Suspending allows you to temporarily stop a scheduled service and to resume it later. To cancel a scheduled service completely, you prepare to cancel the service and then cancel the scheduled service.

Request

The request body structure is shown below:

```
{
  "name" : "suspend",
  "url" : "https://host:port/Automation/version/objects/Schedules/{id}/
actions/suspend/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "status" : "status",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects specified as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to affected schedule	String	1	The link to the affected Schedule resource.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Statu s code	HTTP name	Used for
200	OK	Success.
400	Bad reques t	Invalid argument.
401	Unauth orized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
409	Conflict	The task is not in waiting status
412	Precon dition failed	The server is not available.
413	Reques t entity too large	The request size exceeds the maximum limit.
500	Server- side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X POST --data-binary @./InputParameters.json https://host:port/
Automation/v1
/objects/Schedules/6188/actions/suspend/invoke
```

Request header:

```
POST /Automation/v1/objects/Schedules/5931/actions/suspend/invoke HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.28.1
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 173
```

Response header:

```

HTTP/1.1 201 Created
Date: Wed, 12 Feb 2014 12:00:12 GMT
Server: Cosminexus HTTP Server
WWW-Authenticate: HSSO e935984d7c4cb04f268cb458e7ccf9ffedebf9e_V0300
Location: https://host:port/Automation/v1/objects/jobs/5e4874d9-0398-4b7d-919c-2cfe9235f98e
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "instanceID" : "5e4874d9-0398-4b7d-919c-2cfe9235f98e",
  "created" : "2014-02-12T21:00:12.432+09:00",
  "updated" : "2014-02-12T21:00:12.432+09:00",
  "completed" : "2014-02-12T21:00:12.432+09:00",
  "state" : "terminated",
  "status" : "completed",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/Schedules/5931" ]
}

```

Preparing to resume a scheduled service

The following URI is the first step to resume a suspended scheduled service. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```

GET https://host:port/Automation/version/objects/Schedules/id/actions/resume

```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "name" : "resume",
  "url" : "https://host:port/Automation/version/objects/Schedules/{id}/
actions/resume/invoke",
  "method" : "POST",
  "parameters" : []
}
```



Note: To complete this action, you must resume the scheduled service.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Statu s code	HTTP name	Used for
200	OK	Resource retrieved or deleted successfully.
401	Unauth orized	No login privilege.
404	Bad request	Invalid privilege or no resource exists.
412	Precon dition failed	The server is not available.
500	Server- side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X GET https://host:port/Automation/v1/objects/Schedules/6188/actions/
resume
```

Request header:

```
GET /Automation/v1/objects/Schedules/6188/actions/resume HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 07:00:17 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
4623c51a6d0e21b84d1e933b27db36b2256ff47_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "resume",
  "href" : "https://host:port/Automation/v1/objects/Schedules/6188/actions/
resume/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Resuming a scheduled service

The following URI allows you to resume a scheduled service that has been suspended. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Schedules/id/actions/
resume/invoke
```

Request

The request body structure is shown below:

```
{
  "name" : "resume",
  "url" : "https://host:port/Automation/version/objects/Schedules/{id}/
actions/resume/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects specified as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to affected schedule	String	1	The link to the affected Schedule resource.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.

Statu s code	HTTP name	Description
400	Bad request	Invalid argument.
401	Unauth orized	No login privilege.
404	Not found	Invalid privilege, or no resource exists.
409	Conflict	The task is not in holding status.
412	Precon dition failed	The server is not available.
500	Server- side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X POST --data-binary @./InputParameters.json https://host:port/
Automation/v1
/objects/Schedules/6188/actions/resume/invoke
```

Request header:

```
POST /Automation/v1/objects/Schedules/6188/actions/resume/invoke HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 172
```

Response header:

```

HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 07:01:47 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
ff1f666164d3a53918cb3cac3925fd76b4df4d_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "instanceID" : "a0392d27-94ae-485d-af61-d573cff57a5b",
  "created" : "2014-07-31T16:01:47.873+09:00",
  "updated" : "2014-07-31T16:01:47.873+09:00",
  "completed" : "2014-07-31T16:01:47.873+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/
Schedules/6188" ],
  "result" : []
}

```

Tasks

A task is the running instance of a service and is generated when you run a service. As a result, whenever you submit a service, Hitachi Automation Director creates a corresponding task (ID) that you can monitor, start and stop, and archive.

This module covers the management operations available for the Tasks resource.

Getting a list of tasks

The following URI provides you with a list of tasks. You can identify the `instanceID` of the target task when operating a task. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Tasks
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
serviceID	equal to the value
scheduleID	equal to the value
serviceGroupID	equal to the value
serviceTemplateID	equal to the value
tags	include all the values or not (can be specified multiple times by comma delimited string)
q	Search the full text of the search target schema. All values can be specified multiple times by using half-width space delimited string. Text is case-insensitive. Search target schema: name, submitter, description, serviceName, tags, notes

A query parameter is a type of query string.

You can express a query parameter as follows:

```
?query_parameter=value
```

For example:

```
?serviceID=16731
```

Response

The response body structure is shown below:

```
{
  "data ":[ {...} ],
  "count " : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of tasks	Task	0..n	Task resource that matches the search condition

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Stat us code	HTTP name	Description
200	OK	Success.
400	Bad reque st	Invalid query parameter.
401	Unaut horize d	No login privilege.
412	Preco nditio n failed	The server is not available.
500	Server -side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://  
host:port  
/Automation/v1/objects/Tasks?serviceID=3569
```

Request header:

```
GET /Automation/v1/objects/Tasks?serviceID=3569 HTTP/1.1  
Authorization: Basic c3lzdGVtOmlhbmFnZXI=  
User-Agent: curl/7.36.0  
Host: host:port  
Accept: application/json
```

Response header:

```

HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:34:43 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
5b9bde37a79093e512f91b9c72c816d9c2407aca_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "data" : [ {
    "instanceID" : 3042,
    "name" : "Execute Remote Command_20150731105831",
    "status" : "completed",
    "startTime" : "2015-07-31T11:30:00.000+09:00",
    "completionTime" : "2015-07-31T11:30:33.000+09:00",
    "scheduledStartTime" : "2015-07-31T11:30:00.000+09:00",
    "submitter" : "System",
    "submitTime" : "2015-07-31T11:00:06.000+09:00",
    "modifyTime" : "2015-07-31T12:37:03.000+09:00",
    "serviceState" : "maintenance",
    "scheduleType" : "schedule",
    "description" : "",
    "serviceName" : "Execute Remote Command",
    "tags" : "Windows,Execute Script",
    "recurrenceInterval" : "weekly",
    "recurrenceTime" : "11:30:00.000+09:00",
    "recurrenceStartDate" : "2015-07-31",
    "serviceGroupName" : "service_group_1",
    "todo" : true,
    "notes" : "Notes Test",
    "supportedActionType" : "",
    "serviceTemplateID" : 560,
    "scheduleID" : 3020,
    "serviceGroupID" : 3,
    "serviceID" : 2004
  }
]
}

```

Selecting a task

The following URI allows you to view details of a specific task by using the `instanceID` for that task. You first obtain a list of task `instanceIDs`. This request requires a minimum role of `Submit`.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Tasks/id
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "instanceID" : instance-id,
  "name" : "task-name",
  "status" : "task-status",
  "startTime" : "start-date-and-time",
  "completionTime" : "completion-time",
  "scheduledStartTime" : "schedule-start-date-and-time",
  "submitter" : "submit-user-name",
  "submitTime" : "created-date-and-time",
  "modifyTime" : "updated-date-and-time",
  "serviceState" : "service-state",
  "scheduleType" : "schedule-type",
  "description" : "description",
  "serviceName" : "service-name",
  "tags" : "tags",
  "recurrenceInterval" : "recurrenceInterval",
  "recurrenceTime" : "recurrenceTime",
  "recurrenceStartDate" : "recurrenceStartDate",
  "serviceGroupName" : "serviceGroupName",
  "todo" : {true|false},
  "blackout" : {true|false},
  "notes" : "notes",
  "supportedActionType" : "supported-action-type",
  "stepStartTime" : "step-start-time",
  "serviceTemplateID" : service-template-id,
  "scheduleID" : schedule-id,
  "serviceGroupID" : service-group-id,
  "serviceID" : service-id
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Stat us code	HTTP name	Description
200	OK	Success.
401	Unaut horize d	No login privilege.
404	Not found.	Invalid privilege or no resource exists.
412	Preco nditio n failed	The server is not available.
500	Server -side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://  
host:port  
/Automation/v1/objects/Tasks/6148
```

Request header:

```
GET /Automation/v1/objects/Tasks/6148 HTTP/1.1  
Authorization: Basic c3lzdGVtOmlhbmFnZXI=  
User-Agent: curl/7.36.0  
Host: host:port  
Accept: application/json
```

Response header:

```

HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:36:02 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
f4dc6c664b7dfcd5bc35cc24e28a9a6d888675ba_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "instanceID" : 6148,
  "name" : "Execute remote command_20140731152120",
  "status" : "completed",
  "startTime" : "2014-07-31T15:21:27.000+09:00",
  "completionTime" : "2014-07-31T15:21:39.000+09:00",
  "submitter" : "System",
  "submitTime" : "2014-07-31T15:21:25.000+09:00",
  "modifyTime" : "2014-07-31T15:22:08.000+09:00",
  "serviceState" : "test",
  "scheduleType" : "immediate",
  "description" : "",
  "serviceName" : "Execute remote command",
  "tags" : "Basic,OS_Operations",
  "serviceGroupName" : "Default Service Group",
  "todo" : false,
  "notes" : "",
  "supportedActionType" : "",
  "serviceTemplateID" : 3557,
  "scheduleID" : 6146,
  "serviceGroupID" : 3,
  "serviceID" : 3569
}

```

Getting a list of task actions

The following URI provides you with a list of actions for the Task resource. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Tasks/id/actions
```

Request

The body of the request must be empty.

Response

The response structure is shown below:

```
{
  "data" : [ {
    "name" : "update",
    "href" : "https://host:port/Automation/version/objects/Tasks/{id}",
    "method" : "PUT",
    "parameters" : []
  }, {
    "name" : "delete",
    "url" : "https://host:port/Automation/version/objects/Tasks/{id}",
    "method" : "DELETE",
    "parameters" : []
  }, {
    "name" : "stop",
    "url" : "https://host:port/Automation/version/objects/Tasks/{id}/
actions/stop/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "forceStop",
    "href" : "http://<host>:<port>/Automation/<version>/objects/Tasks/{id}/
actions/forceStop/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "resubmit",
    "url" : "https://host:port/Automation/version/objects/Tasks/{id}/
actions/resubmit/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "archive",
    "url" : "https://host:port/Automation/version/objects/Tasks/{id}/
actions/archive/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "response",
    "href" : "https://host:port/Automation/version/objects/Tasks/{id}/
actions/response/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "rerunStart",
    "href" : "http://<host>:<port>/Automation/<version>/objects/Tasks/{id}/
actions/rerunStart/invoke",
    "method" : "POST",
    "parameters" : []
  }
]
```

```

}, {
  "name" : " rerunStepStart",
  "href" : "http://<host>:<port>/Automation/<version>/objects/Tasks/{id}/
actions/rerunStepStart/invoke",
  "method" : "POST",
  "parameters" : []
} ],
"count" : 9
}

```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthenticated	No login privilege.
404	Bad request	No privilege to delete tasks.
412	Precondition failed	Server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```

curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port
/Automation/v1/objects/Tasks/6148/actions

```

Request header:

```

GET /Automation/v1/objects/Tasks/6148/actions HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json

```


Response header:

```

HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:37:16 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
c8dfe397998957d7f0f76ea350746ec765b892fd_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "data" : [ {
    "name" : "delete",
    "href" : "https://host:port/Automation/v1/objects/Tasks/6148",
    "method" : "DELETE",
    "parameters" : []
  }, {
    "name" : "stop",
    "href" : "https://host:port/Automation/v1/objects/Tasks/6148/actions/stop/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "resubmit",
    "href" : "https://host:port/Automation/v1/objects/Tasks/6148/actions/resubmit/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "archive",
    "href" : "https://host:port/Automation/v1/objects/Tasks/6148/actions/archive/invoke",
    "method" : "POST",
    "parameters" : []
  } ],
  "count" : 4
}

```

Preparing to stop a task

The following URI is the initial step to stopping a task. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Tasks/id/actions/stop
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "name" : "stop",
  "url" : "https://host:port/Automation/version/objects/Tasks/{id}/actions/stop/invoke",
  "method" : "POST",
  "parameters" : []
}
```

To complete this action, you stop the task.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Used for
200	OK	Resource retrieved or deleted successfully.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port
/Automation/v1/objects/Tasks/6148/actions/stop
```

Request header:

```
GET /Automation/v1/objects/Tasks/6148/actions/stop HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:38:43 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
341afd74ecd83195876caef80c65b7d5499772_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "stop",
  "href" : "https://host:port/Automation/v1/objects/Tasks/6148/actions/
stop/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Stopping a task

The following URI allows you to confirm the stoppage of a task. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Tasks/id/actions/stop/
invoke
```

Request

The body of the request must be empty.

For the content of the request body, use this format:

```
{
  "name" : "stop",
  "url" : "https://host:port/Automation/version/objects/Tasks/id/actions/
stop/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects specified as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to affected task	String	1	The link to the updated Task resource.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Statu s code	HTTP name	Description
200	OK	Success
400	Bad reque st	Invalid argument.
401	Unaut horize d	Invalid authentication/authorization credentials. Notify user that authentication is required to access a resource through the WWW-authenticate header. If the request which already contains the authorization header is being performed, show that the authentication credentials were refused.
404	Not found	Invalid privilege or no resource exists.
409	Conflic t	The task is not in: In Progress, Waiting for Response, or Abnormal Detection status.
412	Preco nditio n failed	The server is not available.
413	Reque st entity too large	The request size exceeds the maximum limit.
500	Server -side error	Processing error returned by the server.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X POST --data-binary @./InputParameters.json https://host:port/Automation/v1/objects/Tasks/6215/actions/stop/invoke
```

Request header:

```
POST /Automation/v1/objects/Tasks/6215/actions/stop/invoke HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 164
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 07:12:06 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
e9139aa2c73544a6fb312ff27aff35b5f491e0_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : "d84e4c57-000e-4249-9347-70c80db0ee49",
  "created" : "2014-07-31T16:12:06.476+09:00",
  "updated" : "2014-07-31T16:12:06.476+09:00",
  "completed" : "2014-07-31T16:12:06.476+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/Tasks/6215" ],
  "result" : []
}
```

Preparing to force stop a task

The following URI is the initial step to forcibly stop a task that could not be stopped by the normal stop action. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Tasks/id/actions/forceStop
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "name" : "forceStop",
  "url" : "https://host:port/Automation/version/objects/Tasks/{id}/actions/forceStop/invoke",
  "method" : "POST",
  "parameters" : []
}
```

To complete this action, you must forcibly stop the task.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Statu s code	HTTP name	Used for
200	OK	Resource retrieved or deleted successfully.
401	Unaut horize d	No login privilege.
404	Not found	Invalid privilege or no resource exists.
412	Precon dition failed	The server is not available.
500	Server- side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/Tasks/6148/actions/forceStop
```

Request header:

```
GET /Automation/v1/objects/Tasks/6148/actions/forceStop HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 14 Jul 2016 08:59:07 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Cache-Control: no-cache
WWW-Authenticate: HSSO
98c6c637d0601db13c7251d173c62b6d5b02837_v1o8Y30JdDBUB31jJSVPaRtjBSA=_V0810
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "forceStop",
  "href" : "http://host:port/Automation/v1/objects/Tasks/6148/actions/forceStop/invoke",
  "method" : "POST",
  "parameters" : [ ]
}
```

Forcibly stopping a task

The following URI allows you to confirm the forced stoppage of a task. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Tasks/id/actions/forceStop/invoke
```

Request

The body of the request must be empty.

For the content of the request body, use this format:

```
{
  "name" : "forceStop",
  "url" : "https://host:port/Automation/version/objects/Tasks/id/actions/forceStop/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects specified as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to affected task	String	1	The link to the updated Task resource.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success

Status code	HTTP name	Description
401	Unauthorized	No login privilege
404	Not found	Invalid privilege or no resource exists.
412	Precondition failed	The server is not running.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Processing error returned by the server.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X POST --data-binary @./InputParameters.json https://host:port/Automation/v1/objects/Tasks/6215/actions/forceStop/invoke
```

Request header:

```
POST /Automation/v1/objects/Tasks/6215/actions/forceStop/invoke HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 164
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 14 Jul 2016 09:05:19 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Cache-Control: no-cache
WWW-Authenticate: HSSO
3a7437eeb21dc9f9c3a052483b722cb661b16258_Vl08Y30JdDBUB3ljJSVPaRtjBSA=_V0810
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : "cd4554f2-209d-4148-8706-9a0e639e99da",
  "created" : "2016-07-14T17:05:19.198+09:00",
  "updated" : "2016-07-14T17:05:19.198+09:00",
  "completed" : "2016-07-14T17:05:19.198+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/Tasks/6215" ],
  "result" : []
}
```

Preparing to resubmit a task

The following URI is the initial step in resubmitting a task. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Tasks/id/actions/resubmit
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "name" : "resubmit",
  "url" : "https://host:port/Automation/version/objects/Tasks/id/actions/resubmit/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

To complete this action, you resubmit the task.

The following table describes the objects specified as the `parameters` member.

Output	Resource Name	Number	Description
Schedule	Schedule	1	The run schedule of service.
List of propertyValues	propertyValue	0..n	The input property of service.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Used for
200	OK	Resource retrieved or deleted successfully.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/Tasks/6148/actions/resubmit
```

Request header:

```
GET /Automation/v1/objects/Tasks/6148/actions/resubmit HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:42:23 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
bae7b5b811e2ac13bc63cc7975da7ae272bf4fff_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```

{
  "name" : "resubmit",
  "href" : "https://host:port/Automation/v1/objects/Tasks/6148/actions/resubmit/invoke",
  "method" : "POST",
  "parameters" : [ {
    "name" : "Execute remote command_20140731152120_Resubmit",
    "submitter" : "System",
    "scheduleType" : "immediate",
    "description" : "",
    "scheduledStartTime" : "2014-07-31T15:42:23.447+09:00",
    "recurrenceInterval" : "daily",
    "recurrenceDayOfWeek" : "",
    "recurrenceDayOfMonth" : "",
    "recurrenceLastDayOfMonth" : false,
    "recurrenceStartDate" : "2014-07-31",
    "recurrenceTime" : "00:00:00",
    "serviceID" : 3569
  }, {
    "instanceID" : 3564,
    "type" : "string",
    "keyName" : "common.targetHost",
    "value" : "172.17.9.36",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 3569
  }, {
    "instanceID" : 3565,
    "type" : "string",
    "keyName" : "common.remoteCommand",
    "value" : "date",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 3569
  }, {
    "instanceID" : 3568,
    "type" : "string",
    "keyName" : "common.remoteCommandParameter",
    "value" : "/t",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 3569
  } ]
}

```

Resubmitting a task

The following URI allows you to resubmit a task. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Tasks/id/actions/
resubmit/invoke
```

Request

For the content of the request body, use this format:

```
{
  "name" : "resubmit",
  "url" : "https://host:port/Automation/version/objects/Tasks/{id}/actions/
resubmit/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects specified as the `parameters` member.

Output	Resource Name	Number	Description
Schedule	Schedule	1	The run schedule of the service.
List of propertyValues	propertyValue	0..n	The input property of the service.

The tables below provide the valid properties.

- For common settings:

Resource Name	Element Name	Number
Schedule	name	1
Schedule	description	1
PropertyValue	keyName	0..n
PropertyValue	value	0..n
Schedule	scheduleType	1

- To run immediately: None
- For scheduled run:

Resource Name	Element Name	Number
Schedule	scheduledStartTime	1

- For recurring run:

Resource Name	Element Name	Number
Schedule	recurrenceInterval	1
Schedule	recurrenceMinutes	1
Schedule	recurrenceDayOfWeek	1
Schedule	recurrenceDayOfMonth	1
Schedule	recurrenceLastDayOfMont h	1
Schedule	recurrenceStartDate	1
Schedule	recurrenceTime	1

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects returned as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to created Schedule	String	1	The link to the created Schedule resource
Link to created Task	String	1	The link to the created Task resource

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid argument.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
409	Conflict	The task has not yet Completed, has Failed, or is in Canceled status.
412	Precondition failed	The server is not available.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X POST --data-binary @./InputParameters.json https://host:port/
Automation/v1
/objects/Tasks/6148/actions/resubmit/invoke
```

Request header:

```
POST /Automation/v1/objects/Tasks/6148/actions/resubmit/invoke HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 1234
Expect: 100-continue
```

Response header:

```
HTTP/1.1 100 Continue
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:44:25 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
71fe3e669923a2825b73d96141bacf9daa2b956_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : "fafef21-f078-4d05-adde-7a16fd4b97ae",
  "created" : "2014-07-31T15:44:26.334+09:00",
  "updated" : "2014-07-31T15:44:26.334+09:00",
  "completed" : "2014-07-31T15:44:26.334+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/
Schedules/6171", "https://host:port/Automation/v1/objects/Tasks/6170" ],
  "result" : []
}
```

Preparing to archive a task

The following URI is the initial step to archiving a task to returning the URL of the targeted task. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
DELETE https://host:port/Automation/version/objects/Tasks/id
```



Note: It may become necessary to manually archive old tasks that are no longer needed for reuse. No new tasks can be created when the total number of tasks in the **Tasks** tab of the Automation Director application exceeds 5,000.

Request

The body of the request must be empty.

Response

The Location header includes a URL to the `archive` action. For example:

```
https://host:port/Automation/version/Tasks/id/actions/archive
```

To complete this action, you retrieve information to archive the task.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
204	No content	Success.
303	See other	Success.
401	Unauthorized	No login privilege.
403	Forbidden	No privilege to delete tasks.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X DELETE https://
host:port
/Automation/v1/objects/Tasks/6148
```

Request header:

```
DELETE /Automation/v1/objects/Tasks/6148 HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 303 See Other
Date: Thu, 31 Jul 2014 06:36:43 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
6b132bc612d8fc8f4816745f23b3da6c4df42880_vm011150_V0810
Access-Control-Allow-Origin: *
Location: https://10.197.193.245:22016/Automation/v1/objects/Tasks/6148/
actions/archive
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: text/html;charset=utf-8
```

Retrieving information to archive a task

The following URI is the initial step to archiving a task to returning the URL of the targeted task. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Tasks/id/actions/archive
```



Note: It may become necessary to manually archive old tasks that are no longer needed for reuse. No new tasks can be created when the total number of tasks in the **Tasks** tab of the Automation Director application exceeds 5,000.

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "name" : "archive",
  "url" : "https://host:port/Automation/version/objects/Tasks/id/actions/
archive/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Used for
200	OK	Resource retrieved or deleted successfully.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X GET https://host:port/Automation/v1/objects/Tasks/6148/actions/archive
```

Request header:

```
GET /Automation/v1/objects/Tasks/6148/actions/archive HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```

HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:45:26 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
49202ee23d4d9551153a1d6e7cb410687624424d_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "name" : "archive",
  "href" : "https://host:port/Automation/v1/objects/Tasks/6148/actions/
archive/invoke",
  "method" : "POST",
  "parameters" : []
}

```

Archiving a task

The following URI allows you to confirm archiving a task that is no longer needed for reuse. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```

POST https://host:port/Automation/version/objects/Tasks/id/actions/archive/
invoke

```

Request

```

{
  "name" : "archive",
  "url" : "https://host:port/Automation/version/objects/Tasks/{id}/actions/
archive/invoke",
  "method" : "POST",
  "parameters" : []
}

```

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects specified as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to affected task	String	1	The link to the affected Task resource.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Used for
200	Created	Success
400	Bad request	Invalid argument
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
409	Conflict	The task is not in Completed, Failed, or Terminated status.
412	Precondition failed	The server is not available.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X POST --data-binary @./InputParameters.json https://host:port/
Automation/v1
/objects/Tasks/6148/actions/archive/invoke
```

Request header:

```
POST /Automation/v1/objects/Tasks/6148/actions/archive/invoke HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 170
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:48:09 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
98de66d0ac8183b2c1e2e79b520fb85c5cce49c_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : "cd4554f2-209d-4148-8706-9a0e639e99da",
  "created" : "2014-07-31T15:48:10.198+09:00",
  "updated" : "2014-07-31T15:48:10.198+09:00",
  "completed" : "2014-07-31T15:48:10.198+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/
TaskHistories/6182" ],
  "result" : []
}
```

Preparing to rerun a task from the failed step

The following URI is the initial step in rerunning a task (including the failed step). This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Tasks/id/actions/
rerunStart
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "name" : "rerunStart/invoke",
  "href" : "http://<host>:<port>/Automation/<version>/objects/Tasks/{id}/
actions/rerunStart",
  "method" : "POST",
  "parameters" : []
}
```

To complete this action, you rerun the task from the failed step.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Used for
200	OK	Success
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X GET https://host:port/Automation/v1/objects/Tasks/6148/actions/
rerunStart
```

Request header:

```
GET /Automation/v1/objects/Tasks/6148/actions/rerunStart
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 14 Jul 2016 09:06:26 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Cache-Control: no-cache
WWW-Authenticate: HSSO
689e8cb78d4da2ca16866864bdf6906988688169_v1o8Y30JdDBUB31jJSVPaRtjBSA=_V0810
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "rerunStart",
  "href" : "http://host:port/Automation/v1/objects/Tasks/6148/actions/
rerunStart/invoke",
  "method" : "POST",
  "parameters" : [ ]
}
```

Rerunning a task from the failed step

The following URI allows you to rerun a task (including the failed step). This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Tasks/id/actions/
rerunStart/invoke
```

Request

For the content of the request body, use this format:

```
{ "name" : "rerunStart",
  "href" : "http://<host>:<port>/Automation/<version>/objects/Tasks/
{id}/actions/rerunStart/rerunStart",
  "method" : "POST",
  "parameters" : [ ] }
```

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects specified as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to affected task	String	1	The link to the updated Task resource.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid argument.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.

Status code	HTTP name	Description
409	Conflict	The task has not yet Completed, has Failed, or is in Canceled status.
412	Precondition failed	The server is not available.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X POST --data-binary @./InputParameters.json https://host:port/Automation/v1/objects/Tasks/6148/actions/rerunStart/invoke
```

Request header:

```
POST /Automation/v1/objects/Tasks/30180/actions/rerunStart/invoke HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 14 Jul 2016 09:15:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Cache-Control: no-cache
WWW-Authenticate: HSSO
fe8ad3b95ae23c985d9dfe6616166d80757fcd_v1o8Y30JdDBUB31jJSVPaRtjBSA=_V0810
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : "cd4554f2-209d-4148-8706-9a0e639e99da",
  "created" : "2016-07-14T17:15:15.198+09:00",
  "updated" : "2016-07-14T17:15:15.198+09:00",
  "completed" : "2016-07-14T17:15:15.198+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/Tasks/30180" ],
  "result" : []
}
```

Preparing to rerun a task after the failed step

The following URI is the initial step in rerunning a task (after the failed step). This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Tasks/id/actions/
rerunStepStart
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "name" : "rerunStart",
  "href" : "http://<host>:<port>/Automation/<version>/objects/Tasks/{id}/
actions/rerunStepStart/invoke",
  "method" : "POST",
  "parameters" : []
}
```

To complete this action, you rerun the task after the failed step.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Used for
200	OK	Success
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/Tasks/30180/actions/rerunStepStart
```

Request header:

```
GET /Automation/v1/objects/Tasks/30180/actions/rerunStepStart HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 14 Jul 2016 09:10:04 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Cache-Control: no-cache
WWW-Authenticate: HSSO
dcb17ccd072bca7688114e63ae72f388eab847_v1o8Y30JdDBUB31jJSVPaRtjBSA=_V0810
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "rerunStepStart",
  "href" : "http://host:port/Automation/v1/objects/Tasks/30180/actions/
rerunStepStart/invoke",
  "method" : "POST",
  "parameters" : [ ]
}
```

Rerunning a task after the failed step

The following URI allows you to rerun a task (after the failed step). This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Tasks/id/actions/
rerunStepStart/invoke
```

Request

For the content of the request body, use this format:

```
{
  "name" : "rerunStepStart",
  "href" : "http://<host>:<port>/Automation/<version>/objects/Tasks/{id}/
actions/rerunStart/invoke",
  "method" : "POST",
  "parameters" : [ ]
}
```

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects specified as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to affected task	String	1	The link to the updated Task resource.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid argument.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
409	Conflict	The task has not yet Completed, has Failed, or is in Canceled status.
412	Precondition failed	The server is not available.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X POST --data-binary @./InputParameters.json https://host:port/Automation/v1/objects/Tasks/30180/actions/rerunStepStart/invoke
```

Request header:

```
POST /Automation/v1/objects/Tasks/30180/actions/rerunStepStart/invoke
HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 14 Jul 2016 09:11:00 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Cache-Control: no-cache
WWW-Authenticate: HSSO
cd134d41893282eb4dba7583ac9443ff8cdec9_Vlo8Y30JdDBUB3ljJSVPaRtjBSA=_V0810
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : "cd4554f2-209d-4148-8706-9a0e639e99da",
  "created" : "2016-07-14T17:11:00.198+09:00",
  "updated" : "2016-07-14T17:11:00.198+09:00",
  "completed" : "2016-07-14T17:11:00.198+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/Tasks/
30180" ],
  "result" : []
}
```

Updating a task

The following URI allows you to update a specific task using the `instanceID` of the task. To obtain a list of task `instanceIDs`, you first get a list of tasks. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
PUT https://host:port/Automation/version/objects/Tasks/id
```


Request

```

{
  "instanceID" : instance-id,
  "name" : "task-name",
  "status" : "task-status",
  "startTime" : "start-date-and-time",
  "endTime" : "end-date-and-time",
  "scheduledStartTime" : "schedule-start-date-and-time",
  "submitter" : "submit-user-name",
  "submitTime" : "created-date-and-time",
  "modifyTime" : "updated-date-and-time",
  "serviceState" : "service-state",
  "scheduleType" : "schedule-type",
  "description" : "description",
  "serviceName" : "service-name",
  "tags" : "tags",
  "recurrenceInterval" : "recurrenceInterval",
  "recurrenceTime" : "recurrenceTime",
  "recurrenceStartDate" : "recurrenceStartDate",
  "serviceGroupName" : "serviceGroupName",
  "todo" : {true|false},
  "notes" : "notes",
  "stepTime" : "step-time",
  "supportedActionType" : "supported-action-type",
  "serviceTemplateID" : service-template-id,
  "scheduleID" : schedule-id,
  "serviceGroupID" : service-group-id,
  "serviceID" : service-id
}

```

The following table describes the valid properties.

Resource Name	Element Name	Number
Task	notes	1
Task	todo	1

Response

The response body structure is shown below:

```
{
  "instanceID" : instance-id,
  "name" : "task-name",
  "status" : "task-status",
  "startTime" : "start-date-and-time",
  "endTime" : "end-date-and-time",
  "scheduledStartTime" : "schedule-start-date-and-time",
  "submitter" : "submit-user-name",
  "submitTime" : "created-date-and-time",
  "modifyTime" : "updated-date-and-time",
  "serviceState" : "service-state",
  "scheduleType" : "schedule-type",
  "description" : "description",
  "serviceName" : "service-name",
  "tags" : "tags",
  "recurrenceInterval" : "recurrenceInterval",
  "recurrenceTime" : "recurrenceTime",
  "recurrenceStartDate" : "recurrenceStartDate",
  "serviceGroupName" : "serviceGroupName",
  "todo" : {true|false},
  "notes" : "notes",
  "supportedActionType" : "supported-action-type",
  "stepTime" : "step-time",
  "serviceTemplateID" : service-template-id,
  "scheduleID" : schedule-id,
  "serviceGroupID" : service-group-id,
  "serviceID" : service-id
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid query parameter.
401	Unauthorized	No login privilege.
403	Forbidden	No privilege to edit task.
404	Bad request	No privilege to get tasks or specified task does not exist.
412	Precondition failed	The server is not available.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager PUT --data-binary
@./InputParameters.json https://host:port/Automation/v1/objects/Tasks/3042
```

Request header:

```
PUT /Automation/v1/objects/Tasks/3042 HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Length: 667
```

Response header:

```

HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:34:43 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
5b9bde37a79093e512f91b9c72c816d9c2407aca_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "instanceID" : 3042,
  "name" : "Execute Remote Command_20150731105831",
  "status" : "completed",
  "startTime" : "2015-07-31T11:30:00.000+09:00",
  "completionTime" : "2015-07-31T11:30:33.000+09:00",
  "scheduledStartTime" : "2015-07-31T11:30:00.000+09:00",
  "submitter" : "System",
  "submitTime" : "2015-07-31T11:00:06.000+09:00",
  "modifyTime" : "2015-07-31T12:37:03.000+09:00",
  "serviceState" : "release",
  "scheduleType" : "schedule",
  "description" : "",
  "serviceName" : "Execute Remote Command",
  "tags" : "Windows,Linux,Execute Script",
  "serviceGroupName" : "Default Service Group",
  "todo" : true,
  "notes" : "Notes Test",
  "supportedActionType" : "",
  "serviceTemplateID" : 560,
  "scheduleID" : 3020,
  "serviceGroupID" : 3,
  "serviceID" : 2004
}

```

Preparing to respond to a task

The following URI is the initial step responding to a task. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Tasks/id/actions/response
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "name" : "response",
  "url" : "https://host:port/Automation/version/objects/Tasks/{id}/actions/
response/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

To complete this action, you respond to the task.

The following table describes the objects specified as the `parameters` member.

Output	Resource Name	Number	Description
Message and Response choices	ResponseInput	1	Response input information

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Used for
200	OK	Resource retrieved or deleted successfully.
400	Bad request	Invalid query parameter.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
409	Conflict	The task is not in Waiting for Response status.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X GET https://host:port/Automation/v1/objects/Tasks/3179/actions/response
```

Request header:

```
GET /Automation/v1/objects/Tasks/3179/actions/response HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:42:23 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
bae7b5b811e2ac13bc63cc7975da7ae272bf4fff_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "response",
  "href" : "https://host:port/Automation/v1/objects/Tasks/3179/actions/
response/invoke",
  "method" : "POST",
  "parameters" : [ {
    "instanceID" : 3239,
    "dialogText" : "",
    "labelButton0" : "OK",
    "screenURL" : "services/default/index.jsp",
    "taskID" : 3179
  } ]
}
```

Responding to a task

The following URI allows you to resubmit a task. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Tasks/id/actions/
response/invoke
```

Request

For the content of the request body, use this format:

```
{
  "name" : "response",
  "url" : "https://host:port/Automation/version/objects/Tasks/{id}/actions/
response/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects specified as the `parameters` member.

Input	Resource Name	Number	Description
ResponseInput	ResponseInput	1	Response input

The tables below provide the valid properties.

Resource Name	Element Name	Number
ResponseInput	instanceId	1
ResponseInput	dialogText	1
ResponseInput	labelbuttonX (X is any number)	1
ResponseInput	taskId	1

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects returned as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to created Task	String	1	The link to the created Task resource

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid argument.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
409	Conflict	The task is not in Waiting for Response status.
412	Precondition failed	The server is not available.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X POST --data-binary @./InputParameters.json https://host:port/
Automation/v1
/objects/Tasks/6148/actions/response/invoke
```

Request header:

```
POST /Automation/v1/objects/Tasks/3179/actions/response/invoke HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 329
```

Response header:

```
HTTP/1.1 100 Continue
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:44:25 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
71fe3e669923a2825b73d96141bacf9daa2b956_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : "4fb38028-81d7-4573-851a-672e7524a4fc",
  "created" : "2015-07-31T13:42:15.030+09:00",
  "updated" : "2015-07-31T13:42:15.030+09:00",
  "completed" : "2015-07-31T13:42:15.030+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/Tasks/
3179" ],
  "result" : []
}
```

Task histories

This module covers the management operations available for the Taskhistory resource:

Getting a list of task histories

The following URI provides you with a list of task histories. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/TaskHistories
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
start (interpreted as starting time)	greater than or equal to or the value
end (interpreted as ending time)	less than or equal to the value
serviceGroupID	equal to the value
tags	include all the values or not (can be specified multiple times by comma delimited string)
q	Search the full text of the search target schema. All values can be specified multiple times by using half-width space delimited strings. Text is case-insensitive. Search target schema: name, submitter, serviceName, tags, description, notes

A query parameter is a type of query string.

You can express a query parameter as follows:

```
?Query_parameter=value
```

For example:

```
?serviceGroupID=16731
```

Response

The response structure is shown below:

```
{
  "data": [ {...} ],
  "count" : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of TaskHistories	TaskHistory	0..n	TaskHistory resource that matches the search condition

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid query parameter.
401	Unauthorized	No login privilege.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port
/Automation/v1/objects/TaskHistories
```

Request header:

```
GET /Automation/v1/objects/TaskHistories HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Wed, 30 Jul 2014 09:58:52 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
526a9166914df2e72c3fcd4c2caa56d1b5d47df_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data" : [ {
    "instanceID" : 2194,
    "name" : "Execute remote command_20140722182922",
    "submitter" : "System",
    "serviceName" : "Execute remote command",
    "tags" : "Basic,OS_Operations",
    "scheduleType" : "immediate",
    "startTime" : "2014-07-22T18:29:26.000+09:00",
    "completionTime" : "2014-07-22T18:29:33.000+09:00",
    "archiveTime" : "2014-07-30T04:00:02.000+09:00",
    "taskID" : 1279,
    "submitTime" : "2014-07-22T18:29:25.000+09:00",
    "status" : "completed",
    "description" : "",
    "serviceState" : "test",
    "todo" : false,
    "notes" : "",
    "serviceGroupName" : "Default Service Group",
    "serviceGroupID" : 3
  }, {
    "instanceID" : 2188,
    "name" : "Allocate Volumes for Exchange Server_20140722194845",
    "submitter" : "System",
    "serviceName" : "Allocate Volumes for Exchange Server",
    "tags" : "Exchange,Add New Storage",
    "scheduleType" : "immediate",
    "startTime" : "2014-07-22T19:50:07.000+09:00",
    "completionTime" : "2014-07-22T19:53:18.000+09:00",
    "archiveTime" : "2014-07-30T04:00:02.000+09:00",
    "taskID" : 2091,
    "submitTime" : "2014-07-22T19:50:06.000+09:00",
    "status" : "failed",
    "description" : "",
    "serviceState" : "test",
    "todo" : false,
    "notes" : "",
    "serviceGroupName" : "Default Service Group",
    "serviceGroupID" : 3
  } ],
  "count" : 2
}
```

Deleting task histories

The following URI allows you to delete task histories using parameters. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
DELETE https://host:port/Automation/version/objects/TaskHistories
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
start	greater than or equal to or the value
end	less than or equal to the value
serviceGroupID	equal to the value

A query parameter is a type of query string.

You can express a query parameter as follows:

```
?Query_parameter=version
```

For example:

```
?serviceGroupID=16731
```

Response

None

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
204	No content	Request was successful, but if the response to be returned does not exist, return this code instead of 200.
400	Unauthorized	Invalid query parameter.
401	Unauthorized	No login privilege.
403	Not found	No privilege to delete task histories.
412	Precondition failed	The server is not running.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X DELETE https://
host:port
/Automation/v1/objects/TaskHistories?serviceGroupID=3
```

Request header:

```
DELETE /Automation/v1/objects/TaskHistories?serviceGroupID=3 HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```

HTTP/1.1 204 No Content
Date: Wed, 30 Jul 2014 10:06:17 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
2df06ec2c49cb82d18c34f307cbaaab6261db87e_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Content-Length: 0
Content-Type: application/json

```

Response body:

None

Selecting a task history

The following URI allows you to obtain the detailed information of a task history. This request requires a minimum role of Submit.



Note: Obtain the ID of the targeted task history by getting the list of task histories.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/TaskHistories/id
```

Request

The body of the request must be empty.

Response

The response structure is shown below:

```
{
  "instanceID" : instance-id,
  "name" : "task-name",
  "submitter" : "submit-user-name",
  "serviceName" : "service-name",
  "tags" : "tags",
  "scheduleType" : "type-of-schedule",
  "scheduledStartTime" : "schedule-start-date-and-time",
  "startTime" : "start-date-and-time",
  "completionTime" : "completion-date-and-time",
  "stepStartTime" : "step-start-time",
  "recurrenceInterval" : "interval-type",
  "recurrenceMinutes" : "recurrence-minutes",
  "recurrenceDayOfWeek" : "interval-of-weekly-job",
  "recurrenceDayOfMonth" : "interval-of-monthly-job",
  "recurrenceLastDayOfMonth" : {true|false},
  "recurrenceTime" : "exec-time-of-day",
  "archiveTime" : "removed-date-and-time",
  "taskID" : task-id,
  "submitTime" : "submit-date-and-time",
  "recurrenceStartDate" : "recurrence-start-date-and-time",
  "status" : "task-status",
  "description" : "description",
  "serviceState" : "service-state",
  "todo" : {true|false},
  "notes" : "notes",
  "serviceGroupName" : "service-group-name",
  "serviceGroupID" : service-group-id
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	No content	Success
401	Unauthorized	No login privilege.
404	Not found	No privilege to get services or no service exists.
412	Precondition failed	A task generated from the specified service exists or the service is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/TaskHistories/6183
```

Request header:

```
GET /Automation/v1/objects/TaskHistories/2188 HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Wed, 30 Jul 2014 10:02:32 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
538436c5e7e7ab15ec5156e8408a9f1ecb11f64_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : 2188,
  "name" : "Allocate Volumes for Exchange Server_20140722194845",
  "submitter" : "System",
  "serviceName" : "Allocate Volumes for Exchange Server",
  "tags" : "Exchange,Add New Storage",
  "scheduleType" : "immediate",
  "startTime" : "2014-07-22T19:50:07.000+09:00",
  "completionTime" : "2014-07-22T19:53:18.000+09:00",
  "archiveTime" : "2014-07-30T04:00:02.000+09:00",
  "taskID" : 2091,
  "submitTime" : "2014-07-22T19:50:06.000+09:00",
  "status" : "failed",
  "description" : "",
  "serviceState" : "test",
  "todo" : false,
  "notes" : "",
  "serviceGroupName" : "Default Service Group",
  "serviceGroupID" : 3
}
```

Deleting a task history

The following URI allows you to delete the task history of archived tasks that you no longer need. This request requires a minimum role of Modify.

Obtain the `instanceID` of the targeted task history by getting a list of task histories.

HTTP request syntax (URI)

```
DELETE https://host:port/Automation/version/objects/TaskHistories/id
```

Request

The body of the request must be empty.

Response

None

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
204	No content	Request was successful, but if the response to return does not exist, return this code instead of 200.
401	Unauthorized	No login privilege.
403	Forbidden	No privilege to delete task histories.
412	Precondition failed	A task generated from the specified service exists or the service is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X DELETE https://
host:port
/Automation/v1/objects/TaskHistories/2188
```

Request header:

```
DELETE /Automation/v1/objects/TaskHistories/2188 HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```

HTTP/1.1 204 No Content
Date: Wed, 30 Jul 2014 10:04:52 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
5e60b5f963ee1a665099c7694b34d5a19144661_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Content-Length: 0
Content-Type: application/json

```

Response body:

None

Getting a list of task history actions

The following URI provides you with a list of actions for the Taskhistory resource. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/TaskHistories/id/actions
```

Request

The body of the request must be empty.

Response

The response structure is shown below:

```

{
  "data" : [ {
    "name" : "delete",
    "url" : "https://host:port/Automation/version/objects/TaskHistories/
{id}",
    "method" : "DELETE",
    "parameters" : []
  } ],
  "count": 1
}

```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success. A request has processed appropriately.
401	Unauthorized	Invalid authentication/ authorization credentials. Notify user that authentication is required to access a resource through the WWW-authenticate header. If the request which already contains the authorization header is being performed, show that the authentication credentials were refused.
404	Not found	Invalid privilege or no resource exists.
412	Precondition failed	The request was not received in a certain order and has failed a precondition.
500	Server-side error	Processing error returned by the server.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://  
host:port  
/Automation/v1/objects/TaskHistories/2188/actions
```

Request header:

```
GET /Automation/v1/objects/TaskHistories/2188/actions HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Wed, 30 Jul 2014 10:03:39 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
1595fdeeaafd2cf21b546d4b23ec4257c63e53a5_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data" : [ {
    "name" : "delete",
    "href" : "https://host:port/Automation/v1/objects/TaskHistories/2188",
    "method" : "DELETE",
    "parameters" : []
  } ],
  "count" : 1
}
```

Property definitions

This module covers the management operations available for the PropertyDefinition resource:

Getting a list of property definitions

The following URI provides you with a list of property definitions for a service or task. Properties definitions can include the host name, user ID, and password and can also be shared across multiple services or tasks. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/PropertyDefinitions
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
serviceID	equal to the value
taskID	equal to the value
serviceTemplateID	equal to the value

A query parameter is a type of query string.

You can express a query parameter as follows:

```
?Query_parameter=version
```

For example:

```
?serviceID=16731
```

Response

The response body structure is shown below:

```
{
  "data": [ {...} ],
  "count" : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of property definitions	PropertyDefinition	0..n	PropertyDefinition resource that matches the search condition

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success. A request has processed appropriately.
401	Unauthorized	Invalid authentication/ authorization credentials. Notify user that authentication is required to access a resource through the WWW-authenticate header. If the request which already contains the authorization header is being performed, show that the authentication credentials were refused.
412	Precondition failed	The request was not received in a certain order and has failed a precondition.
500	Server-side error	Processing error returned by the server.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/PropertyDefinitions?serviceID=5151 > Output.json
```



Note: In this example, the output from the query, `PropertyDefinitions?serviceID=5151` is sent to a text file called `Output.json` in your current directory. You can view or modify this file as needed to update a property definition.

Request header:

```
GET /Automation/v1/objects/PropertyDefinitions?serviceID=5151 HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.28.1
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Wed, 12 Feb 2014 12:53:03 GMT
Server: Cosminexus HTTP Server
WWW-Authenticate: HSSO 4aac2080983c3b3c3061b6acff946aa3726537db_V0300
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data": [ {...} ],
}
```

Getting a property definition

The following URI provides you with a list of property definitions. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/PropertyDefinitions/id
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "instanceID" : instance-id,
  "keyName" : "key-name",
  "displayName" : "display-name",
  "defaultValue" : "default-value",
  "type" : "type",
  "visibility" : "visibility",
  "scope" : "scope",
  "description" : "description",
  "mode" : "mode",
  "required" : {true|false},
  "maxLength" : max-length,
  "minLength" : min-length,
  "minValue" : min-value,
  "maxValue" : max-value,
  "pattern" : "pattern",
  "valueList" : "value-list",
  "propertyGroupName" : "property-group-name",
  "validationScript" : "validation-script",
  "readOnly" : {true|false},
  "hidden" : {true|false},
  "reference" : {true|false},
  "serviceTemplateID" : service-template-id
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found.	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager -X
GET https://host:port/Automation/v1/objects/PropertyDefinitions/1459
```

Request header:

```
GET /Automation/v1/objects/PropertyDefinitions/1459 HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.28.1
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Wed, 12 Feb 2014 13:03:38 GMT
Server: Cosminexus HTTP Server
WWW-Authenticate: HSSO 5e692433c9c62df865e7119cbd5eaa88e197de2_V0810
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : 1459,
  "keyName" : "Oracle.primaryServerName",
  "displayName" : "?dna_property.Oracle.primaryServerName.displayName?",
  "defaultValue" : "",
  "type" : "string",
  "visibility" : "exec",
  "scope" : "local",
  "description" : "?dna_property.Oracle.primaryServerName.description?",
  "mode" : "in",
  "required" : true,
  "maxLength" : 255,
  "minLength" : 1,
  "pattern" : "^[0-9a-zA-Z\\.\\-]*$",
  "readOnly" : false,
  "hidden" : false
}
```

Getting a list of property definitions actions

The following URI provides you with a list of actions for the PropertyDefinition resource. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/PropertyDefinitions/id/actions
```

Request

The body of the request must be empty.

Response

The response structure is shown below:

```
{
  "data" : [],
  "count" : count
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Resource retrieved or deleted successfully.
401	Unauthorized	Invalid authentication/ authorization credentials.
404	Not found	Invalid privilege or no resource exists.
412	Precondition Failed	Request conflicts with another request, or conflicts with the current state of the object.
500	Server-side Error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/PropertyDefinitions/1459/actions
```

Request header:

```
GET /Automation/v1/objects/PropertyDefinitions/1459/actions HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.28.1
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Wed, 12 Feb 2014 13:04:54 GMT
Server: Cosminexus HTTP Server
WWW-Authenticate: HSSO 9895715f1e64cf16ffee1630d192820b3d6ac1b_V0300
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data" : []
}
```

Property values

This module covers the management operations available for the PropertyValue resource:

Getting a list of property values

The following URI provides you with a list of property values for a property definition of a service or task. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/PropertyValues
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
serviceID	equal to the value
scheduleID	equal to the value
taskID	equal to the value

A query parameter is a type of query string.

You can express a query parameter as follows:

```
?Query_parameter=version
```

For example:

```
?serviceID=16731
```



Note: If you want to get property values for a service, a schedule, or a task (for example), you must specify the corresponding query parameters for `serviceID`, `scheduleID`, or `taskID`, respectively. Without these query parameters, only the service share properties are returned as a response.

Response

The response body structure is shown below:

```
{
  "data": [ {...} ],
  "count" : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of property values	PropertyValue	0..n	PropertyValue resource that matches the search condition

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success. A request has processed appropriately.
401	Unauthorized	Invalid authentication/ authorization credentials. Notify user that authentication is required to access a resource through the WWW-authenticate header. If the request which already contains the authorization header is being performed, show that the authentication credentials were refused.
412	Precondition failed	The request was not received in a certain order and has failed a precondition.
500	Server-side error	Processing error returned by the server.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/PropertyValues?serviceID=3569
```

Request header:

```
GET /Automation/v1/objects/PropertyValues?serviceID=3569 HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```


Response header:

```

HTTP/1.1 200 OK
Date: Wed, 12 Feb 2014 13:07:40 GMT
Server: Cosminexus HTTP Server
WWW-Authenticate: HSSO 79879316d8774b77e381de745fb21aa2e735793_V0300
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "data" : [ {
    "instanceID" : 3564,
    "type" : "string",
    "keyName" : "common.targetHost",
    "value" : "172.17.9.36",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 3569
  }, {
    "instanceID" : 3565,
    "type" : "string",
    "keyName" : "common.remoteCommand",
    "value" : "date",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 3569
  }, {
    "instanceID" : 3568,
    "type" : "string",
    "keyName" : "common.remoteCommandParameter",
    "value" : "/t",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 3569
  }, {
    "instanceID" : 3574,
    "type" : "string",
    "keyName" : "common.stdoutProperty",
    "value" : "",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 3569
  } ],
  "count" : 4
}

```

Getting a property value

The following URI allows you to select a property value. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/PropertyValues/id
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "instanceID" : instance-id,
  "type" : "type",
  "keyName" : "key-name",
  "value" : "value",
  "readOnly" : {true|false},
  "hidden" : {true|false},
  "serviceID" : service-id,
  "scheduleID" : schedule-id,
  "taskID" : task-id
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found.	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X GET https://host:port/Automation/v1/objects/PropertyValues/3568
```

Request header:

```
GET /Automation/v1/objects/PropertyValues/3568 HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 07:33:41 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
046a97637ba2051dd7e9f76d973fb9aee25dc27_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : 3568,
  "type" : "string",
  "keyName" : "common.remoteCommandParameter",
  "value" : "/t",
  "readOnly" : false,
  "hidden" : false,
  "serviceID" : 3569
}
```

Editing a specified property value

The following URI allows you to change a property value, after you have edited the property value through an output file. This request requires a minimum role of Modify.



Note: After you have updated the properties through the following PUT method, you can then submit or POST the modified service (through the specified `serviceID`).

HTTP request syntax (URI)

```
PUT https://host:port/Automation/version/objects/PropertyValues/id
```

Request

The request body structure is shown below:

```
{
  "instanceID" : instance-id,
  "type" : "type",
  "keyName" : "key-name",
  "value" : "value",
  "readOnly" : {true|false},
  "hidden" : {true|false},
  "serviceID" : service-id,
  "scheduleID" : schedule-id,
  "taskID" : task-id
}
```

The following table describes the valid properties.

Resource Name	Element Name	Number
PropertyValue	value	1



Note: The value will not be updated if the `readOnly` attribute is set to true.

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "type" : "type",
  "keyName" : "key-name",
  "value" : "value",
  "readOnly" : {true|false},
  "hidden" : {true|false},
  "serviceID" : service-id,
  "scheduleID" : schedule-id,
  "taskID" : task-id,
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid property value or uneditable resource.
401	Unauthorized	No login privilege.
404	Not found	No privilege to get services or no resource exists.
403	Forbidden	The property value exists, but cannot grant privilege to update the value.
412	Precondition failed	The server is not available.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X PUT --data-binary @./InputParameters.json https://host:port/
Automation/v1/objects
/PropertyValues/3568
```

Request header:

```
PUT /Automation/v1/objects/PropertyValues/3568 HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 191
```

Response header:

```

HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 07:36:23 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
c64612f05d5742425bf69429a03de2bd1f120bd_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "instanceID" : 3568,
  "type" : "string",
  "keyName" : "common.remoteCommandParameter",
  "value" : "2014/07/31",
  "readOnly" : false,
  "hidden" : false,
  "serviceID" : 3569
}

```

Editing multiple instances of a property value

The following URI allows you to update multiple instances of the same property value as follows:

- Provides a mass update of the property value to carry out a specific service.
- Updates multiple service share properties.

This request requires a minimum role of Modify.



Note: You must first edit the property value through an output file. After you have updated the properties through the following PUT method, you can then submit or POST the modified service (specified through the `serviceID`).

HTTP request syntax (URI)

```
PUT https://host:port/Automation/version/objects/PropertyValues
```

Request

The request body structure is shown below:

```
{
  "data": [ { ... } ],
  "count" : count
}
```



Note: When specifying the `serviceID` as a query, the update about all the non-corresponding resources will be ignored.

Query Parameter	Filter Condition
serviceID	equal to the value



Note: When you do not specify the `serviceID` as a query, only the shared properties can be updated. In addition, specifying the `serviceID` also allows you to update the `readOnly` and `hidden` attributes.

A query parameter is a type of query string. You can express a query parameter as follows:

```
?Query_parameter=version
```

For example:

```
?serviceID=16731
```

The following table describes the valid properties.

Resource Name	Element Name	Number
PropertyValue	instanceID	0..n
PropertyValue	value	0..n
PropertyValue	readOnly	0..n
PropertyValue	hidden	0..n



Note: The value will not be updated if the `readOnly` attribute is set to true.

Response

The response body structure is shown below:

```
{
  "data ":[ {...} ],
  "count" : count
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid query parameter.
401	Unauthorized	No login privilege.
403	Forbidden	The property value exists, but cannot grant privilege to update the value.
404	Not found	No privilege to get services or no resource exists.
412	Precondition failed	The server is not available.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X PUT --data-binary @./InputParameters.json https://host:port/
Automation/v1/objects
/PropertyValues
```


Request header:

```
PUT /Automation/v1/objects/PropertyValues HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 636
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 11:33:36 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
43c226156052594024df497bce55e3e88af078_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data" : [ {
    "instanceID" : 3564,
    "type" : "string",
    "keyName" : "common.targetHost",
    "value" : "172.17.9.36",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 3569
  }, {
    "instanceID" : 3565,
    "type" : "string",
    "keyName" : "common.remoteCommand",
    "value" : "date",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 3569
  }, {
    "instanceID" : 3568,
    "type" : "string",
    "keyName" : "common.remoteCommandParameter",
    "value" : "2014/08/01",
    "readOnly" : false,
    "hidden" : false,
    "serviceID" : 3569
  } ],
  "count" : 3
}
```

Getting a list of property values actions

The following URI provides you with a list of actions for the PropertyValue resource. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/PropertyValues/id/actions
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "data" : [ {
    "name" : "update",
    "url" : "https://host:port/Automation/version/objects/PropertyValues/
{id}",
    "method" : "PUT",
    "parameters" : []
  } ]
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X GET https://host:port/Automation/v1/objects/PropertyValues/3568/actions
```

Request header:

```
GET /Automation/v1/objects/PropertyValues/3568/actions HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```

HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 07:37:19 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
7cb59ee52d520de21e6e93e9630fee1707dfca5_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "data" : [ {
    "name" : "update",
    "href" : "https://host:port/Automation/v1/objects/PropertyValues/3568",
    "method" : "PUT",
    "parameters" : []
  } ],
  "count" : 1
}

```

Service groups

The service group or resource group consists of multiple services that combine automation tasks and are also used to control access to product features. By assigning service groups to user groups, you can also allow access to operations in Hitachi Automation Director. This module covers the management operations available for the ServiceGroup resource:

Getting a list of service groups

The following URI provides you with a list of service groups. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/ServiceGroups
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
userGroupID	equal to the value
role	(optional)

A query parameter is a type of query string.

You can express a query parameter as follows:

```
?Query_parameter=version
```

For example:

```
?userGroupID=16731
```

Response

The response body structure is shown below:

```
{
  "data": [ {...} ],
  "count" : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of service groups	ServiceGroup	0..n	ServiceGroup resource that matches the search condition

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid query parameter.
401	Unauthorized	No login privilege.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/v1/objects/ServiceGroups
```

Request header:

```
GET /Automation/v1/objects/ServiceGroups HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Wed, 30 Jul 2014 10:07:57 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
f84cf6e6e111f61c0922efb7fd29f748893b2b_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data" : [ {
    "instanceID" : 3,
    "objectID" : "Automation_RG_DEFAULT",
    "name" : "Default Service Group",
    "description" : "default service group"
  }, {
    "instanceID" : 2,
    "objectID" : "Automation_RG_ALL",
    "name" : "All Service Groups",
    "description" : "default service groups which contains all services"
  }, {
    "instanceID" : 2241,
    "objectID" : "RG_14067127004018",
    "name" : "test_Automation_Director_SG_1",
    "description" : "test_Automation_Director_SG_1"
  } ],
  "count" : 3
}
```

Creating a service group

The following URI allows you to create a service group. This action allows you to create a name and a description for the service group. The minimum role required is Admin.



Note: After you create a service group, you can assign one or more user groups to this resource group.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/ServiceGroups
```

Request

The request body structure is shown below:

```
{
  "instanceID" : instance-id,
  "objectID" : "object-id",
  "name" : "name",
  "description" : "description"
}
```

The following table describes the valid properties.

Resource Name	Element Name	Number
ServiceGroup	Name	1
ServiceGroup	Description	1

Response

The response body structure is shown below:

```
{
  "instanceID" : instance-id,
  "objectID" : "object-id",
  "name" : "name",
  "description" : "description"
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
201	OK	Success.
400	Bad request	Invalid query parameter or the specified service group already exists.
401	Unauthorized	No login privilege.
403	Forbidden	No privilege to create service groups.
412	Precondition failed	The server is not available.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X POST --data-binary @./InputParameters.json https://host:port/
Automation/v1
/objects/ServiceGroups
```

Request header:

```
POST /Automation/v1/objects/ServiceGroups HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 119
```

Response header:

```
HTTP/1.1 201 Created
Date: Wed, 30 Jul 2014 11:01:28 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 6448c27b01c9a6b256133e85a298288046e17_vm011150_V0810
Access-Control-Allow-Origin: *
Location: https://10.197.193.245:22016/Automation/v1/objects/
ServiceGroups/2255
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : 2255,
  "objectID" : "RG_14067180885219",
  "name" : "test_Automation_Director_SG_2",
  "description" : "test_Automation_Director_SG_2"
}
```

Selecting a service group

The following URI allows you to identify a service group and obtain its detailed information. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/ServiceGroups/id
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "instanceID" : instance-id,
  "objectID" : "object-id",
  "name" : "name",
  "description" : "description"
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found.	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/v1/objects/ServiceGroups/2255
```

Request header:

```
GET /Automation/v1/objects/ServiceGroups/2255 HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```

HTTP/1.1 200 OK
Date: Wed, 30 Jul 2014 11:02:50 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
f4683663f0355ed551d6f262eacbb6914e419a_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "instanceID" : 2255,
  "objectID" : "RG_14067180885219",
  "name" : "test_Automation_Director_SG_2",
  "description" : "test_Automation_Director_SG_2"
}

```

Editing a service group

The following URI allows you to modify the name and description of a service group. The minimum role required to perform this function is Admin.

HTTP request syntax (URI)

```
PUT https://host:port/Automation/version/objects/ServiceGroups/id
```

Request

The request body structure is shown below:

```

{
  "instanceID" : instance-id,
  "objectID" : "object-id",
  "name" : "name",
  "description" : "description"
}

```

The following table describes the valid properties.

Resource Name	Element Name	Number
ServiceGroup	Name	1
ServiceGroup	Description	1

Response

The response body structure is shown below:

```
{
  "instanceID" : instance-id,
  "objectID" : "object-id",
  "name" : "name",
  "description" : "description",
  "state" : "state",
  "status" : "status",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects specified as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to affected service group	String	1	The link to the updated ServiceGroup resource.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Resource retrieved or deleted successfully.
400	Bad request	Invalid argument or the existing service group is specified.
401	Unauthorized	Invalid authentication/authorization credentials.
403	Forbidden	No privilege to change service groups.
404	Not found	No privilege to get service groups or no resource exists.
412	Precondition failed	Server is not available.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X PUT --data-binary @./InputParameters.json https://host:port/
Automation/v1/objects/ServiceGroups/2255
```

Request header:

```
PUT /Automation/v1/objects/ServiceGroups/2255 HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 131
```

Response header:

```

HTTP/1.1 200 OK
Date: Wed, 30 Jul 2014 11:07:12 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
d740eb816ee220d864326326d2316957e1ed68e_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "instanceID" : 2255,
  "objectID" : "RG_14067180885219",
  "name" : "test_Automation_Director_SG_3",
  "description" : "test_Automation_Director_SG_3"
}

```

Deleting a service group

The following URI allows you to delete a service group. The minimum role required to perform this function is Admin.

HTTP request syntax (URI)

```
DELETE https://host:port/Automation/version/objects/ServiceGroups/id
```

Request

The body of the request must be empty.

Response

The response structure is shown below:

None

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
204	No content	Request was successful, but if the response to return does not exist, return this code instead of 200.
401	Unauthorized	No login privilege.
403	Forbidden	No privilege to delete service groups.
409	Conflict	A service, task history, or connection destination information assigned to the specified resource group exists,
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X DELETE https://host:port/Automation/v1/objects/ServiceGroups/2255
```

Request header:

```
DELETE /Automation/v1/objects/ServiceGroups/2255 HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 204 No Content
Date: Wed, 30 Jul 2014 11:35:09 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
4fd57e42414fe1c4e73a85a7c05c7c8ba32bca8d_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Content-Length: 0
Content-Type: application/json
```

Getting a list of service group actions

The following URI provides you with a list of actions for the ServiceGroup resource. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/ServiceGroups/id/actions
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "data" : [ {
    "name" : "update",
    "url" : "https://host:port/Automation/version/objects/ServiceGroups/
{id}",
    "method" : "PUT",
    "parameters" : []
  }, {
    "name" : "delete",
    "url" : "https://host:port/Automation/version/objects/ServiceGroups/
{id}",
    "method" : "DELETE",
    "parameters" : []
  }, {
    "name" : "assign",
    "url" : "https://host:port/Automation/version/objects/ServiceGroups/
{id}/actions/assign/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "unassign",
    "url" : "https://host:port/Automation/version/objects/ServiceGroups/
{id}/actions/unassign/invoke",
    "method" : "POST",
    "parameters" : []
  } ],
  "count" : 4
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://  
host:port/Automation/v1/objects/ServiceGroups/2255/actions
```

Request header:

```
GET /Automation/v1/objects/ServiceGroups/2255/actions HTTP/1.1  
Authorization: Basic c3lzdGVtOmlhbmFnZXI=  
User-Agent: curl/7.36.0  
Host: host:port  
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK  
Date: Wed, 30 Jul 2014 11:09:09 GMT  
* Server Cosminexus HTTP Server is not blacklisted  
Server: Cosminexus HTTP Server  
Access-Control-Expose-Headers: WWW-Authenticate  
WWW-Authenticate: HSSO  
756a954147ad3894c86c69c6137dd48c758ca2f_vm011150_V0810  
Access-Control-Allow-Origin: *  
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS  
Access-Control-Allow-Credentials: true  
Cache-Control: no-cache  
Transfer-Encoding: chunked  
Content-Type: application/json
```

Response body:

```
{
  "data" : [ {
    "name" : "update",
    "href" : "https://host:port/Automation/v1/objects/ServiceGroups/2255",
    "method" : "PUT",
    "parameters" : []
  }, {
    "name" : "delete",
    "href" : "https://host:port/Automation/v1/objects/ServiceGroups/2255",
    "method" : "DELETE",
    "parameters" : []
  }, {
    "name" : "assign",
    "href" : "https://host:port/Automation/v1/objects/ServiceGroups/2255/
actions/assign/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "unassign",
    "href" : "https://host:port/Automation/v1/objects/ServiceGroups/2255/
actions/unassign/invoke",
    "method" : "POST",
    "parameters" : []
  } ],
  "count" : 4
}
```

Preparing to assign a service group to a user group with a role

The following URI is the initial step to assign a service group to a user group with a role. For example, you can assign a group of services (such as provisioning the storage for an Oracle ASM server or an Exchange 2010 server) to an entire user group and then assign a role level (such as Modify or Submit) to that group. The minimum roles required to perform this function are Admin and UserMgmt.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/ServiceGroups/id/actions/
assign
```

Request

The body of the request must be empty.

Response

The response body structure is shown below.

```
{
  "name" : "assign",
  "url" : " https://host:port/Automation/version/objects/ServiceGroups/id/
actions/assign/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects specified as the "parameters" member.

Output	Resource Name	Number	Description
User group	userGroup	1	User group information



Note: You must assign a service group to a user group to complete this action.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	No privilege to assign service groups or no resource exists
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/v1/objects/ServiceGroups/2255/actions/assign
```

Request header:

```
GET /Automation/v1/objects/ServiceGroups/2255/actions/assign HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Wed, 30 Jul 2014 11:11:08 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 789ea774ccaa5e78fd063464ce1b6123277a_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "assign",
  "href" : "https://host:port/Automation/v1/objects/ServiceGroups/2255/
actions/assign/invoke",
  "method" : "POST",
  "parameters" : [ {
    "name" : "",
    "distinguishedName" : "",
    "role" : {
      "name" : ""
    }
  } ]
}
```

Assigning a service group to a user group

The following URI allows you to confirm the assignment of a service group to a user group. The minimum roles required to perform this function is Admin and UserMgmt.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/ServiceGroups/id/actions/
assign/invoke
```

Request

The request body structure is shown below:

```
{
  "name" : "assign",
  "url" : " https://host:port/Automation/version/objects/ServiceGroups/
{id}/actions/assign/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects specified as the `parameters` member.

Output	Resource Name	Number	Description
parameters	userGroup	1	User group information

The following table describes the valid properties for an internal group.

Resource Name	Element Name	Number	Description
userGroup	name	1	User group name
userGroup	role name	1	Role information (Admin/Modify/Submit/Develop)

The following table describes the valid properties for an external authenticator integration.

Resource Name	Element Name	Number	Description
userGroup	distinguishedName	1	distinguishedName
userGroup	role name	1	Role information (Admin/Modify/Submit/Develop)



Note: Priority is given to an external authenticator integration when both are specified.

Response

The response body structure is shown below:

```
{
  "instanceID" : instance-id,
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "status" : "status",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects specified as the `affectedResources` member.

Output	Resource Name	Number	Description
link to ServiceGroup	String	1	The link to the ServiceGroup resource

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success
400	Bad request	Invalid argument.
401	Unauthorized	No login privilege.
404	Not found	No privilege to assign service groups or no resource exists.
412	Precondition failed	The server is not available.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X POST --data-binary @./InputParameters.json https://host:port/
Automation/v1/objects
/ServiceGroups/2255/actions/assign/invoke
```

Request header:

```
POST /Automation/v1/objects/ServiceGroups/2255/actions/assign/invoke
HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 245
```

Response header:

```
HTTP/1.1 200 OK
Date: Wed, 30 Jul 2014 11:16:06 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
f4d3d3f76ae3bfb5f27344b8c8faa25a0bac6e7_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : "801f4a19-e808-44bf-aa06-8ebc3797c242",
  "created" : "2014-07-30T20:16:06.645+09:00",
  "updated" : "2014-07-30T20:16:06.645+09:00",
  "completed" : "2014-07-30T20:16:06.645+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/
ServiceGroups/2255" ],
  "result" : []
}
```


Preparing to unassign a service group

The following URI is the initial step to unassign a user group. The minimum roles required to perform this function is Admin and UserMgmt.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/ServiceGroups/id/actions/unassign
```

Request

The body of the request must be empty.

Response

The response body structure is shown below.

```
{
  "name" : "unassign",
  "url" : " https://host:port/Automation/version/objects/ServiceGroups/id/actions/unassign/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects specified as the `parameters` member.

Output	Resource Name	Number	Description
userGroup	userGroup	1	User group information



Note: To complete this action, you must unassign the service group.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	No privilege to unassign service groups or no resource exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/ServiceGroups/2255/actions/unassign
```

Request header:

```
GET /Automation/v1/objects/ServiceGroups/2255/actions/unassign HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbWFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Wed, 30 Jul 2014 11:31:43 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
68868ce6d3177466f38d46ec365ac6edf1985d_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "unassign",
  "href" : "https://host:port/Automation/v1/objects/ServiceGroups/2255/
actions/unassign/invoke",
  "method" : "POST",
  "parameters" : [ {
    "name" : "",
    "distinguishedName" : ""
  } ]
}
```

Unassigning a service group

The following URI allows you to confirm the unassignment of a service group to a user group. The minimum roles required to perform this function is Admin and UserMgmt.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/ServiceGroups/id/actions/
unassign/invoke
```

Request

The request body structure is shown below:

```
{
  "name" : "unassign",
  "url" : " https://host:port/Automation/version/objects/ServiceGroups/
{id}/actions/unassign/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects specified as the `parameters` member.

Output	Resource Name	Number	Description
userGroup	userGroup	1	User group information

The following table describes the valid properties for an internal group.

Resource Name	Element Name	Number	Description
userGroup	name	1	User group name

The following table describes the valid properties for an external authenticator integration.

Resource Name	Element Name	Number	Description
userGroup	distinguishedName	1	distinguishedName



Note: Priority is given to an external authenticator integration when both are specified.

Response

The response body structure is shown below:

```
{
  "instanceID" : instance-id,
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects specified as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to ServiceGroup	String	1	The link to the updated Service Group resource.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success
400	Bad request	Invalid argument.
401	Unauthorized	No login privilege.
404	Not found	No privilege to unassign service groups or no resource exists.
412	Precondition failed	The server is not available.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X POST --data-binary @./InputParameters.json https://host:port/
Automation/v1/objects
/ServiceGroups/2255/actions/unassign/invoke
```

Request header:

```
POST /Automation/v1/objects/ServiceGroups/2255/actions/unassign/invoke
HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 225
```

Response header:

```

HTTP/1.1 200 OK
Date: Wed, 30 Jul 2014 11:33:40 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
12a2921f321c8926facf3be6cf7c6e92d6ddce0_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "instanceID" : "b59d9976-a571-4cb5-8c52-2f84c59a06c1",
  "created" : "2014-07-30T20:33:41.305+09:00",
  "updated" : "2014-07-30T20:33:41.305+09:00",
  "completed" : "2014-07-30T20:33:41.305+09:00",
  "state" : "success",
  "affectedResource" : [ "https://1host:port/Automation/v1/objects/ServiceGroups/2255" ],
  "result" : []
}

```

Service template

Service templates are preconfigured templates that are customized to your specific environment and processes creating services that automate complex tasks such as resource provisioning.

Getting a list of service templates

The following URI allows you to obtain a list of service templates. You can obtain the `instanceID` of a service template to perform a supported service template operation (such as "deleting a service template"). This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/ServiceTemplates
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
tags	include all the values or not (can be specified multiple times by comma delimited string)
usingServiceTemplateID	equal to the value
vendorID	equal to the value (Case-insensitive)
keyName	equal to the value (Case-insensitive)
version	equal to the value (Case-insensitive)

A query parameter is a type of query string. You can express a query parameter as follows:

```
?Query_parameter=value
```

For example:

```
?usingServiceTemplateID=16731
```

Response

The response body structure is shown below:

```
{
  "data": [ {...} ],
  "count" : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of service templates	ServiceTemplate	0..n	ServiceTemplate resource that matches the search condition

Return codes

The following table lists the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid query parameter.
401	Unauthorized	No login privilege.
403	Forbidden	No privilege to get service templates.
412	Precondition failed	The server is not running.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/v1/objects/ServiceTemplates
```

Request header:

```
GET /Automation/v1/objects/ServiceTemplates HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 05:55:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
34dfb124a5fcefc089f853d1391341dfbee4cb_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```


Response body:

```
{
  "data" : [ {
    "instanceID" : 560,
    "keyName" : "remoteCommandExe",
    "displayName" : "Execute Remote Command",
    "iconURL" : "https://host:port/Automation/icon/services/com.hitachi.software.dna.cts/remoteCommandExe/01.20.00",
    "vendorID" : "com.hitachi.software.dna.cts",
    "version" : "01.20.00",
    "vendorName" : "Hitachi,Ltd.",
    "tags" : "Execute Script,Linux,Windows",
    "createTime" : "2015-07-29T15:27:02.000+09:00",
    "modifyTime" : "2015-07-29T15:27:02.000+09:00",
    "description" : "Executes a command on the remote execution target server.",
    "releaseState" : "release",
    "latest" : true,
    "supportedScheduleType" : "immediate,schedule,recurrence",
    "supportedActionType" : "",
    "needVUP" : false,
    "componentOutdated" : false,
    "usedServices" : 0,
    "usedTemplates" : 0
  }, {
    "instanceID" : 1116,
    "keyName" : "SP_GenericApplication",
    "displayName" : "Allocate Volumes for Generic Application",
    "iconURL" : "https://host:port/Automation/services/custom/00000000001116/SP_GenericApplication_overview.png",
    "supportedScheduleType" : "immediate,schedule",
    "supportedActionType" : "",
    "needVUP" : false,
    "componentOutdated" : false,
    "usedServices" : 0,
    "usedTemplates" : 0
  } ],
  "count" : 2
}
```

Selecting a service template

The following URI allows you to identify a service template and obtain its detailed information so that you can edit an object service template. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/ServiceTemplates/id
```

Request

None

Response

The response body structure is shown below:

```

{
  "instanceID" : instance-id,
  "keyName" : "key-name",
  "displayName" : "display-name",
  "iconURL" : "icon-URL",
  "vendorID" : "vendor-ID",
  "version" : " version ",
  "vendorName" : "vendor-name",
  "tags" : "tag",
  "createTime" : "created-date-and-time",
  "modifyTime" : "updated-date-and-time",
  "description" : "description",
  "releaseState" : "release-state",
  "latest" : {true|false},
  "imageURL" : "imageURL",
  "supportedScheduleType" : "supported-schedule-type",
  "supportedActionType" : "supported-action-type",
  "needVUP" : {true|false},
  "componentOutdated" : {true|false},
  "usedServices" : used-services,
  "usedTemplates" : used-Templates,
  "disableFeatures" : "disable-features"
}

```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
403	Forbidden	No privilege to get service templates.
404	Not found.	Invalid privilege or no resource exists.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://  
host:port/Automation/v1/objects/ServiceTemplates/1116
```

Request header:

```
GET /Automation/v1/objects/Services/5185 HTTP/1.1  
Authorization: Basic c3lzdGVtOmlhbmFnZXI=  
User-Agent: curl/7.36.0  
Host: host:port  
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK  
Date: Thu, 31 Jul 2015 05:57:18 GMT  
* Server Cosminexus HTTP Server is not blacklisted  
Server: Cosminexus HTTP Server  
Access-Control-Expose-Headers: WWW-Authenticate  
WWW-Authenticate: HSSO 6dee6b613fb3ea9cec3732a1e7e6ed5513810_vm011150_V0810  
Access-Control-Allow-Origin: *  
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS  
Access-Control-Allow-Credentials: true  
Cache-Control: no-cache  
Transfer-Encoding: chunked  
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : 1116,
  "keyName" : "SP_GenericApplication",
  "displayName" : "Allocate Volumes for Generic Application",
  "iconURL" : "https://host:port/Automation/icon/services/
com.hitachi.software.dna.cts/SP_GenericApplication/01.20.00",
  "vendorID" : "com.hitachi.software.dna.cts",
  "version" : "01.20.00",
  "vendorName" : "Hitachi, Ltd.",
  "tags" : "Add New Storage",
  "createTime" : "2015-07-29T16:48:25.000+09:00",
  "modifyTime" : "2015-07-29T16:48:25.000+09:00",
  "description" : "Intelligent allocation service that uses sets of
volumes from the associated infrastructure group to be consumed by
server(s) running a generic application",
  "releaseState" : "release",
  "latest" : true,
  "imageURL" : "https://host:port/Automation/services/custom/
000000000001116/SP_GenericApplication_overview.png",
  "supportedScheduleType" : "immediate,schedule", "supportedActionType" :
"",
  "needVUP" : false,
  "componentOutdated" : false,
  "usedServices" : 0,
  "usedTemplates" : 0
}
```

Deleting a service template

The following URI allows you to delete a service template. This request requires a minimum role of Develop.

HTTP request syntax (URI)

```
DELETE https://host:port/Automation/version/objects/ServiceTemplate/id
```

Request

The body of the request must be empty.

Response

None

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
204	No content	Request was successful, but if the response to return does not exist, return this code instead of 200.
401	Unauthorized	No login privilege.
403	Forbidden	This user is not allowed to perform this request. If there is no update privilege, delete the related resource.
409	Conflict	There is a service that is generated from the relevant service template or there is a service template using the relevant service template.
412	Precondition failed	The server is not running.
500	Server-side error	Processing error returned by the server.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X DELETE https://host:port/Automation/v1/objects/ServiceTemplate/6021
```

Request header:

```
DELETE /Automation/v1/objects/ServiceTemplate/6021 HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 204 OK
Date: Thu, 31 Jul 2015 06:08:32 GMT
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
1ec763c99e71383925094685e6c28492ea4b42a_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
```

Response body:

None

Getting a list of service template actions

The following URI provides you with a list of actions for the service templates resource. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/ServiceTemplates/id/
actions
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "data" : [ {
    "name" : "delete",
    "href" : "https://host:port/Automation/version/objects/
ServiceTemplates/{id}",
    "method" : "DELETE",
    "parameters" : []
  }, {
    "name" : "export",
    "href" : "https://host:port/Automation/version/objects/
ServiceTemplates/{id}/actions/export/invoke",
    "method" : "POST",
    "parameters" : []
  }, {
    "name" : "detailhelp",
    "href" : "https://host:port/Automation/version/objects/
ServiceTemplates/{id}/actions/detailhelp",
    "method" : "GET",
    "parameters" : []
  }, {
    "name" : "bind",
    "href" : "https://host:port/Automation/version/objects/
ServiceTemplates/{id}/actions/bind/invoke",
    "method" : "POST",
    "parameters" : []
  } ],
  "count" : 4
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists.
412	Precondition failed	The server is not running.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://  
host:port/Automation/v1/objects/Services/5185/actions
```

Request header:

```
GET /Automation/v1/objects/Services/5185/actions HTTP/1.1  
Authorization: Basic c3lzdGVtOmlhbmFnZXI=  
User-Agent: curl/7.36.0  
Host: host:port  
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK  
Date: Thu, 31 Jul 2015 06:14:25 GMT  
* Server Cosminexus HTTP Server is not blacklisted  
Server: Cosminexus HTTP Server  
Access-Control-Expose-Headers: WWW-Authenticate  
WWW-Authenticate: HSSO  
a664c6399a53caae6075ac26a0ac9014d42e2081_vm011150_v0810  
Access-Control-Allow-Origin: *  
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS  
Access-Control-Allow-Credentials: true  
Cache-Control: no-cache  
Transfer-Encoding: chunked  
Content-Type: application/json
```


Response body:

```

"data" : [ {
  "name" : "delete",
  "href" : "https://host:port/Automation/v1/objects/ServiceTemplates/
1116",
  "method" : "DELETE",
  "parameters" : []
}, {
  "name" : "export",
  "href" : "https://host:port/Automation/v1/objects/ServiceTemplates/
1116/actions/export/invoke",
  "method" : "POST",
  "parameters" : []
}, {
  "name" : "detailhelp",
  "href" : "https://host:port/Automation/v1/objects/ServiceTemplates/
1116/actions/detailhelp",
  "method" : "GET",
  "parameters" : []
}, {
  "name" : "bind",
  "href" : "https://host:port/Automation/v1/objects/ServiceTemplates/
1116/actions/bind/invoke",
  "method" : "POST",
  "parameters" : []
} ],
"count" : 4
}

```

Preparing to import a service template

The following URI is the initial step to preparing to import (and copy) the HTML code of a service template from another Hitachi Command Suite server. This request requires a minimum role of Develop.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/services/ServiceTemplates/actions/
import
```

Request

The body of the request must be empty.

Response

The HTML address that contains the information required for importing the service template

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
403	Forbidden	No import privilege.
406	Not acceptable	Invalid specification of accept header.
412	Precondition failed	The server is not running.
500	Server-side error	Server processing error.

Example

Request with cURL command:

```
curl -v -H "Accept: text/html" -u system:manager -X GET https://host:port/Automation/v1/services/ServiceTemplates/actions/import
```

Request header:

```
GET /Automation/v1/services/ServiceTemplates/actions/import HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: text/html
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:23:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
57c04c224090c645f8abc0721e96c96594692ced_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: text/html
```

Response body:

```
<html>
<body>
<form method="POST" action="https://host:port/Automation/v1/services/
ServiceTemplates/actions/import/invoke" enctype="multipart/form-data">
  <input name="file" type="file"></input>
  <input type="submit" value="Submit">
</form>
</body>
</html>
```

Importing a service template

The following URI allows you to import a service template from another server. This allows you to run that service template through your own server. This request requires a minimum role of Develop.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/services/ServiceTemplates/
actions/import/invoke
```

Request

This request returns the binary data of the service template file.

Response

The response body structure is shown below:

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects returned as the `affectedResources` member.

Output	Resource Name	Number	Description
Link to imported ServiceTemplate	String	1	The link to the created Service Template resource.

The following table describes the objects returned as the `result` member.

Output	Resource Name	Number	Description
Information	Information	1	Run message.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Either a file other than .st or .zip file is specified or the specified .st or .zip file is broken or invalid.
403	Forbidden	No import privilege.
404	Not found	No privilege to get services or no service exists.
412	Precondition failed	The server is not available or the number of tasks has reached the upper bound.
413	Request entity too large	The request size exceeds the maximum limit.
415	Unsupported media type	Invalid specification of Content-Type header
500	Server-side error	Server-side processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -H "Content-Type:
multipart/form-data" -X POST -F "file=@SP_GenericApplication_01.20.00.st"
https://host:port/Automation/v1/services/ServiceTemplates/actions/import/
invoke
```

Request header:

```
POST /Automation/v1/services/ServiceTemplates/actions/import/invoke
HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 1224
Expect: 100-continue
Content-Type: multipart/form-data; boundary=-----
5564f06622f7727e
```

Response header:

```
HTTP/1.1 100 Continue
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:32:06 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
bcd3f3f7285cb238fb7d0dcfc6e74ff67cf95388_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : "f4c5065a-ff42-45df-bca9-e2d79b4b5bb7",
  "created" : "2015-07-29T16:48:26.528+09:00",
  "updated" : "2015-07-29T16:48:26.528+09:00",
  "completed" : "2015-07-29T16:48:26.528+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/ServiceTemplates/1116" ],
  "result" : [ {
    "message" : "The service template was imported successfully (service template file name: SP_GenericApplication_01.20.00.st).",
    "messageID" : "KNAE03111-I"
  } ]
}
```

Preparing to export a service template

The following URI is the initial step to preparing to export (and send) a service template to another Hitachi Command Suite server. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/services/ServiceTemplates/id/actions/export
```

Request

The body of the request must be empty.

Response

The HTML address that contains the information required for exporting the service template

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	Either the resource, the operation, or the Read privilege to the resource is missing.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/ServiceTemplates/1116/actions/export
```

Request header:

```
GET /Automation/v1/objects/ServiceTemplates/1116/actions/export HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:23:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
57c04c224090c645f8abc0721e96c96594692ced_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "export",
  "href" : "https://host:port/Automation/v1/objects/ServiceTemplates/1116/
actions/export/invoke",
  "method" : "POST",
  "parameters" : []
}
```

Exporting a service template

The following URI allows you to export a service template to another server. This allows you to run that service template through another server. This request requires a minimum role of Develop.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/Services/id/actions/
export/invoke
```

Request

None

Response

The response is the ServiceTemplate file.

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	Invalid privilege or no resource exists or no export privilege.
406	Not acceptable	Invalid specification of accept header.
412	Precondition failed	The server is not running.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/octet-stream" -u system:manager -H
"Content-Type: application/json" -X POST https://host:port/Automation/v1/
objects/ServiceTemplates/1116/actions/export/invoke > exportdata01.st
```

Request header:

```
POST /Automation/v1/objects/ServiceTemplates/1116/actions/export/invoke
HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/octet-stream
Content-Type: application/json
```

Response header:

```
HTTP/1.1 100 Continue
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:32:06 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
bcd3f7285cb238fb7d0dcfc6e74ff67cf95388_vm011150_V0810
Access-Control-Allow-Origin: *
Content-disposition: attachment;
filename="com.hitachi.software.dna.cts_SP_GenericApplication_01.20.00.st"
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/octet-stream
```

Response body:

```
{ [data not shown]
100 2056k    0 2056k    0    0 6591k    0 ---:--:-- --:--:-- --:--:--
6948k
```

Getting service template help

The following URI returns the web address to obtain detailed help of a specified service template. You can then display the help information of the target service template through a browser. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/ServiceTemplates/id/
actions/detailhelp
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "name" : "export",
  "href" : "Link-to-the-detail-help",
  "method" : "POST",
  "parameters" : []
}
```

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	No privilege to get service templates or no service template exists.
412	Precondition failed	The server is not running.
500	Server-side error	Processing error returned by the server.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -H -X GET https://
host:port/Automation/v1/objects/ServiceTemplates/1116/actions/detailhelp
```

Request header:

```
GET /Automation/v1/objects/ServiceTemplates/1116/actions/detailhelp HTTP/
1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response body:

```
{
  "name" : "detailhelp",
  "href" : "https://host:port/Automation/services/custom/00000000001116/
r_all_vol_details.html",
  "method" : "GET",
  "parameters" : []
}
```

Preparing to bind and run a service template

The following URI is the initial step to get the template of required arguments for bind action. Acquire the template of the arguments required to run the operation (Bind) of the target service template. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/ServiceTemplates/id/
actions/bind
```

Request

The body of the request must be empty.

Response

The response body structure is shown below.

```
{
  "name" : "bind",
  "href" : "http://host:port/Automation/version/objects/
ServiceTemplates/{id}/actions/bind/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects specified as the `parameters` member.

Output	Resource Name	Number	Description
Service	Service	1	The service added from the service template
List of PropertyValues	PropertyValue	0..n	The input property of service

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
404	Not found	No privilege to get services or no service template exists.
412	Precondition failed	The server is not running.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -H -X GET
host:port/Automation/v1/objects/ServiceTemplates/560/actions/bind
```

Request header:

```
GET /Automation/v1/objects/ServiceTemplates/560/actions/bind HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 30 Jul 2015 02:08:29 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
77efd47709df8b7f65468cb4778e804db1e6c_v1o8Y30JdDBUB31jJSVPaRtjBSA=_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "name" : "bind",
  "href" : "http://<host>:<port>/Automation/v1/objects/
ServiceTemplates/560/actions/bind/invoke",
  "method" : "POST",
  "parameters" : [ {
    "name" : "Execute Remote Command",
    "description" : "Executes a command on the remote execution target
server.",
    "tags" : "Execute Script, Linux, Windows",
    "serviceTemplateName" : "remoteCommandExe",
    "serviceState" : "test",
    "serviceGroupName" : "Default Service Group",
    "supportedScheduleType" : "immediate, schedule, recurrence",
    "supportedActionType" : "",
    "serviceTemplateID" : 560
  }, {
    "type" : "string",
    "keyName" : "common.targetHost",
    "value" : "",
    "readOnly" : false,
    "hidden" : false
  }, {
    "type" : "string",
    "keyName" : "common.remoteCommand",
    "value" : "",
    "readOnly" : false,
    "hidden" : false
  }, {
    "type" : "string",
    "keyName" : "common.remoteCommandParameter",
    "value" : "",
    "readOnly" : false,
    "hidden" : false
  } ]
}
```

Binding and running a service template

The following URI allows you to add a service along with the binded/selected property values and then run the service template. This request requires a minimum role of Modify.

HTTP request syntax (URI)

```
POST https://host:port/Automation/version/objects/ServiceTemplates/id/
actions/bind/invoke
```

Request

```
{
  "name" : "bind",
  "href" : "https://host:port/Automation/version/objects/
ServiceTemplates/id/actions/bind/invoke",
  "method" : "POST",
  "parameters" : [ {...} ]
}
```

The following table describes the objects specified as the `parameters` member.

Input	Resource Name	Number	Description
Service	Service	1	The service to add.
List of property values	Property value	0..n	The input property of a service.

The following table describes the valid properties.

Output	Resource Name	Number
Service	name	1
Service	description	1
Service	tags	1
Service	supportedScheduleType	1
Service	serviceState	1
Service	serviceGroupName	1
PropertyValues	value	0..n

Response

The response body structure is shown below.

```
{
  "instanceID" : "instance-id",
  "created" : "created-date-and-time",
  "updated" : "updated-date-and-time",
  "completed" : "completed-date-and-time",
  "state" : "state",
  "affectedResources" : [ {...} ],
  "result" : [ {...} ],
  "resultType" : "result-type"
}
```

The following table describes the objects specified as the `parameters` member.

Output	Resource Name	Number	Description
Link to created service.	String	1	The link to the created Service resource

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	One of the following: - Invalid argument. - The privileges assigned to the service group is invalid. - The existing service name is already specified. - The number of services and number of tags has reached the maximum limit.
401	Unauthorized	No login privilege.
403	Forbidden	No privilege to get service templates.
404	Not found	No privilege add services.
412	Precondition failed	The server is not running.
413	Request entity too large	The request size exceeds the maximum limit.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X POST --data-binary @./InputParameters.json https://host:port/Automation/v1/objects/ServiceTemplates/560/actions/bind/invoke
```


Request header:

```
POST /Automation/v1/objects/ServiceTemplates/560/actions/bind/invoke
HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
Content-Length: 1001
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 30 Jul 2015 02:08:29 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
77efd47709df8b7f65468cb4778e804db1e6c_V1o8Y30JdDBUB31jJSVPartjBSA=_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "instanceID" : "55e8c5b7-b0ab-4016-ba62-f334b67c20c4",
  "created" : "2015-07-30T11:30:39.042+09:00",
  "updated" : "2015-07-30T11:30:39.042+09:00",
  "completed" : "2015-07-30T11:30:39.042+09:00",
  "state" : "success",
  "affectedResource" : [ "https://host:port/Automation/v1/objects/
Services/2004" ],
  "result" : []
}
```

Property information

This module covers the management operations available for the PropertyInformation resource:

Getting a list of property information

The following URI provides you with a list of property information for a service, task, service template, or schedule. Property information includes IDs and can also be shared across multiple services or tasks. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/PropertyInformations
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
serviceID	equal to the value
taskID	equal to the value
scheduleID	equal to the value
shared	Function of whether a parameter name is valid or not. Specify by: ? [parameter name] or ? [parameter name]=



Note: If a query parameter is not specified, an error occurs.

A query parameter is a type of query string.

You can express a query parameter as follows:

```
?Query_parameter=version
```

For example:

```
?serviceID=16731
```

Response

The response body structure is shown below:

```
{
  "data": [ {...} ],
  "count" : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of property information	PropertyInformation	0..n	PropertyInformation resource that matches the search condition

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success. A request has processed appropriately.
401	Unauthorized	No login privilege.
412	Precondition failed	The server is not running.
500	Server-side error	Processing error returned by the server.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -u system:manager -X GET https://host:port/Automation/v1/objects/PropertyInformations?serviceID=2004
```

Request header:

```
GET /Automation/v1/objects/PropertyInformations?serviceID=2004 HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.28.1
Host: host:port
Accept: application/json
Content-Type: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Wed, 12 Feb 2015 12:53:03 GMT
Server: Cosminexus HTTP Server
WWW-Authenticate: HSSO 4aac2080983c3b3c3061b6acff946aa3726537db_V0300
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```

{
  "data" : [ {
    "instanceID" : 2010,
    "keyName" : "common.targetHost",
    "displayName" : "Host name of execution target server",
    "defaultValue" : "",
    "value" : "",
    "type" : "string",
    "visibility" : "exec",
    "scope" : "local",
    "description" : "Specifies the host name or IP address of the
execution target server. IPv6 addresses are not supported.",
    "mode" : "in",
    "required" : true,
    "maxLength" : 255,
    "minLength" : 1,
    "pattern" : "^[0-9a-zA-Z\\.\\-]*$",
    "propertyGroupName" : "reserved.defaultGroup",
    "validationScript" : "",
    "readOnly" : false,
    "hidden" : false,
    "reference" : false,
    "serviceTemplateID" : 560,
    "serviceID" : 2004
  }, {
    "instanceID" : 2013,
    "keyName" : "common.remoteCommand",
    "displayName" : "Command",
    "defaultValue" : "",
    "value" : "",
    "type" : "string",
    "visibility" : "exec",
    "scope" : "local",
    "description" : "Specify the full path of the command to be executed
on the execution target server. If the path contains a space, enclose the
entire path in double quotation marks.",
    "mode" : "in",
    "required" : true,
    "maxLength" : 256,
    "minLength" : 1,
    "propertyGroupName" : "reserved.defaultGroup",
    "validationScript" : "",
    "readOnly" : false,
    "hidden" : false,
    "reference" : false,
    "serviceTemplateID" : 560,
    "serviceID" : 2004
  }, {
    "instanceID" : 2017,

```

```

    "keyName" : "common.remoteCommandParameter",
    "displayName" : "Command parameters",
    "defaultValue" : "",
    "value" : "",
    "type" : "string",
    "visibility" : "exec",
    "scope" : "local",
    "description" : "Specify the parameters for the command to be executed
on the execution target server. If a parameter contains a space, enclose
the entire parameter in double quotation marks.",
    "mode" : "in",
    "required" : false,
    "maxLength" : 1024,
    "minLength" : 1,
    "propertyGroupName" : "reserved.defaultGroup",
    "validationScript" : "",
    "readOnly" : false,
    "hidden" : false,
    "reference" : false,
    "serviceTemplateID" : 560,
    "serviceID" : 2004
  }, {
    "instanceID" : 2016,
    "keyName" : "common.stdoutProperty",
    "displayName" : "Standard output string",
    "defaultValue" : "",
    "value" : "",
    "type" : "string",
    "visibility" : "exec",
    "scope" : "local",
    "description" : "This property contains the character string output to
standard output by the specified command. ",
    "mode" : "out",
    "required" : false,
    "propertyGroupName" : "reserved.defaultGroup",
    "validationScript" : "",
    "readOnly" : false,
    "hidden" : false,
    "reference" : false,
    "serviceTemplateID" : 560,
    "serviceID" : 2004
  } ],
  "count" : 4
}

```

Property groups

This module covers the management operations available for the PropertyGroup resource.

Getting a list of property groups

The following URI provides you with a list of property groups for a service or task. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/PropertyGroups
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
serviceTemplateID	equal to the value
serviceID	equal to the value
scheduleID	equal to the value
taskID	equal to the value

A query parameter is a type of query string.

You can express a query parameter as follows:

```
?Query_parameter=version
```

For example:

```
?serviceID=16731
```



Note: If you want to get property groups for a service template, service, a schedule, or a task (for example), you must specify the corresponding query parameters. Otherwise, an error is returned. In addition, you can only specify one query parameter at a time. You cannot specify multiple query parameters.

Response

The response body structure is shown below:

```
{
  "data": [ { ... } ],
  "count" : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of property groups	PropertyGroup	0..n	PropertyGroup resource that matches the search condition

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success. A request has processed appropriately.
400	Bad request	Invalid query parameter.
401	Unauthorized	No login privilege.
412	Precondition failed	The server is not running.
500	Server-side error	Processing error returned by the server.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -H "Content-Type: application/json" -
u system:manager
-X GET https://host:port/Automation/v1/objects/PropertyGroups?
serviceID=3134
```

Request header:

```
GET /Automation/v1/objects/PropertyGroups?serviceID=3134 HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
Content-Type: application/json
```


Response header:

```
HTTP/1.1 200 OK
Date: Wed, 12 Feb 2015 13:07:40 GMT
Server: Cosminexus HTTP Server
WWW-Authenticate: HSSO 79879316d8774b77e381de745fb21aa2e735793_V0300
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data" : [ {
    "keyName" : "reserved.defaultGroup",
    "displayName" : "reserved.defaultGroup",
    "description" : "",
    "ordinal" : 0,
    "validationScript" : "",
    "display" : "config,submit,taskDetail"
  } ],
  "count" : 1
}
```

Task logs

This module covers the management operations available for the TaskLog resource.

Getting a task log

The following URI provides you with task log for a specified task. You can identify the `instanceID` of the target task when operating a task. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/TaskLogs
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
taskID	equal to the value
readSize	less than or equal to the value
offset	equal to the value
reverse	Function of whether a parameter name is valid or not. Specify by: ? [parameter name] or ? [parameter name]=)

A query parameter is a type of query string.

You can express a query parameter as follows:

```
?query_parameter=value
```

For example:

```
?taskID=16731
```

Response

The response body structure is shown below:

```
{
  "data ":[ {...} ],
  "count " : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
Task log	TaskLog	0..n	TaskLog resource that matches the search condition

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid query parameter.
401	Unauthorized	No login privilege.
412	Precondition failed	The server is not running.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port
/Automation/v1/objects/TaskLogs?taskID=5028^&readSize=1000000^&offset=0
```

Request header:

```
GET /Automation/v1/objects/TaskLogs?taskID=5028&readSize=1000000&offset=0
HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:34:43 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
5b9bde37a79093e512f91b9c72c816d9c2407aca_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data" : [ {
    "instanceID" : 5028,
    "text" : "**** Windows 7
6.1
TZ=Asia/Tokyo                2015/08/03 15:38:46.825\r\n
yyyy/mm/dd hh:mm:ss.sss      pid      tid      message-
id          message(LANG=ja)\r\n1327 2015/08/03 15:38:46.907
Automation      3AD397B4 169188DB KNAE08001-I          Started executing
plug-in (task name: Execute Remote Command_20150803153816, task ID: 5028,
step ID: /remoteHostCommandExe, execution ID: @A103).\r\n1448 2015/08/03
15:38:47.094      Automation      3AD397B4 169188DB KNAE08129-I
The general command plug-in started (command: hostname).\r\n1450
2015/08/03 15:38:47.095      Automation      3AD397B4 169188DB KNAE08071-
I          The setting to elevate to root privileges for SSH connections
is now disabled.\r\n1467 2015/08/03 15:38:47.406      Automation
3AD397B4 169188DB KNAE08082-I          A connection to the destination
host was established and authenticated (connection target: 127.0.0.1,
protocol: local).\r\n1485 2015/08/03 15:38:47.492      Automation
3AD397B4 169188DB KNAE08130-I          The general command plug-in was
completed successfully (command: hostname).\r\n1522 2015/08/03
15:38:47.549      Automation      3AD397B4 169188DB KNAE08002-I
Plug-in execution completed (task name: Execute Remote
Command_20150803153816, task ID: 5028, step ID: /remoteHostCommandExe,
execution ID: @A103, plug-in return code: 0).\r\n",
    "totalSize" : 1445,
    "readSize" : 1445,
    "lineCount" : 9,
    "offset" : 0,
    "reverse" : false
  } ],
  "count" : 1
}
```

Tag groups

This module covers the management operations available for the TagGroup resource.

Getting a list of tag groups

The following URI performs two operations:

- Acquires the list of tag groups
- Shows the list of tags that are bound to the tag group

You can identify the `instanceID` of the target task when operating a task. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/TagGroups
```

Request

None

Response

The response body structure is shown below:

```
{
  "data ":[ {...} ],
  "count " : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of tag groups	TagGroup	0..n	TagGroup resource that matches the search condition

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
412	Precondition failed	The server is not running.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port
/Automation/v1/objects/TagGroups
```

Request header:

```
GET /Automation/v1/objects/TagGroups HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2015 06:34:43 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
5b9bde37a79093e512f91b9c72c816d9c2407aca_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data" : [ {
    "instanceID" : 34,
    "name" : "Applications",
    "tags" : "SQL Server,XenDesktop,Oracle Database,Cluster,Exchange"
  }, {
    "instanceID" : 42,
    "name" : "Hypervisors",
    "tags" : "VMware vSphere,Hyper-V"
  }, {
    "instanceID" : 45,
    "name" : "Storage Services",
    "tags" : "Replicate Storage,Add Like Storage,Snapshot,Add New Storage"
  }, {
    "instanceID" : 54,
    "name" : "Uncategorized",
    "tags" : "Basic,Hitachi,Windows,Linux,Execute Script,Report Volume
Information to Replication Manager"
  } ],
  "count" : 4
}
```

Tags

This module covers the management operations available for the Tag resource.

Getting a list of tags for a resource

The following URI provides you with a list of tags that correspond to one of the following resource types:

- ServiceTemplate
- Service
- Task
- TaskHistory

This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Tags
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
detail	Function of whether the parameter name is valid or not. Specify by: ? [parameter name] or ? [parameter name]=
resourceType	equal to the value



Note: Observe the following:

- Values which can be specified to `resourceType` (ServiceTemplate, Service, Task, TaskHistory).
- If specifying `resourceType`, the query parameter which can use the specified resource is valid. For example, if specifying `resourceType=ServiceTemplate`, you can specify the Tags query which can be used with the ServiceTemplate API.

You can express a query parameter as follows:

```
?Query_parameter=value
```

For example:

```
?serviceID=16731
```

Response

The response body structure is shown below:

```
{
  "data ":[ {...} ],
  "count " : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of tasks	Task	0..n	Task resource that matches the search condition

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
401	Unauthorized	No login privilege.
412	Precondition failed	The server is not running.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port
/Automation/v1/objects/Tags
```


Request header:

```
GET /Automation/v1/objects/Tags HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 06:34:43 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
5b9bde37a79093e512f91b9c72c816d9c2407aca_vm011150_v0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```

{
  "data" : [ {
    "instanceID" : 35,
    "name" : "Replicate Storage",
    "tagGroupID" : 45
  }, {
    "instanceID" : 36,
    "name" : "SQL Server",
    "tagGroupID" : 34
  }, {
    "instanceID" : 37,
    "name" : "Add Like Storage",
    "tagGroupID" : 45
  }, {
    "instanceID" : 38,
    "name" : "Snapshot",
    "tagGroupID" : 45
  }, {
    "instanceID" : 39,
    "name" : "Add New Storage",
    "tagGroupID" : 45
  }, {
    "instanceID" : 40,
    "name" : "VMware vSphere",
    "tagGroupID" : 42
  }, {
    "instanceID" : 41,
    "name" : "XenDesktop",
    "tagGroupID" : 34
  }, {
    "instanceID" : 43,
    "name" : "Hyper-V",
    "tagGroupID" : 42
  }, {
    "instanceID" : 44,
    "name" : "Oracle Database",
    "tagGroupID" : 34
  }, {
    "instanceID" : 46,
    "name" : "Cluster",
    "tagGroupID" : 34
  }, {
    "instanceID" : 47,
    "name" : "Exchange",
    "tagGroupID" : 34
  }, {
    "instanceID" : 51,
    "name" : "Basic",
    "tagGroupID" : 54
  }
]
}

```

```

}, {
  "instanceID" : 52,
  "name" : "Hitachi",
  "tagGroupID" : 54
}, {
  "instanceID" : 552,
  "name" : "Windows",
  "tagGroupID" : 54
}, {
  "instanceID" : 559,
  "name" : "Linux",
  "tagGroupID" : 54
}, {
  "instanceID" : 564,
  "name" : "Execute Script",
  "tagGroupID" : 54
}, {
  "instanceID" : 1004,
  "name" : "Report Volume Information to Replication Manager",
  "tagGroupID" : 54
} ],
"count" : 17
}

```

External server connection

This module covers the management operations available for the ExternalServerConnection resource.

Getting a list of external server connections

The following URI allows you to obtain a list of service connections (such as HCSCConnection, vCenterConnection, and so on). This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/ExternalServerConnections
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "data": [ {...} ],
  "count" : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of external server connections	ExternalServerConnection	0..n	ExternalServerConnection resource that matches the search condition

Return codes

The following table lists the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid query parameter.
401	Unauthorized	No login privilege.
403	Forbidden	No reference privilege
412	Precondition failed	The server is not running.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/v1/objects/ExternalServerConnections
```

Request header:

```
GET /Automation/v1/objects/ExternalServerConnections HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```

HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 05:55:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
34dfb124a5fcef089f853d1391341dfbee4cb_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "data" : [ {
    "instanceID" : 9335,
    "name" : "hdvm",
    "createTime" : "2016-03-23T14:59:02.000+09:00",
    "modifyTime" : "2016-03-23T14:59:02.000+09:00",
    "productName" : "DeviceManager",
    "protocol" : "http",
    "ipAddress" : "10.196.184.182",
    "port" : 22015,
    "userID" : "system",
    "status" : "success",
    "active" : true,
    "connectedTime" : "2016-03-23T14:59:09.000+09:00"
  } ],
  "count" : 1
}

```

Host

This module covers the management operations available for the Host resource:

Getting a list of hosts

The following URI provides you with a list of hosts. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/Hosts
```

Request

The body of the request must be empty.

Query Parameters	Filter Condition
externalServerConnectionID	Can either include this value or not. Note: It cannot be specified multiple times.

A query parameter is a type of query string.

You can express a query parameter as follows:

```
?Query_parameter=version
```

For example:

```
?externalServerConnectionID=16731
```

Response

The response body structure is shown below:

```
{
  "data ":[ {...} ],
  "count " : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of hosts	Host	0..n	Host resource that matches the search condition

Return codes

The table below describes the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid query parameter.
401	Unauthorized	No login privilege.
412	Precondition failed	The server is not available.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/v1/objects/Hosts
```

Request header:

```
GET /Automation/v1/objects/Hosts HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Tue, 15 Dec 2015 07:55:45 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Cache-Control: no-cache
WWW-Authenticate: HSSO
a9122fc5943c191dae623af5a5292d5a58cf793_ZA1DR1YHFw5UdyNW_V0810
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data" : [ {
    "instanceID" : "6995_576939",
    "hostName" : "host01",
    "hostID" : 576939,
    "wwn" : "00.00.00.00.00.00.00.06, 00.00.00.00.00.00.00.08",
    "wwnNickname" : "-",
    "iscsiName" : "-",
    "ipAddress" : "-",
    "operatingSystem" : "Windows",
    "capacityInKb" : 0,
    "cluster" : "-",
    "model" : "-",
    "hostType" : "-",
    "fileServerType" : "-",
    "deviceManagerName" : "hdvm",
    "displayName" : "host01",
    "hostInfoID" : 576939,
    "externalServerConnectionID" : 6995
  }, {
    "instanceID" : "6995_576944",
    "hostName" : "host02",
    "hostID" : 576944,
    "wwn" : "00.00.00.00.00.00.00.10, 00.00.00.00.00.00.00.12",
    "wwnNickname" : "-",
    "iscsiName" : "-",
    "ipAddress" : "-",
    "operatingSystem" : "Windows",
    "capacityInKb" : 0,
    "cluster" : "-",
    "model" : "-",
    "hostType" : "-",
    "fileServerType" : "-",
    "deviceManagerName" : "hdvm",
    "displayName" : "host02",
    "hostInfoID" : 576944,
    "externalServerConnectionID" : 6995
  } ],
  "count" : 2
}
```

Storage systems

This module covers the management operations available for the StorageSystem resource.

Getting a list of storage systems

The following URI allows you to obtain a list of storage systems. This request requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/objects/StorageSystems
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "data": [ {...} ],
  "count" : count
}
```

The following table describes the objects specified as the `data` member.

Output	Resource Name	Number	Description
List of storage systems	StorageSystem	0..n	StorageSystem resource that matches the search condition

Return codes

The following table lists the HTTP status codes that can be returned in response to a request.

Status code	HTTP name	Description
200	OK	Success.
400	Bad request	Invalid query parameter.
401	Unauthorized	No login privilege.
403	Forbidden	No reference privilege
412	Precondition failed	The server is not running.
500	Server-side error	Server processing error.

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/v1/objects/StorageSystems
```

Request header:

```
GET /Automation/v1/objects/StorageSystems HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Thu, 31 Jul 2014 05:55:15 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
34dfb124a5fcef8089f853d1391341dfbee4cb_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "data" : [ {
    "instanceID" : "6995_310",
    "storageArrayID" : 310,
    "name" : "VSP@10.197.73.234",
    "displayName" : "VSP@10.197.73.234",
    "storageSystemInfoID" : 310,
    "externalServerConnectionID" : 6995
  } ],
  "count" : 1
}
```

Other resources

This module covers the resources found in other domains:

Getting user information

The following URI provides you with information about the current user. This resource requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/user
```

Request

The body of the request must be empty.

Response

The response body structure is shown below:

```
{
  "userName" : "user-name",
  "accessPermission" : [ "access-permission1",... ],
  "fullName" : "full-name",
  "description" : "description",
  "email" : "e-mail"
  "resourceGroup" : [ {
    "instanceID" : "instance-id",
    "name" : "resource-group-name",
    "description" : "description",
    "accessPermission" : [ "access-permission1",... ]
  }],
  "logonTime" : "logon-time"
}
```

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/v1/user
```

Request header:

```
GET /Automation/v1/user HTTP/1.1
Authorization: Basic c3lzdGVtOm1hbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```

HTTP/1.1 200 OK
Date: Wed, 30 Jul 2014 09:57:02 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO
2367971783cfaelf2041f3fffd4866da75763_vm011150_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-store, no-transform
Transfer-Encoding: chunked
Content-Type: application/json

```

Response body:

```

{
  "userName" : "System",
  "accessPermission" : [ "User Management" ],
  "fullName" : "",
  "description" : "Built-in account",
  "email" : "",
  "resourceGroup" : [ {
    "instanceID" : "Automation_RG_ALL",
    "name" : "All Service Groups",
    "description" : "default service groups which contains all services",
    "accessPermission" : [ "Develop", "Execute", "Modify", "Admin",
"View" ]
  } ],
  "logonTime" : "2015-12-14T00:00:32.096-08:00"
}

```

Getting the version information

The following URI provides you with information about the current product and API versions. This resource requires a minimum role of Submit.

HTTP request syntax (URI)

```
GET https://host:port/Automation/version/configuration/version
```

Request

The body of the request must be empty.

Response

The response structure is shown below:

```
{
  "productName" : "product-name",
  "product Version " : "product-version",
  "apiVersion" : "api-version"
}
```

Example code

Request with cURL command:

```
curl -v -H "Accept: application/json" -u system:manager -X GET https://
host:port/Automation/v1/configuration/version
```

Request header:

```
GET /Automation/v1/configuration/version HTTP/1.1
Authorization: Basic c3lzdGVtOmlhbmFnZXI=
User-Agent: curl/7.36.0
Host: host:port
Accept: application/json
```

Response header:

```
HTTP/1.1 200 OK
Date: Wed, 30 Jul 2014 07:55:28 GMT
* Server Cosminexus HTTP Server is not blacklisted
Server: Cosminexus HTTP Server
Access-Control-Expose-Headers: WWW-Authenticate
WWW-Authenticate: HSSO 978d185de7aa4616dc6c886286c6d3ea01d23e4_WIN-
JLTV0PQLK2A_V0810
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, DELETE, PUT, HEAD, OPTIONS
Access-Control-Allow-Credentials: true
Cache-Control: no-cache
Transfer-Encoding: chunked
Content-Type: application/json
```

Response body:

```
{
  "productName" : "Hitachi Automation Director",
  "productVersion" : "8.4.1-00",
  "apiVersion" : "01.01.00"
}
```

Appendix A: Reference information

This module describes the built-in service templates and plug-ins, reserved properties, and locale settings for plug-ins.

HTTP status codes

The API uses the following standard HTTP status codes to convey the results of the REST operations:

Status code	HTTP name	Description
200	OK	Success. A request has processed appropriately.
201	Created	Return this code instead of 200 if a resource creation processing is successful.
204	No content	Request was successful, but if the response to return does not exist, return this code instead of 200.
303	See other	Request was processed successfully using another URI. Return this code instead of 200.
400	Bad request	Missing or invalid request contents.
401	Unauthorized	Invalid authentication/authorization credentials. Notify user that authentication is required to access a resource through the WWW-authenticate header. If the request which already contains the authorization header is being performed, show that the authentication credentials were refused.
403	Forbidden	This user is not allowed to perform this request. If there is no update privilege, delete the related resource.
404	Not found	Either the resource, the operation, or the Read privilege to the resource is missing.

Status code	HTTP name	Description
405	Method not allowed	Requested HTTP verb not allowed on this resource.
406	Not acceptable	Response format is not supported.
409	Conflict	Request cannot be finished since it conflicts with the current data existing in the server.
412	Precondition failed	The request was not received in a certain order and has failed a precondition.
415	Unsupported media type	Request format is not supported.
500	Server-side error	Processing error returned by the server.



Note: The table provides general descriptions of each status code. Specific information and descriptions may vary depending on the URI. For specific status code descriptions, see the return codes provided for each resource URI.

Using the log file for API troubleshooting

Reviewing the log files can be helpful when troubleshooting the HAD API.

The public log (`logs/Server*.log`) contains the error message when an error occurs.

API resource map

The table below provides a map of the API resources according to their GUI location. The table does not represent all available resources.

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
Service	Service List	Acquire service list.	N/A	Invoke the GET method of Services and acquire service list.
			serviceGroup ID	<ol style="list-style-type: none"> 1. Invoke the GET method of ServiceGroups and acquire resource group list. 2. Identify the target instance ID from resource group list, specify it as a query, and invoke the GET method of Services.
	Edit Service	Edit the service.	N/A	Update the service <ol style="list-style-type: none"> 1. Invoke the GET method of Services and acquire service list.

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<ol style="list-style-type: none"> 2. Identify the target <code>instanceID</code> from service list and invoke the GET method of <code>Services/<instanceID></code>. 3. Edit the Service object of the response of 2). 4. Specify the object edited at 3) as an argument, and invoke the PUT method of <code>Services/<instanceID></code>.
			N/A	<p>Updated the property</p> <ol style="list-style-type: none"> 1. Invoke the GET method of <code>Services</code> and acquire service list. 2. Identify the target <code>serviceID</code> from service list, invoke the

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<p>GET method of PropertyV alues? serviceID= <serviceID> , and acquire a list of PropertyV alues.</p> <p>3. Identify and edit the target instance ID from the list of PropertyV alues.</p> <p>4. Specify the object edited at 3) as an argument, and invoke the PUT method of PropertyV alues/ <instanceID>.</p>
	Delete Service	Delete the service.	N/A	<p>1. Invoke the GET method of Services and acquire service list.</p>

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<ol style="list-style-type: none"> Identify the target <code>instance ID</code> from service list and invoke the <code>DELETE</code> method of <code>Services/<instanceID></code>.
	Submit Service	Submit the service to run immediately.	N/A	<ol style="list-style-type: none"> Invoke the <code>GET</code> method of <code>Services</code> and acquire service list. Identify the target <code>instance ID</code> from service list and invoke the <code>GET</code> method of <code>Services/<instanceID>/actions/submit</code>. Change the schedule and property of a response of 2) accordingly.

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<p>4. Specify the object edited at 3) as an argument, and invoke the POST method of Services/ <instanceID>/ actions/ submit/ invoke.</p> <p>To change the interval to immediate/ scheduled/ periodical, change the scheduleType or taskType.</p>
Task	Task list	Acquire task list.	N/A	Invoke the GET method of Task and acquire task list.
			serviceID	1. Invoke the GET method of Service and acquire service list.

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<ol style="list-style-type: none"> Identify the target <code>instanceID</code> from a service list, specify it as a query, and invoke the GET method of Task.
			<code>serviceGroupID</code>	<ol style="list-style-type: none"> Invoke the GET method of ServiceGroup and acquire resource group list. Identify the target <code>instanceID</code> from resource group list, specify it as a query, and invoke the GET method of Task.
			<code>scheduleID</code>	<ol style="list-style-type: none"> Invoke the GET method of Schedule and acquire schedule list.

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<p>2. Identify the target <code>instance ID</code> from schedule list, specify it as a query, and invoke the GET method of Task.</p>
		Display task details dialog.	N/A	<p>Acquire task summary</p> <p>1. Invoke the GET method of Task and acquire task list.</p> <p>2. Identify the target <code>instance ID</code> from task list and invoke the GET method of Tasks/ <code><instanceID></code>.</p>
			N/A	<p>Acquire task property</p> <p>1. Invoke the GET method of Task and acquire task list.</p>

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<ol style="list-style-type: none"> Identify the target <code>taskID</code> from task list and invoke the GET method of PropertyValue? <code>taskID=taskID</code>.
		Suspend the schedule.	N/A	<ol style="list-style-type: none"> Invoke the GET method of Task and acquire task list. Identify <code>instanceID</code> of the target schedule and invoke the GET method of Services/<code><instanceID>/actions/suspend</code>. Edit the return value of 2) and invoke the POST method of Services/<code><instanceID>/actions/suspend/invoke</code>.

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
		Cancel the schedule.	N/A	<ol style="list-style-type: none"> 1. Invoke the GET method of Task and acquire task list. 2. Identify <i>instance ID</i> of the target schedule and invoke the GET method of Services/ <i><instanceID>/actions/cancel</i>. <p>) Edit the return value of 2) and invoke the POST method of Services/ <i><instanceID>/actions/cancel/invoke</i>.</p>
		Resume the schedule.	N/A	<ol style="list-style-type: none"> 1. Invoke the GET method of Task and acquire task list.

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<p>2. Identify instance ID of the target schedule and invoke the GET method of Services/ <instanceID>/ actions/ resume.</p> <p>3. Edit the return value of 2) and invoke the POST method of Services/ <instanceID>/ actions/ resume/ invoke.</p>
		Resubmit the task.	N/A	<p>1. Invoke the GET method of Task and acquire task list.</p>

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<p>2. Identify the target <i>instance ID</i> from task list and invoke the GET method of Tasks/ <i><instanceID>/actions/resubmit</i>.</p> <p>3. Edit the return value of 2) and invoke the POST method of Tasks/ <i><instanceID>/actions/resubmit/invoke</i>.</p>
		Archive the task.	N/A	<p>1. Invoke the GET method of Task and acquire task list.</p>

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<p>2. Identify the target instance ID from task list and invoke the GET method of Tasks/ <instanceID>/ actions/ archive.</p> <p>3. Edit the return value of 2) and invoke the POST method of Tasks/ <instanceID>/ actions/ archive/ invoke.</p>
		Stop the task.	N/A	<p>1. Invoke the GET method of Task and acquire task list.</p>

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<p>2. Identify the target <code>instance ID</code> from task list and invoke the GET method of <code>Tasks/<instanceID>/actions/stop</code>.</p> <p>3. Edit the return value of 2) and invoke the POST method of <code>Tasks/<instanceID>/actions/stop/invoke</code>.</p>
	Task History List	Acquire the task history.	N/A	Invoke the GET method of <code>TaskHistory</code> and acquire task history list.
start			Specify the start date & time (start) as a query, invoke the GET method of <code>TaskHistory</code> , and acquire a task history list.	
end			Specify the end date & time (end) as a	

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				query, invoke the GET method of TaskHistory, and acquire task history list.
			serviceGroup ID	<ol style="list-style-type: none"> 1. Invoke the GET method of ServiceGroup and acquire resource group list. 2. Identify the target instance ID from resource group list, specify it as a query, and invoke the GET method of TaskHistory.
	Delete Task History	Delete the task history.	N/A	<ol style="list-style-type: none"> 1. Invoke the GET method of TaskHistory and acquire task history list.

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<p>2. Identify the target instance ID from task history list, and invoke the DELETE method of Tasks/ <instance/ D>.</p>
Administration	Create Resource Group	Create a resource group.	N/A	Invoke the GET method of ServiceGroup and acquire resource group list.
			role	Specify the arbitrary role as a query, invoke the GET method of ServiceGroup, and acquire resource group list.
			userGroupID	There is no method to identify the userGroupID.
	Edit Resource Group	Edit the resource group.	N/A	<p>1. Invoke the GET method of ServiceGroup and acquire resource group list.</p>

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<ol style="list-style-type: none"> 2. Identify the target instance ID from resource group list, and invoke the GET method of ServiceGroups/ <instanceID>. 3. Edit the ServiceGroup object of the response of 2). 4. Specify the object edited at 3) as an argument, and invoke the PUT method of ServiceGroups/ <instanceID>.
	Delete Resource Group	Delete the resource group.	N/A	<ol style="list-style-type: none"> 1. Invoke the GET method of ServiceGroups and acquire resource group list.

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<ol style="list-style-type: none"> Identify the target instance ID from resource group list, and invoke the DELETE method of ServiceGroups/<instanceID>.
	Edit User Group/Add Resource Group	Edit the resource group to the user group.	N/A	<ol style="list-style-type: none"> Invoke the GET method of ServiceGroup and acquire resource group list. Identify the target instance ID from resource group list, and invoke the GET method of ServiceGroups/<instanceID>/actions/assign.

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<p>3. Edit the assign object of the response of 2). Specify the user group name set as UserGroupPName by confirming it on GUI.</p> <p>4. Specify the object edited at 3) as an argument, and invoke the POST method of ServiceGroups/<i><instanceID>/actions/assign/</i>invoke.</p>
	Edit User Group/Edit Role of Resource Group	Edit the resource group to the user group.	N/A	<p>1. Invoke the GET method of ServiceGroup and acquire resource group list.</p>

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<p>2. Identify the target instance ID from resource group list, and invoke the GET method of ServiceGroups/ <instanceID>/actions/assign.</p> <p>3. Edit the assign object of the response of 2). Specify the user group name set as UserGroupName by confirming it on GUI.</p> <p>4. Specify the object edited at 3) as an argument, and invoke the POST method of ServiceGroups/ <instanceID>/actions/assign/invoke.</p>

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
	Edit User Group/Delete Resource Group	Remove the resource group from the user group.	N/A	<ol style="list-style-type: none"> 1. Invoke the GET method of ServiceGroup and acquire resource group list. 2. Identify the target instance ID from resource group list, and invoke the GET method of ServiceGroups/<i><instanceID>/actions/unassign.</i> 3. Edit the unassign object of the response of 2). Specify the user group name set as UserGroupName by confirming it on GUI.

GUI				
Tab	Window	Operation/ Condition	Filter by Query	Resource
				<p>4. Specify the object edited at 3) as an argument, and invoke the POST method of ServiceGroups/<i><instanceID>/actions/unassign/invoke.</i></p>

Appendix B: Service and content properties list

Use these properties to modify or create values for the following services and contents:



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Content properties

Use these content properties when modifying or creating values for services.

key Name	display Name	Description
provisioning.volumeSetting. volumeSettings.definition	Definition of Volume Settings	The data structure definition of the [Volume Settings] property is described in this property. Do not change the property. If you change this property, the service might fail when run.
provisioning.advancedOpti on.advancedOptions.defini tion	Definition of Advanced Options for Volume	The data structure definition of the [Advanced Options] property is described in this property. Do not change the property. If you change this property, the service might fail when run.
provisioning.hostSetting.tar getHosts.definition	Definition of Target Hosts	The data structure definition of the [Target Hosts] property is described in this property. Do not change the property. If you change this property, the service might fail when run.

key Name	display Name	Description
provisioning.hostSetting.refVmwareControl	Control of the display items for services with the Create Datastore Plug-in in [Host Settings]	This property displays items for services with the Create Datastore Plug-in in [Host Settings]. Enable the property if you want to run the Create Datastore Plug-in after the Allocate Volumes Plug-in. In other cases, Disable the property.
provisioning.control.vmwareControl	Control of services with the Create Datastore Plug-in	This property runs the Create Datastore Plug-in after using the Allocate Volumes Plug-in. Enable this property if you want to run the Create Datastore Plug-in after the Allocate Volumes Plug-in. In other cases, Disable the property.
provisioning.control.replicationControl	Control of services with the Replication	This property runs the Replication Plug-in after using the Allocate Volumes Plug-in. Enable this property if you want to run the Replication Plug-in after the Allocate Volumes Plug-in. In other cases, Disable the property.
provisioning.volumeSetting.volumeSettings.definition	Definition of Volume Settings	The data structure definition of the [Volume Settings] property is described in this property. Do not change the property. If you change this property, the service might fail when run.
provisioning.advancedOption.advancedOptions.definition	Definition of Advanced Options	The data structure definition of the [Advanced Options] property is described in this property. Do not change the property. If you change this property, the service might fail when run.

key Name	display Name	Description
provisioning.hostSetting.targetHosts.definition	Definition of Target Hosts	The data structure definition of the [Target Hosts] property is described in this property. Do not change the property. If you change this property, the service might fail when run.
provisioning.hostSetting.refVmwareControl	Control of the display items for services with the Create Datastore Plug-in in [Host Settings]	This property displays items for services with the Create Datastore Plug-in in [Host Settings]. Enable the property if you want to run the Create Datastore Plug-in after the Allocate Volumes Plug-in. In other cases, disable the property.
provisioning.control.vmwareControl	Control of services with the Create Datastore Plug-in	This property runs the Create Datastore Plug-in after using the Allocate Volumes Plug-in. Enable this property if you want to run the Create Datastore Plug-in after the Allocate Volumes Plug-in. In other cases, Disable the property.
provisioning.control.replicationControl	Control of services with the Replication	This property runs the Replication Plug-in after using the Allocate Volumes Plug-in. Enable this property if you want to run the Replication Plug-in after the Allocate Volumes Plug-in. In other cases, disable the property.
replication.volumeSetting.secondaryVolumeSettings.definition	Definition of Secondary Volume Settings	The data structure definition of the [Secondary Volume Settings] property is described in this property. Do not change the property. If you change this property, the service might fail when run.

key Name	display Name	Description
replication.advancedOption .advancedOptions.definition	Definition of Secondary Advanced Options	The data structure definition of the [Secondary Advanced Options] property is described in this property. Do not change the property. If you change this property, the service might fail when run.
replication.hostSetting.targetHosts.definition	Definition of Secondary Target Hosts	The data structure definition of the [Secondary Target Hosts] property is described in this property. Do not change the property. If you change this property, the service might fail when run.
replication.control.vmware Control	Control of services with the Create Datastore Plug-in	"This property runs the Create Datastore Plug-in after using the Replication Plug-in. Enable this property if you want to run the Create Datastore Plug-in after the Replication Plug-in. In other cases, disable the property."
replication.control.replicationControl	Control of services with the Replication	This property runs the Replication Plug-in after using the Allocate Volumes Plug-in. Enable this property if you want to run the Replication Plug-in after the Allocate Volumes Plug-in. In other cases, Disable the property.
replication.hostSetting.refVmwareControl	Control of the display items for services with the Create Datastore Plug-in in [Host Settings]	This property displays items for services with the Create Datastore Plug-in in [Host Settings]. Enable the property if you want to run the Create Datastore Plug-in after the Replication Volumes Plug-in. In other cases, disable the property.

key Name	display Name	Description
replication.copyPairSetting.numberOfGenerations	Number of Generations	Specify the number of secondary volumes to create for the primary volume. The number of secondary volumes becomes the number of generations. Also, a copy group is created for each generation.
replication.copyPairSetting.initialCopyEnabled	Create Pair and Run Initial Copy	Specify whether or not to create a copy pair and run an initial copy.
replication.copyPairSetting.prefixOfCopyGroupName	Prefix of Copy Group Name	"Specify the prefix of the copy group name to assign when creating the copy group. The copy group name is created by adding the prefix to the serial number of the generation."
provisioning.volumeSetting.volumeSettings.definition	Definition of Volume Settings	The data structure definition of the [Volume Settings] property is described in this property. Do not change the property. If you change this property, the service might fail when run.
provisioning.advancedOption.advancedOptions.definition	Definition of Advanced Options for Volume	The data structure definition of the [Advanced Options] property is described in this property. Do not change the property. If you change this property, the service might fail when run.
provisioning.hostSetting.targetHosts.definition	Definition of Target Hosts	The data structure definition of the [Target Hosts] property is described in this property. Do not change the property. If you change this property, the service might fail when run.

key Name	display Name	Description
provisioning.hostSetting.refVmwareControl	Control of the display items for services with the Create Datastore Plug-in in [Host Settings]	This property displays items for services with the Create Datastore Plug-in in [Host Settings]. Enable the property if you want to run the Create Datastore Plug-in after the Allocate Volumes Plug-in. In other cases, Disable the property.
provisioning.advancedOption.refVmwareControl	Control of the display items for services with the Create Datastore Plug-in in [Advanced Options].	This property displays items for services with the Create Datastore Plug-in [Advanced Options]. Enable the property if you want to run the Create Datastore Plug-in after the Allocate Volumes Plug-in. In other cases, Disable the property.
provisioning.control.vmwareControl	Control of services with the Create Datastore Plug-in.	This property runs the Create Datastore Plug-in after using the Allocate Volumes Plug-in. Enable this property if you want to run the Create Datastore Plug-in after the Allocate Volumes Plug-in. In other cases, Disable the property.
provisioning.control.replicationControl	Control of services with the Create Datastore Plug-in.	This property runs the Replication Plug-in after using the Allocate Volumes Plug-in. Enable this property if you want to run the Replication Plug-in after the Allocate Volumes Plug-in. In other cases, Disable the property.

key Name	display Name	Description
createDatastore.control.allocateLikeControl	Control of the display items for services with the Create Datastore Plug-in in [Datastore Environment Settings].	This property displays items for services with the Create Datastore Plug-in [Datastore Environment Settings]. Enable the property if you want to run the Create Datastore Plug-in after the Allocate Like Volumes Plug-in. In other cases, Disable the property.
createDatastore.DatastoreEnvironmentSettings.DatastorePrefix	Datastore Name Prefix.	Specify the prefix of the datastore name.
createDatastore.DatastoreEnvironmentSettings.VMFSVersion	VMFS Version.	Specify the VMFS version for the datastore to create.
createDatastore.DatastoreEnvironmentSettings.Blocksize	Block Size.	Specify the block size for the datastore to create.
createDatastore.DatastoreEnvironmentSettings.StorageIOControl	Storage I/O Control.	Specify whether to enable storage I/O control for the datastore to create.
createDatastore.DatastoreEnvironmentSettings.LatencyThreshold	Latency Threshold.	If you enable storage I/O control, specify the latency threshold.
createDatastore.source.datastore	Referenced Datastore.	Specify the referenced datastore for the datastore that to create. Set this property only if you want to connect with the Allocate Like Volumes Plug-in.
allocatelikevolumes.volumeSource.datastore.value	Referenced VMware Datastore Information.	Specify the information to identify the referenced VMware datastore. Set it only if you want to run the Create Datastore Plug-in after the Allocate Volumes Plug-in.

key Name	display Name	Description
allocatelikevolumes.volumeSource.datastore.definition	Definition of Referenced VMware Datastore.	The data structure definition of the [Referenced VMware Datastore] property is described in this property. Do not change the property. If you change this property, the service might fail when run.
allocatelikevolumes.volumeSource.volumeSource.value	Referenced Volume Information.	Specify the information to identify the referenced volume.
allocatelikevolumes.volumeSource.volumeSource.definition	Definition of Referenced Volume.	The data structure definition of the [Referenced Volume] property is described in this property. Do not change the property. If you change this property, the service might fail when run.
allocatelikevolumes.volumeSetting.volumeSettings.definition	Definition of Volume Settings.	The data structure definition of the [Volume Settings] property is described in this property. Do not change the property. If you change this property, the service might fail when run.
allocatelikevolumes.control.vmwareControl	Control of services with the Create Datastore Plug-in.	This property runs the Create Datastore Plug-in after using the Allocate Like Volumes Plug-in. Enable this property if you want to run the Create Datastore Plug-in after the Allocate Like Volumes Plug-in. In other cases, Disable the property.
allocatelikevolumes.volumeSource.datastore.value	Referenced VMware Datastore Information.	Specify values for the referenced VMware datastore.

key Name	display Name	Description
allocatelikeyolumes.volumeSource.datastore.definition	Definition of Referenced VMware Datastore.	The data structure definition of the [Referenced VMware Datastore] property is described in this property. Do not change the property. If you change this property, the service might fail when run.
allocatelikeyolumes.volumeSource.refVmwareControl	Control of the display items for services with the Create Datastore Plug-in in [Host Settings].	This property displays items for services with the Create Datastore Plug-in [Volume Source]. Enable the property if you want to run the Create Datastore Plug-in after the Allocate Like Volumes Plug-in. In other cases, Disable the property.
allocatelikeyolumes.volumeSetting.volumeSettings.internal.capacity	Allocate Volume Capacity.	A value is specified for this property automatically. You are not required to specify a value. If you specify a value for the property, this service might fail to run.
allocatelikeyolumes.volumeSource.volumeSource.internal.capacity	Referenced Volume Capacity.	A value is specified for this property automatically. You are not required to specify a value. If you specify a value for the property, this service might fail to run.
allocatelikeyolumes.volumeSource.volumeSource.value	Referenced Volume Information.	Specify values for the referenced volume.
allocatelikeyolumes.volumeSource.volumeSource.definition	Definition of Referenced Volume.	The data structure definition of the [Referenced Volume] property is described in this property. Do not change the property. If you change this property, the service might fail when run.

key Name	display Name	Description
allocatelikevolumes.volumeSetting.volumeSettings.definition	Definition of Volume Settings.	The data structure definition of the [Volume Settings] property is described in this property. Do not change the property .If you change this property, the service might fail when run.
allocatelikevolumes.control.vmwareControl	Control of services with the Create Datastore Plug-in.	This property runs the Create Datastore Plug-in after using the Allocate Like Volumes Plug-in. Enable this property if you want to run the Create Datastore Plug-in after the Allocate Like Volumes Plug-in. In other cases, Disable the property.
createDatastore.DatastoreEnvironmentSettings.allocatelikeControl	Control of the display items for services with the Create Datastore Plug-in in [Datastore Environment Settings].	This property displays items for services with the Create Datastore Plug-in [Datastore Environment Settings]. Enable the property if you want to run the Create Datastore Plug-in after the Allocate Like Volumes Plug-in. In other cases, Disable the property.
createDatastore.control.allocateLikeControl	Control of the display items for services with the Create Datastore Plug-in in [Datastore Environment Settings].	This property displays items for services with the Create Datastore Plug-in [Datastore Environment Settings]. Enable the property if you want to run the Create Datastore Plug-in after the Allocate Like Volumes Plug-in. In other cases, Disable the property.
createDatastore.DatastoreEnvironmentSettings.DatastorePrefix	Datastore Name Prefix.	Specify the prefix of the datastore name.

key Name	display Name	Description
createDatastore.DatastoreEnvironmentSettings.VMFSVersion	VMFS Version.	Specify the VMFS version for the datastore to create.
createDatastore.DatastoreEnvironmentSettings.Blocksize	Block Size.	Specify the VMFS version for the datastore to create.
createDatastore.DatastoreEnvironmentSettings.StorageI/OControl	Storage I/O Control.	Specify whether to enable storage I/O control for the datastore to create.
createDatastore.DatastoreEnvironmentSettings.Latencythreshold	Latency Threshold.	If you enable storage I/O control, specify the latency threshold.
createDatastore.source.datastore	Referenced Datastore.	Specify the referenced datastore for the datastore to create. Set this property only if you want to connect with the Allocate Like Volumes Plug-in.
createDatastore.taskResult.RawData.Datastores	Results of the datastore creation.	Information about the created datastore is stored.
service.errorMessage	Summary message of the task run results.	A summary message of the task run results is stored.

Allocate Volumes service properties

Use the following properties to modify or create values for the Allocate Volumes service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate volumes (edit)

key Name	Explanation	Input/ Output	Type	Range
provisioning.advancedOption.advancedOptions.value	Information of Advanced Option.	Input	File	See the "File type property list" section following this table.
provisioning.volumeSetting.volumeSettings.value	Information of Volume Setting in Edit service.	Input	File	See the "File type property list" section following this table.
provisioning.volumeSetting.volumeSettings.restriction	Information of Volume Setting in Edit service.	Input	File	See the "File type property list" section following this table.
provisioning.resourceCriteria.resourceSelectionCriteria.volumeUsageSpecific.restriction	Information of Criteria in Edit service.	Input	File	See the "File type property list" section following this table.
provisioning.resourceCriteria.resourceSelectionCriteria.volumeUsageSpecific.value	Information of Criteria in Edit service.	Input	File	See the "File type property list" section following this table.

Properties list required to specify in Edit service

- `provisioning.advancedOption.advancedOptions.value`
- `provisioning.volumeSetting.volumeSettings.value`

File type property list**Table 38 provisioning.volumeSetting.volumeSettings.value**

Data nesting information	Explanation	Range
values ¹	Volume Setting information in edit service	-
usage	Characters of Volume Usage	A maximum of 64 characters can be entered.
numberOfVolumes	Number of volumes	1 - 500

Data nesting information		Explanation	Range
	capacity	Volume capacity	<p>Specify the capacity of volumes to allocate.</p> <p>The following storage parameters will be used when the specified capacity is in the range.</p> <p>Refer to the "capacity" row in the "AddVirtualVolume command parameters" table in the <i>Hitachi Command Suite CLI Reference Guide</i>.</p> <p>Allocate Volume: VSP G1000, VSP G1000, VSP F1500 (microcode 80-03-0X-XX/XX or later) : 48000~274877906944KB(=256 TB)</p> <p>VSP G1000, VSP G1000, VSP F1500 (microcode earlier than 80-03-0X-XX/XX) : 48000~64424505600 KB(=60TB)</p> <p>VSP Gx00 models(microcode 83-02-0X-XX/XX or later) : 48000~274877906944KB(=256 TB)</p> <p>VSP Gx00 models (microcode earlier than 83-02-0X-XX/XX): 48000~64424505600 KB (≒60TB)</p> <p>VSP Fx00 models : 48000~274877906944KB(=256 TB)</p>

Data nesting information		Explanation	Range
			<p>VSP : 48000 ~ 64424505600 KB</p> <p>USP V (microcode earlier than 06-03) : 48000 ~ 3221159680 KB</p> <p>USP V (microcode 06-03 or later) : 48000 ~ 4294967296 KB</p> <p>HUS VM : 48000 ~ 64424505600 KB</p> <p>HUS : 32768 ~ 137438953472 KB(=128TB)</p> <p>AMS : 32768 ~ 6442450944 KB</p> <p>Clone (ShadowImage) or Snapshot (Thin Image): VSP G1000, VSP G1000, VSP F1500 (microcode 80-03-0X- XX/XX or later) : 48000 ~ 274877906944KB(=256 TB)</p> <p>Virtual Storage Platform G1000, Virtual Storage Platform G1500, Virtual Storage Platform F1500 (microcode 80-02-2X-XX or later) : 48000 ~ 64424505600 KB(=60TB)</p> <p>Virtual Storage Platform G1000, Virtual Storage Platform G1500, Virtual Storage Platform F1500 (microcode earlier than 80-02-2X-XX) : 48000 ~4294967296 KB(=4TB)</p>

Data nesting information		Explanation	Range
			<p>VSP Gx00 models (microcode 83-02-0X-XX/XX or later) : 48000~ 274877906944KB(=256 TB)</p> <p>VSP Gx00 models (microcode 83-01-2X-XX/XX or later and earlier than 83-02-0X-XX/XX) : 48000~ 64424505600 KB</p> <p>VSP Gx00 models (microcode earlier than 83-01-2X-XX/XX) : 48000~4294967296 KB</p> <p>VSP Fx00 models: 48000~ 274877906944KB(=256 TB)</p> <p>VSP: 48000~ 4294967296 KB</p> <p>USP V(microcode earlier than 06-03) : 48000~2147483648 KB(=2TB)</p> <p>USP V (microcode 06-03 or later) : 48000~ 4294967296 KB</p> <p>HUS VM : 48000 ~ 64424505600 KB</p> <p>HUS : 32768 ~ 137438953472 KB(=128TB)</p> <p>AMS : 32768 ~ 6442450944 KB</p>

Data nesting information		Explanation	Range
			Other combinations : Smaller capacity between above and combined service ex. With Oracle 11g: ~2TB With VMware VMFS-5: ~62TB (when VSP G1000, VSP G1000, VSP F1500)
	storageProfile	Storage Profile name	Storage Profile name that is already defined.
	ldevLabel	Ldev label	A maximum of 64 characters can be entered.
	ldevSetting	ldevSetting	-
	fullAllocation	Full Allocation	Specify "Enable" to guarantee writing to the full range of the allocated volumes. Only storage that supports this feature can be allocated. If "Disable" is specified, writing to the volumes can cause an error, when there is no free space in the pool.
	ldevIdStartsFrom	Starting number of LDEVID	AMS, HUS 100: 0 - 4095 USP V, VSP, VSP G1000, VSP G1000, VSP F1500, HUS VM, VSP Fx00 models, VSP Fx00 models: 00:00:00 - 00:FE:FF
	lunSetting	LUN setting	-
	lunStartsFrom	Starting number of LUN	0 - 07FF ²
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Data nesting information	Explanation	Range
2.	Specified in hexadecimal ex. 07FF The maximum value of LUNs that is specific in Storage that contains pools which are filled with Storage Profile condition.	

Table 39 provisioning.advancedOption.advancedOptions.value

Data nesting information	Explanation	Range
values	Advanced Option information	-
numberOfPaths	Number of paths	1 - 65536 ¹
hostModeSettings ²	Host mode setting	-
arrayType	Display array family (Not required to specify. Reference only)	VSP USP V HUS VM VSP G1000 VSP G1500 VSP F1500 HUS AMS VSP Fx00 models VSP Gx00 models
hostMode ³	Host mode	Characters of Host mode name. Refer to "Table 4-5 Values that can be specified in the hostmode parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> .
storageProfile	Storage Profile name	Storage Profile name that is already defined.
ldevLabel	LDEV label	A maximum of 64 characters can be entered.

Data nesting information		Explanation	Range
	hostModeOptions	Host mode option setting	Characters or numbers that correspond to Host mode options. Refer to following part of Hitachi Command Suite CLI Reference Guide VSP G1000, VSP G1500, VSP F1500, VSP, VSP G200, G400, G600, G800 and USP V: "Table 4-7 Values that can be specified in the hostmodeoption parameter" HUS and AMS : "Table 4-6 Values that can be specified in the hostmode2 parameter" * In Hitachi Command Suite CLI Reference Guide, hostmode2 is expressed in "List of host connection mode 2", this means hostmodeoption of HUS and AMS.
<ol style="list-style-type: none"> 1. If you specify a number more than the number of host ports, a warning message will be shown when the task is run. 2. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item. 3. If you specified "Auto", the default value will be set. The default value is defined from OS of host and target Storage you specified by Device Manager. If you specified a Host mode that does not exist, the behavior is same as the behavior you specified "Auto". 			

Table 40 provisioning.volumeSetting.volumeSettings.restriction

Data nesting information				Explanation	Range
type				Volume Setting restriction values information of user	-
visibility				-	-
readOnly				-	-
itemInstances				-	-
	type			-	-
	properties			-	-
		usage		Volume Usage information (Do not edit.)	-
			type	-	-
			visibility	-	-
			readOnly	-	-
			defaultValue	-	-
		numberOfVolumes		Threshold information of number of volumes	-
			type	-	-
			visibility	-	-
			optionValues	-	-
			method	Value type of threshold of number of volumes	specific/range

Data nesting information				Explanation	Range
			values	Threshold of number of volumes	If the type is "specific", specify the value list that can be specified. If the type is "range", specify the minimum value and maximum value in order.
			defaultValue	Default values of number of volume	If the type is "specific", specify one of the values. If the type is "range", specify a value in the value range.
		capacity		Threshold information of volume capacity	-
			type	-	-
			visibility	-	-
			optionValues	-	-
			method	Value type of threshold value of volume capacity	specific/range

Data nesting information				Explanation	Range
			values	Threshold value of volume capacity	If the type is "specific", specify the value list that can be specified. If the type is "range", specify the minimum value and maximum value in order.
			defaultValue	Default values of number of volume capacity	If the type is "specific", specify one of the values. If the type is "range", specify a value in the value range.
		storageProfile		Storage Profile information (Do not edit.)	-
			type	-	-
			visibility	-	-
			readOnly	-	-
			defaultValue	Default values of Storage Profile	-
		ldevLabel		LDEV label information (Do not edit.)	-
			type	-	-
			visibility	-	-

Data nesting information				Explanation	Range
			defaultValue	Default values of LDEV label	The character which can be used: A-Za-z0-9~!@#\$%^&*()_+ -={}[] ;':<>./` length must be less than 64
		ldevSetting			
			type		
			hidden		
			properties		
			fullAllocation		Full Allocation (Do not edit.)
			type		
			visibility		
			defaultValue ₂		
			ldevIdStartsFrom		Starting number of LDEVID
			type		
			visibility		
			defaultValue ₃		
		lunSetting		LUN information (Do not edit.)	-
			type	-	-
			hidden	-	-
			properties	-	-
			lunStartsFrom	-	-
			type	-	-
			visibility	-	-

Data nesting information					Explanation	Range
				readOnly	-	-
				defaultValue	Start number of LUN	-
<ol style="list-style-type: none"> 1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item. 2. Disable 3. 0 						

Table 41
provisioning.resourceCriteria.resourceSelectionCriteria.volumeUsageSpecific.restriction

Data nesting information					Exp	R n g e	Re m
type					ResourceCriteria user restriction values information		
visibility						-	-
readOnly ¹						-	-
itemInstances						-	-
type						-	-
properties						-	-
usage					VolumeUsage information -		
type						-	
visibility						-	
defaultValue						-	

Data nesting information											Exp	R n g e	Re m
		criteria									Filtering criteria information		
		type										-	
		properties										-	
		groupCriteria									Filtering criteria of group definition		
		type										-	
		properties										-	
			infrastructureGroupCriteria								Filtering criteria of IG	-	
			type									-	
			properties									-	
				condition								-	
				type								-	
				properties								-	
				join								-	
				type								-	
				visibility								-	
				defaultValue								-	
				expressions								-	
				type								-	

Data nesting information											Exp	R n g e	Re m
										itemInstances 1		-	
										type		-	
										pro per ties		-	
										op		-	
										type		-	
										visibilit y		-	
										default Value		Value define d at ValueLi st Comm on for all the resour ces: eq, ne, starts, ends	
										na me		-	
										type		-	
										visibilit y		-	

Data nesting information												Exp	R n g e	Re m
												default Value	Value defined at ValueList IG: name RG: name Pool: poolId, name Port: name	
											value	-		
											type	-		
											visibility	-		
											default Value-	-		
										resourceGroupCriteria	Filtering criteria of RG	-		
										*Same as infrastructureGroupCriteria		-		
										resourceGroupCriteria		-		
										type		-		
										properties		-		

Data nesting information							Exp	Range	Rem
					storagePortCriteria		Filtering criteria of storage port	-	
					condition			-	
					*Same as infrastructureGroupCriteria				
					performanceCondition				
					*Same as infrastructureGroupCriteria				
					dynamicProvisioningPoolCriteria		Filtering criteria of HDP/HD Pool	-	
					*Same as infrastructureGroupCriteria			-	

1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.

Table 42
provisioning.resourceCriteria.resourceSelectionCriteria.volumeUsageSpecific.value

Data nesting information	Explanation	Range
values ¹	ResourceCriteria information in edit service	-

Data nesting information					Explanation	Range
	usage				Characters of Volume Usage	Same as volumeSetting
	criteria				Filtering criteria	-
		group criteria			Filtering criteria of group definition	-
			infrastructure group criteria		Filtering criteria of IG definition	-
			condition		Conditional statement	-
				join	Join	"and" or "or"
				expressions	Identifier	-
					op	Operator Value defined at ValueList Common for all the resources: eq, ne, starts, ends
					name	Name Value defined at ValueList IG: name RG: name Pool: poolId, name Port: name
					value	Value -
		resource criteria			Filtering criteria of RG definition	-
		*Same as infrastructureGroupCriteria			-	-

Data nesting information					Explanation	Range	
		resource criteria				Filtering criteria of storage resources	-
		storagePortCriteria				Filtering criteria of storage port	-
			condition			Filtering criteria of port configuration	-
				join		Join	"and" or "or"
				expressions		Identifier	-
					op	Operator	"eq", "ne", "starts", or "ends"
					name	Name	name"
					value	Value	-
		performanceCondition				Filtering criteria of port performance	-
				join		Join	"and" or "or"
				expressions		Identifier	-
					op	Operator	"lt" or "gt"
					name	Name	"avgXferPerSec" or "avgIoPerSec"
					value	Value	-
		dynamicProvisioningPoolCriteria				HDP/HDT Pool criteria	-
		*Same as infrastructureGroupCriteria				-	-

Data nesting information	Explanation	Range
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.		

Allocate volumes (submit)

Use the following property list values when submitting modified allocated volumes.

keyName	Explanation	Input/Output	Type	Range	Default value
provisioning.hostSetting.targetHosts.value	The target host name to allocate volume.	Input	File	See the "File property list" section following this table.	
provisioning.volumeSetting.volumeSettings.value	Information of volumesetting.	Input	File	See Allocating volumes (edit) (on page 464) .	The value specified in the Edit window.

File type property list

Table 43 provisioning.runtime.parameters.hosts

Data nesting information		Explanation	Range
values		Array of host name	-
	infrastructureGroupName	infrastructureGroupN	-
	deviceManagerName	Device Manager names that host is registered	The name specified in Device Manager connections
	hosts ¹	Array of host name	-
	newHosts	New host addition flag	"true"or"false". If you specify "true", adds new host.
	hosts	Array of host information	-
		name	Host name

Data nesting information		Explanation	Range
	osType	OS type	-
	hostPorts	Array of host port	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Allocate volumes (task details)

Use the following information to show the task details of allocated volumes.

There are two Automation Director-specific properties in task detail.

- Input value of a submitted task.
- Run result details of a task.



Note: 'Input value in submit task' is same as the properties of submit properties.

keyName	Explanation	Input/Output	Type	Range
provisioning.taskResult.lunPathConfigurationInformation	The run result information of task.	Output	File	See the "File type property list" section following this table.
provisioning.taskResult.NumberOfLunPath	The run result information of task.	Output	String	Number of paths that are allocated.
service.errorMessage	The run result information of task.	Output	String	Summary of error message.
provisioning.taskResultRawData.ldevs	The run result information of task.	Output	File	See the "File type property list" section following this table.
provisioning.taskResultRawData.lunPaths	The run result information of task.	Output	File	See the "File type property list" section following this table.

File type property list



Note: *1 : Repeatable items must be repeated and must include all lower layer tags.

Table 44 provisioning.taskResult.lunPathConfigurationInformation

Data nesting information		Explanation	Range
values ¹		Run result.	-
	usage	Volume Usage name.	-
	host	Host name.	-
	hostPort	Host port name.	-
	lun	LUN.	-
	storagePort	Port ID.	-
	portName	Storage port name.	-
	portType	Port type (FC or iSCSI).	-
	volume	LDEV ID.	-
	dpPool	Pool ID.	-
	dpPoolName	Pool Name.	-
	storageSystem	Storage Systems name.	-
	provisionedCapacity	Create volume capacity.	-
	capacity	Volume capacity when you submit.	-
	hostGroup	Host Group name.	-
	deviceManagerTaskName	Task Name of Device Manager.	-
	deviceManagerName	Device Manager that ran the task.	-
	virtualStorageSystemName	Virtual storage system name.	-
	virtualStorageSystemType	Type of virtual storage system.	-
	virtualSerialNumber	Serial number of virtual storage system.	-
	virtualLdevId	Virtual LDEV ID.	-
	resourceGroupName	Resource Group name.	-
	infrastructureGroupName	Infrastructure Group name.	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 45 provisioning.taskResultRawData.ldevs

Data nesting information		Explanation	Range
values ¹		Result of allocated volume	-
	usage	Created DP/DT volume's LDEV ID	-
	deviceId	Created DP/DT volume's LDEV ID	-
	storageSystemType	Display Array Type of the target storage which volume has been allocated.	-
	storageSystemSerialNumber	Serial Number of the target storage which volume has been allocated.	-
	deviceManagerName	Device Manager name which manages the storage system that has the created volume.	-
	displayUnit	Unit name string for displaying volume capacity size.	block/KB/MB/GB/TB
	virtualSerialNumber	Virtual serial Number of the selected virtual storage system.	-
	virtualLdevId	Created virtual DP/DT volume's LDEV ID	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 46 provisioning.taskResultRawData.lunPaths

Data nesting information		Explanation	Range
values ¹			-
	usage	Volume usage	-
	hostName	Host Name	-
	hostPortName	Host port name	-
	hostStorageDomainName	Host Storage Domain name	-
	hostStorageDomainId	Host Storage Domain ID	-

Data nesting information		Explanation	Range
	lun	LUN Number	-
	portWorldWideName	Storage Port WWN	-
	targetIscsiName	iSCSI name	-
	portName	Storage system's port name	-
	portType	Port Type of storage system (FC or iSCSI)	-
	portObjectId	Port Object ID of Storage system	-
	portId	Port ID of storage system	-
	ldevNumber	LDEV number	-
	ldevLabel	LDEV Label	-
	dpPoolId	Pool ID	-
	storageSystemName	Storage System name	-
	storageSystemModel	Model name of Storage system	-
	family	Array Family of Storage system	-
	storageSystemSerialNumber	Serial Number of storage system	-
	capacity	Volume Capacity	-
	unit	Unit of volume capacity for display	-
	provisionedCapacityInBlock	Created volume capacity(in number of Block)	-
	pairVolumeType	Volume's pair type (P or S)	-
	volLdevId	LDEV ID	-
	volLuNumber	LU number	-
	deviceManagerTaskName	Device Manager task name	-
	deviceManagerName	Device Manager name	-
	virtualStorageSystemName	Virtual storage system name	-
	virtualStorageSystemType	Display name of virtual storage system virtual model (Array Type)	-

Data nesting information		Explanation	Range
	virtualSerialNumber	Serial Number of virtual storage system	-
	virtualLdevId	Virtual LDEV ID	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Allocate volumes with Configuration Manager service properties

Use the following properties to modify or create values for the Allocate volumes with Configuration Manager service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate volumes with configuration manager service (edit)

keyName	Type	Description	Range	Default value
ConfigurationManagerConnection	File	Specify the Configuration Manager Connection.	See the "File type property list" section following this table.	-
StorageSystem	File	Specify the Storage System.	See the "File type property list" section following this table.	-
ResourceGroup	File	Specify the Resource Group.	See the "File type property list" section following this table.	-

keyName	Type	Description	Range	Default value
Pool	File	Specify the pool.	See the "File type property list" section following this table.	-
CapacityFormat	String	Specify the volume capacity format as Byte or Block	"Byte" or "Block"	"Byte"
VolumeSettings	File	Specify the parameters required to create new volumes.	See the "File type property list" section following this table.	-
ResourceCriteria	File	Specify the resource criteria.	See the "File type property list" section following this table.	-
PortType	String	Specify the port type as Fibre or iSCSI.	"Fibre" or "iSCSI"	"Fibre"
HostGroupSettings	File	Specify the parameters that are needed in order to create a new Host Group/iSCIS Target.	See the "File type property list" section following this table.	-

File type property list

Table 47 ConfigurationManagerConnection

Data nesting information		Description	Range
values			
	productName	Product name of registering to Web Service Connection	"ConfigurationManager"
	name	Name	-

Data nesting information		Description	Range
	ipAddress	IP address	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status of connection	-
	connectedTime	Connected time	-

Table 48 StorageSystem

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 49 ResourceGroup

Data nesting information		Description	Range
values			
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-

Table 50 Pool

Data nesting information		Description	Range
values			
	poolId	Pool ID	-
	poolName	Pool name	-

Data nesting information		Description	Range
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-
	numOfLdevs	Number of LDEVs	-

Table 51 Volume Settings

Data nesting information		Description	Range
values ¹			
	volumeUsage	Volume usage	A maximum of 64 characters can be entered.
	numberOfVolumes	Number of volumes	1-500
	ldevIdStartsFrom	LDEV ID starts from	0-FFFFFF
	volumeCapacityInMiB ²	Volume capacity	1-
	blockCapacity ³	Volume capacity	96000-
	volumeLabel	Volume label	A maximum of 64 characters can be entered.
	lunStartsFrom	LUN starts from	0-07FF
	virtualLdevIdStartsFrom	Virtual LDEV ID starts from	0-FEFF
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "CapacityFormat" is "Byte", volumeCapacityInMiB can be specified. 3. When "CapacityFormat" is "Block", blockCapacity can be specified. 			

Table 52 ResourceCriteria

Data nesting information			Description	Range
values ¹				
	storagePortCriteria		Storage Port Criteria	-
		expressions	Expressions	-
		name	Name	"Name"
		op	Operation	"Equals", "Not Equals", "Starts With", "Ends With"
		value	Value	-
		join	Join condition of the Expressions	"All", "Any"
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.				

Table 53 HostGroupSettings

Data nesting information	Description	Range	Remarks
values ¹			
hostGroupName	Host Group name	A maximum of 64 characters can be entered.	When "PortType" is "Fibre", hostGroupName can be specified.
iScsiTargetName	iSCSI target name	A maximum of 32 characters can be entered.	When "PortType" is "iSCSI", iScsiTargetName can be specified.
wwnSettings ¹	WWN settings		When "PortType" is "Fibre", wwnSettings can be specified.
wwn	WWN	A maximum of 16 characters is allowed in hexadecimal.	-

Data nesting information	Description	Range	Remarks
wwnNickName	WWN nickname	A maximum of 64 characters can be entered.	-
iScsiSettings ¹	iSCSI settings		When "PortType" is "iSCSI", iScsiSettings can be specified.
iScsiName	iSCSI name	Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-,: - eui format: Specify 20 characters in hexadecimal.	-
iScsiNickName	iSCSI nickname	A maximum of 32 characters can be entered.	-
hostMode	Host Mode	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"	Refer to <i>Values that can be specified in the hostmode parameter</i> in the <i>Hitachi Command Suite CLI Reference Guide</i> .
hostModeOptions	Host Mode options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> .	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Allocate volumes with configuration manager service (submit)

keyName	Type	Description	Range	Default value
ConfigurationManagerConnection	File	Specify the Configuration Manager Connection.	See the "File type property list" section following this table.	-
StorageSystem	File	Specify the Storage System.	See the "File type property list" section following this table.	-
ResourceGroup	File	Specify the Resource Group.	See the "File type property list" section following this table.	-
Pool	File	Specify the pool.	See the "File type property list" section following this table.	-
CapacityFormat	String	Specify the volume capacity format as Byte or Block	"Byte" or "Block"	"Byte"
VolumeSettings	File	Specify the parameters required to create new volumes.	See the "File type property list" section following this table.	-
ResourceCriteria	File	Specify the resource criteria.	See the "File type property list" section following this table.	-
PortType	String	Specify the port type as Fibre or iSCSI.	"Fibre" or "iSCSI"	"Fibre"

keyName	Type	Description	Range	Default value
HostGroupSettings	File	Specify the parameters that are needed in order to create a new Host Group/iSCIS Target.	See the "File type property list" section following this table.	-

File type property list

Table 54 ConfigurationManagerConnection

Data nesting information		Description	Range
values			
	productName	Product name of registering to Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IP address	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status of connection	-
	connectedTime	Connected time	-

Table 55 StorageSystem

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 56 ResourceGroup

Data nesting information		Description	Range
values			
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-

Table 57 Pool

Data nesting information		Description	Range
values			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-
	numOfLdevs	Number of LDEVs	-

Table 58 Volume Settings

Data nesting information		Description	Range
values ¹			
	volumeUsage	Volume usage	A maximum of 64 characters can be entered.
	numberOfVolumes	Number of volumes	1-500
	ldevIdStartsFrom	LDEV ID starts from	0-FFFFFF
	volumeCapacityInMiB ²	Volume capacity	1-
	blockCapacity ³	Volume capacity	96000-

Data nesting information		Description	Range
	volumeLabel	Volume label	A maximum of 64 characters can be entered.
	lunStartsFrom	LUN starts from	0-07FF
	virtualLdevIdStartsFrom	Virtual LDEV ID starts from	0-FE FF
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "CapacityFormat" is "Byte", volumeCapacityInMiB can be specified. 3. When "CapacityFormat" is "Block", blockCapacity can be specified. 			

Table 59 ResourceCriteria

Data nesting information		Description	Range
values ¹			
	storagePortCriteria	Storage Port Criteria	-
	expressions	Expressions	-
	name	Name	"Name"
	op	Operation	"Equals", "Not Equals", "Starts With", "Ends With"
	value	Value	-
	join	Join condition of the Expressions	"All", "Any"
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 			

Table 60 HostGroupSettings

Data nesting information	Description	Range	Remarks
values ¹			

Data nesting information	Description	Range	Remarks
hostGroupName	Host Group name	A maximum of 64 characters can be entered.	When "PortType" is "Fibre", hostGroupName can be specified.
iScsiTargetName	iSCSI target name	A maximum of 32 characters can be entered.	When "PortType" is "iSCSI", iScsiTargetName can be specified.
wwnSettings ¹	WWN settings		When "PortType" is "Fibre", wwnSettings can be specified.
wwn	WWN	A maximum of 16 characters is allowed in hexadecimal.	-
wwnNickname	WWN nickname	A maximum of 64 characters can be entered.	-
iScsiSettings ¹	iSCSI settings		When "PortType" is "iSCSI", iScsiSettings can be specified.
iScsiName	iSCSI name	Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-,: - eui format: Specify 20 characters in hexadecimal.	-
iScsiNickName	iSCSI nickname	A maximum of 32 characters can be entered.	-
hostMode	Host Mode	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"	Refer to <i>Values that can be specified in the hostmode parameter</i> in the <i>Hitachi Command Suite CLI Reference Guide</i> .

Data nesting information	Description	Range	Remarks
hostModeOptions	Host Mode options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> .	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Allocate volumes with configuration manager service (task details)

keyName	Type	Description	Range
LUNPathConfigurationInformation	File	Stores the allocated LUN path information from the volume allocation results.	See the "File type property list" section following this table.

File type property list

Table 61 LUNPathConfigurationInformation

Data nesting information	Description	Range
value ¹		
storageDeviceId	Storage device ID	-
volumeUsage	Volume Usage	-
hostPort	WWN/iSCSI name	-
storagePort	Storage port	-
lun	LUN	-
portType	Port type	-
capacity	Capacity	-
provisionedCapacity	Provisioned capacity	-
ldevId	LDEV ID	-

Data nesting information		Description	Range
	hostGroupNameOrIscsiTarget	Host Group name/iSCSI target name	-
	hostGroupNumber	Host Group number	-
	hostMode	Host Mode	-
	hostModeOptions	Host Mode options	-
	model	Model	-
	serialNumber	Serial number	-
	ldevLabel	LDEV label	-
	virtualStorageMachineResourceGroupName	Resource Group in Virtual Storage System	-
	virtualModel	Model in Virtual Storage System	-
	virtualSerialNumber	Serial number in Virtual Storage System	-
	resourceGroupName	Virtual Storage Machine Resource Group name	-
	virtualLdevId	Virtual LDEV ID	-
	configurationManager	Configuration Manager	-
	poolId	Pool ID	-
	poolName	Pool name	-
	asymmetricAccessStatus	ALUA settings	-
1. Repeatable Repeatable items must be repeated and must include all lower layer tags.			

Allocate volumes with Smart Provisioning service properties

Use the following properties to modify or create values for the Allocate volumes with Smart Provisioning service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate Volumes with Smart Provisioning (edit)

KeyName	Type	Description	Range	Default Value
ConfigurationManagerConnection	file	Specify the Configuration Manager Connection.	See the following File type property list	-
StorageSelection	string	Specify whether to select storage system at volume allocation. If you specify 'Automatic', then a storage system will be selected automatically.	Automatic, Manual	Automatic
StorageSystem	file	Specify the Storage System.	See the following File type property list	-
ResourceGroupSelection	string	Specify whether to select resource group at volume allocation. If you specify 'Meta resource', then the meta resource group will be selected.	Meta resource, Manual	Meta resource
ResourceGroup	file	Specify the Resource Group.	See the following File type property list	-
PoolSelection	string	Specify whether to select pool at volume allocation. If you specify 'Automatic', then a pool will be selected automatically.	Automatic, Manual	Automatic

KeyName	Type	Description	Range	Default Value
Pool	file	Specify the pool.	See the following File type property list	-
CapacityFormat	string	Select the volume capacity format.	Byte, Block	Byte
VolumeSettings	file	Specify the parameters for creating new volumes.	See the following File type property list	-
ResourceCriteria	file	Specify the resource criteria.	See the following File type property list	-
PortType	string	Specify the port type as Fibre or iSCSI.	Fibre, iSCSI	Fibre
HostMode	file	Specify the parameters for creating a new host group.	See the following File type property list	-
NumberOfHosts	string		Single, Multiple	Single
MultipleHostsPerStoragePort	boolean		True, False	true
MultipleHostsPerHostGroup	boolean		True, False	true
HostSettingsForSingleHost	file	Specify information about the hosts where the volumes will be allocated.	See the following File type property list	-
HostSettingsForMultiHost	file	Specify information about the hosts where the volumes will be allocated.	See the following File type property list	-
FabricSettingEnabled	boolean	Specifying True enables fabric information collection functionality.	True, False	false

KeyName	Type	Description	Range	Default Value
FabricConnectionType	string	This property defines connection type information. Do not change this property. If you change this property, the service might fail.	BNA, DCNM	BNA
FabricConnections	file	Specify the connection defined in the Web Service Connections on the Administration Tab. If this value is omitted, the system uses all connections that are defined for the product name listed in the Web Service Connections.	See the following File type property list	-
FabricResourcegroups	string	Specify the switch management server resource group. Separate multiple values by commas.	-	All
TargetFabrics	string	Specify the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	-	

KeyName	Type	Description	Range	Default Value
UsingExistingZone	boolean	Specifies whether to select a predefined zone or any connectable path. If you specify True, the system selects paths within the range of the existing Zone setting. If you specify False, the system selects connectable paths regardless of the existing Zone setting.	-	true
FabricHopsRestriction	boolean	Determines whether the service will fail if there is no path that matches the specified collection range.	-	false
FabricHopsRange	integer	When using the Host Restriction option, specify the collection range by the number of hops.	-	0
ZoneSettingEnabled	boolean	Specify True to enable the modify zone settings functionality.	-	false

KeyName	Type	Description	Range	Default Value
UseExistingZoneAliases	boolean	Specify True to use predefined Zone Aliases regardless of the naming conventions the user specifies. If you specify False, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions.	-	false
UpdateActiveZoneConfiguration	boolean	Specify True to add a Zone to the active Zone Configuration.	-	true
ZoneConfigurationNameToUpdate	string	To add a zone to a Zone Configuration other than the active configuration, specify the name of the Zone Configuration in which to add the zone.	-	-
NamingScriptZone	file	Specify the naming convention script that determines the Zone name for the path.	-	-
NamingScriptHostZoneAlias	file	Specify the naming convention script that determines the Zone Alias name for the host port.	-	-
NamingScriptStorageZoneAlias	file	Specify the zone information.	-	-

File type property list

Table 62 ConfigurationManagerConnection

Data nesting information		Description	Range
value			
	productName	Category	-
	name	Name	-
	ipAddress	IP Address/Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-
	connectedTime	Connected Time	-

Table 63 StorageSystem

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 64 ResourceGroup

Data nesting information		Description	Range
value			
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-
	virtualStorageMachine	Virtual Storage System	-

Table 65 Pool

Data nesting information		Description	Range
value			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool type	-
	usedCapacityRate	Used capacity rate (%)	-
	availableVolumeCapacity	Available capacity	-
	totalPoolCapacity	Total capacity	-
	numOfLdevs	Number of volumes	-

Table 66 VolumeSettings

Data nesting information		Description	Range
value ¹			
	volumeUsage	Volume Usage	1-64 characters. ^[A-Za-z0-9 ~!@#\\$\%\ \^&()_+ =~\{\}\ \[\]'\. `]*\$
	numberOfVolumes	Number of Volumes	1-200
	volumeCapacityInMiB	Volume Capacity	47-268435456
	blockCapacity	Volume Capacity	96000-549755813888
	volumeLabel	Volume Label	max 64 characters. ^[A-Za-z0-9\.:@_][A-Za-z0-9\.\.:@_]*\$
	ldevSetting	LDEV Setting	-
	ldevIdStartsFrom	LDEV ID Starts From	0-16777215
	virtualLdevIdStartsFrom	Virtual LDEV ID Starts From	0-65279
	lunSetting	LUN Setting	-
	lunStartsFrom	LUN Starts From	0-2047

Data nesting information	Description	Range
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Table 67 ResourceCriteria

Data nesting information	Description	Range
value		
volumeUsage	Volume Usage	-
storagePortCriteria	Storage Port	-
expressions	Expressions	-
items	Expression	-
name	Attribute	["Name"]
op	Operator	["Equals", "Not Equals", "Starts With", "Ends With"]
value	Value	-

Table 68 HostMode

Data nesting information	Description	Range
value ¹		
hostMode	Host mode	["HP-UX","SOLARIS","AIX","LINUX/IRIX","TRU64","OVMS","NETWARE","VMWARE_EX","WIN_EX"]
hostModeOption ¹	Host mode options	[2, 6, 7, 12, 13, 14, 15, 22, 23, 25, 33, 39, 40, 41, 42, 43, 48, 49, 50, 51, 52, 54, 57, 60, 61, 63, 65, 67, 68, 69, 71, 72, 73, 78, 80, 81, 82, 83, 88, 96, 97, 100, 102, 105]

Data nesting information	Description	Range
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Table 69 HostSettingsForSingleHost / HostSettingsForMultiHost

Data nesting information	Description	Range
value ¹		
hostName	Host Name	1-64 characters. ^[A-Za-z0-9\\.:@_][A-Za-z0-9\\-\\.:@_]*\$
wwnSettings	WWN Settings	-
items ¹	WWN Setting	-
wwn	WWN	16 characters. ^[0-9A-Fa-f]*\$
wwnNickname	WWN Nickname	max 64 characters. ^[A-Za-z0-9\\.:@_][A-Za-z0-9\\-\\.:@_]*\$
iScsiSettings	iSCSI Settings	-
items	iSCSI Setting	-
iScsiName	iSCSI Name	-
iScsiNickname	iSCSI Nickname	max 32 characters. ^[A-Za-z0-9\\.:@_][A-Za-z0-9\\-\\.:@_]*\$
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Table 70 FabricConnections

Data nesting information	Description	Range
value		
productName	Category	-
name	Name	-
ipAddress	IP Address/Host Name	-

Data nesting information		Description	Range
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-
	connectedTime	Connected Time	-

Table 71 ScriptForHostGroupNaming

Specifications of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	arguments[0]: The object with the following properties is passed as an argument. <ul style="list-style-type: none"> ▪ mold: The ID of the host (Managed Object ID in vCenter) ▪ name: The name of the host. ▪ clusterName: The name of the cluster to which the host belongs. ▪ clusterMold: The ID of the cluster to which the host belongs. (Managed Object ID in vCenter) ▪ ipAddresses: The IP addresses for management of the host. ▪ wwns: The WWNs of the host (: separated hex value)
return	Script must return the string that satisfies the following conditions. <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and “_” 2. The first character is alphabetic 3. Host Group Name is up to 64 characters
example	<pre>function(host) { /** * Following attributes are available. * * - host.moId: string * The ID of the host (Managed Object ID in vCenter) * </pre>

Specifications of the script	Description
	<pre> * - host.name: string * The name of the host. * * - host.clusterName: string * The name of the cluster to which the host belongs. * * - host.clusterMoId: string * The ID of the cluster to which the host belongs. * (Managed Object ID in vCenter) * * - host.ipAddresses: string * The IP addresses for management of the host. * * - host.wwns: [string] * The WWNs of the host (: separated hex value) * */ var hostGroupName = host.name; if (!hostGroupName) { hostGroupName = "HostGroupForDataStore"; } return hostGroupName; } </pre>

Table 72 ScriptForZoneNaming / ScriptForHostZoneAliasNaming / ScriptForStorageZoneAliasing

Specifications of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	arguments[0]: The object with the following properties is passed as an argument. <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA.

Specifications of the script	Description
	<ul style="list-style-type: none"> ▪ storageSystemFamily: Display model name of the physical storage system ▪ storageSystemName: Name of physical storage system on Configuration Manager ▪ storageSystemSerialNumber: Serial number of physical storage system ▪ storagePortName: Display port name of the storage system ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-") ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-") ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-") ▪ serviceProperties: List of the service properties passed to the plug-in
return	<p>Script must return the string that satisfies the following conditions.</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters 4. Zone alias is up to 64 characters 5. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+_", "QOSMn+_", "QOSLn_" is not allowed (case ignored. "n" is number.)
example	<pre>(function(args) { var name; if(! args.virtualSerialNumber args.virtualSerialNumber == "-"){ name = args.hostName + "_" + args.storageSystemName + "_" + args.storagePortName; }else{ name = args.hostName + "_" + args.virtualStorageSystemName + "_" + args.storagePortName; } if (!(name === null typeof(name) == "string" name instanceof String)) { throw new Error("Zone name must be a string: "+ name); } })</pre>

Specifications of the script	Description
	<pre> name = name.replace(/^[A-Za-z0-9_]/g, '_'); if(name.length > 60){ throw new Error("Zone name must be within 60 characters: "+ name); } if (/^[A-Z]/i.test(name) == false) { throw new Error("Zone name must start with a alphabet: "+ name); } if (/^LSAN_/i.test(name) /^TI_/i.test(name) / ^QOS[HML][0-9]+_/i.test(name)) { throw new Error("Zone name has the prefix LSAN_, TI_ or QOSxx_ cannot be for normal zone: "+name); } return name; }) </pre>

Allocate Volumes with Smart Provisioning (submit)

KeyName	Type	Description	Range	Default Value
ConfigurationManagerConnection	file	Specify the Configuration Manager Connection.	See the following File type property list	-
StorageSelection	string	Specify whether to select storage system at volume allocation. If you specify 'Automatic', then a storage system will be selected automatically.	Automatic, Manual	Automatic
StorageSystem	file	Specify the Storage System.	See the following File type property list	-

KeyName	Type	Description	Range	Default Value
ResourceGroupSelection	string	Specify whether to select resource group at volume allocation. If you specify 'Meta resource', then the meta resource group will be selected.	Meta resource, Manual	Meta resource
ResourceGroup	file	Specify the Resource Group.	See the following File type property list	-
PoolSelection	string	Specify whether to select pool at volume allocation. If you specify 'Automatic', then a pool will be selected automatically.	Automatic, Manual	Automatic
Pool	file	Specify the pool.	See the following File type property list	-
CapacityFormat	string	Select the volume capacity format.	Byte, Block	Byte
VolumeSettings	file	Specify the parameters for creating new volumes.	See the following File type property list	-
ResourceCriteria	file	Specify the resource criteria.	See the following File type property list	-
PortType	string	Specify the port type as Fibre or iSCSI.	Fibre, iSCSI	Fibre
HostMode	file	Specify the parameters for creating a new host group.	See the following File type property list	-

KeyName	Type	Description	Range	Default Value
NumberOfHosts	string		Single, Multiple	Single
MultipleHostsPerStoragePort	boolean		True, False	true
MultipleHostsPerHostGroup	boolean		True, False	true
HostSettingsForSingleHost	file	Specify information about the hosts where the volumes will be allocated.	See the following File type property list	-
HostSettingsForMultiHost	file	Specify information about the hosts where the volumes will be allocated.	See the following File type property list	-
FabricSettingEnabled	boolean	Specifying True enables fabric information collection functionality.	True, False	false
FabricConnectionType	string	This property defines connection type information. Do not change this property. If you change this property, the service might fail.	BNA, DCNM	BNA
FabricConnections	file	Specify the connection defined in the Web Service Connections on the Administration Tab. If this value is omitted, the system uses all connections that are defined for the product name listed in the Web Service Connections.	See the following File type property list	-

KeyName	Type	Description	Range	Default Value
FabricResourcegroups	string	Specify the switch management server resource group. Separate multiple values by commas.	-	All
TargetFabrics	string	Specify the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	-	
UsingExistingZone	boolean	Specifies whether to select a predefined zone or any connectable path. If you specify True, the system selects paths within the range of the existing Zone setting. If you specify False, the system selects connectable paths regardless of the existing Zone setting.	-	true
FabricHopsRestriction	boolean	Determines whether the service will fail if there is no path that matches the specified collection range.	-	false
FabricHopsRange	integer	When using the Host Restriction option, specify the collection range by the number of hops.	-	0

KeyName	Type	Description	Range	Default Value
ZoneSettingEnabled	boolean	Specify True to enable the modify zone settings functionality.	-	false
UseExistingZoneAliases	boolean	Specify True to use predefined Zone Aliases regardless of the naming conventions the user specifies. If you specify False, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions.	-	false
UpdateActiveZoneConfiguration	boolean	Specify True to add a Zone to the active Zone Configuration.	-	true
ZoneConfigurationNameToUpdate	string	To add a zone to a Zone Configuration other than the active configuration, specify the name of the Zone Configuration in which to add the zone.	-	-
NamingScriptZone	file	Specify the naming convention script that determines the Zone name for the path.	-	-

KeyName	Type	Description	Range	Default Value
NamingScriptHostZoneAlias	file	Specify the naming convention script that determines the Zone Alias name for the host port.	-	-
NamingScriptStorageZoneAlias	file	Specify the zone information.	-	-

File type property list

Table 73 ConfigurationManagerConnection

Data nesting information	Description	Range
value		
productName	Category	-
name	Name	-
ipAddress	IP Address/Host Name	-
port	Port	-
protocol	Protocol	-
userID	User ID	-
status	Status	-
connectedTime	Connected Time	-

Table 74 StorageSystem

Data nesting information	Description	Range
value		
storageDeviceId	Storage Device ID	-
model	Model	-
serialNumber	Serial Number	-
svplp	SVP IP Address	-

Table 75 ResourceGroup

Data nesting information		Description	Range
value			
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-
	virtualStorageMachine	Virtual Storage System	-

Table 76 Pool

Data nesting information		Description	Range
value			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool type	-
	usedCapacityRate	Used capacity rate (%)	-
	availableVolumeCapacity	Available capacity	-
	totalPoolCapacity	Total capacity	-
	numOfLdevs	Number of volumes	-

Table 77 VolumeSettings

Data nesting information		Description	Range
value ¹			
	volumeUsage	Volume Usage	1-64 characters. ^[A-Za-z0-9 ~!@#\\\$%\\ \\^&()_\\ +\\ =\\{\\}\\ \\ \\]'\\. `]*\$
	numberOfVolumes	Number of Volumes	1-200
	volumeCapacityInMiB	Volume Capacity	47-268435456

Data nesting information		Description	Range
	blockCapacity	Volume Capacity	96000-549755813888
	volumeLabel	Volume Label	max 64 characters. ^[A-Za-z0-9\\.:@_][A-Za-z0-9\\.:@_]*\$
	ldevSetting	LDEV Setting	-
	ldevIdStartsFrom	LDEV ID Starts From	0-16777215
	virtualLdevIdStartsFrom	Virtual LDEV ID Starts From	0-65279
	lunSetting	LUN Setting	-
	lunStartsFrom	LUN Starts From	0-2047
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 78 ResourceCriteria

Data nesting information		Description	Range
value			
	volumeUsage	Volume Usage	-
	storagePortCriteria	Storage Port	-
	expressions	Expressions	-
	items	Expression	-
	name	Attribute	["Name"]
	op	Operator	["Equals", "Not Equals", "Starts With", "Ends With"]
	value	Value	-

Table 79 HostMode

Data nesting information		Description	Range
value ¹			

Data nesting information		Description	Range
	hostMode	Host mode	["HP-UX","SOLARIS","AIX","LINUX/IRIX","TRU64","OVMS","NETWARE","VMWARE_EX","WIN_EX"]
	hostModeOption ¹	Host mode options	[2, 6, 7, 12, 13, 14, 15, 22, 23, 25, 33, 39, 40, 41, 42, 43, 48, 49, 50, 51, 52, 54, 57, 60, 61, 63, 65, 67, 68, 69, 71, 72, 73, 78, 80, 81, 82, 83, 88, 96, 97, 100, 102, 105]
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Table 80 HostSettingsForSingleHost / HostSettingsForMultiHost

Data nesting information		Description	Range
value ¹			
	hostName	Host Name	1-64 characters. ^[A-Za-z0-9\.\:@_][A-Za-z0-9\.\:@_]*\$
	wwnSettings	WWN Settings	-
	items ¹	WWN Setting	-
	wwn	WWN	16 characters. ^[0-9A-Fa-f]*\$
	wwnNickname	WWN Nickname	max 64 characters. ^[A-Za-z0-9\.\:@_][A-Za-z0-9\.\:@_]*\$
	iScsiSettings	iSCSI Settings	-
	items	iSCSI Setting	-
	iScsiName	iSCSI Name	-
	iScsiNickname	iSCSI Nickname	max 32 characters. ^[A-Za-z0-9\.\:@_][A-Za-z0-9\.\:@_]*\$

Data nesting information	Description	Range
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Table 81 FabricConnections

Data nesting information	Description	Range
value		
productName	Category	-
name	Name	-
ipAddress	IP Address/Host Name	-
port	Port	-
protocol	Protocol	-
userID	User ID	-
status	Status	-
connectedTime	Connected Time	-

Table 82 ScriptForHostGroupNaming

Specifications of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	arguments[0]: The object with the following properties is passed as an argument. <ul style="list-style-type: none"> ▪ mold: The ID of the host (Managed Object ID in vCenter) ▪ name: The name of the host. ▪ clusterName: The name of the cluster to which the host belongs. ▪ clusterMold: The ID of the cluster to which the host belongs. (Managed Object ID in vCenter) ▪ ipAddresses: The IP addresses for management of the host. ▪ wwns: The WWNs of the host (: separated hex value)

Specifications of the script	Description
return	<p>Script must return the string that satisfies the following conditions.</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and “_” 2. The first character is alphabetic 3. Host Group Name is up to 64 characters
example	<pre>function(host) { /** * Following attributes are available. * * - host.moId: string * The ID of the host (Managed Object ID in vCenter) * * - host.name: string * The name of the host. * * - host.clusterName: string * The name of the cluster to which the host belongs. * * - host.clusterMoId: string * The ID of the cluster to which the host belongs. * (Managed Object ID in vCenter) * * - host.ipAddresses: string * The IP addresses for management of the host. * * - host.wwns: [string] * The WWNs of the host (: separated hex value) */ var hostGroupName = host.name; if (!hostGroupName) { hostGroupName = "HostGroupForDataStore"; } return hostGroupName; }</pre>

Table 83 ScriptForZoneNaming / ScriptForHostZoneAliasNaming / ScriptForStorageZoneAliasing

Specifications of the script	Description
script	<p>Function that is written in the syntax of ECMAScript 5.</p> <p>The following conditions of arguments and return must be satisfied.</p>
arguments	<p>arguments[0]: The object with the following properties is passed as an argument.</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage system ▪ storageSystemName: Name of physical storage system on Configuration Manager ▪ storageSystemSerialNumber: Serial number of physical storage system ▪ storagePortName: Display port name of the storage system ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-") ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-") ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-") ▪ serviceProperties: List of the service properties passed to the plug-in
return	<p>Script must return the string that satisfies the following conditions.</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters 4. Zone alias is up to 64 characters 5. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+_ ", "QOSMn+_ ", "QOSLn_" is not allowed (case ignored. "n" is number.)

Specifications of the script	Description
example	<pre>(function(args) { var name; if(! args.virtualSerialNumber args.virtualSerialNumber == "-"){ name = args.hostName + "_" + args.storageSystemName + "_" + args.storagePortName; }else{ name = args.hostName + "_" + args.virtualStorageSystemName + "_" + args.storagePortName; } if (!(name === null typeof(name) == "string" name instanceof String)) { throw new Error("Zone name must be a string: "+ name); } name = name.replace(/^[A-Za-z0-9_]/g, '_'); if(name.length > 60){ throw new Error("Zone name must be within 60 characters: "+ name); } if (/^[A-Z]/i.test(name) == false) { throw new Error("Zone name must start with a alphabet: "+ name); } if (/^LSAN_/i.test(name) /^TI_/i.test(name) / ^QOS[HML][0-9]+_/i.test(name)) { throw new Error("Zone name has the prefix LSAN_, TI_ or QOSxx_ cannot be for normal zone: "+name); } return name; })</pre>

Allocate Volumes with Smart Provisioning (task details)

KeyName	Type	Description	Range
LUNPathConfigurationInformation	file	Stores the allocated LUN path information from the volume allocation results.	See the following File type property list

KeyName	Type	Description	Range
provisioning.taskResult.createdZoneConfigurations	file	Stores the newly created zone configuration.	See the following File type property list
provisioning.taskResult.createdZones	file	Stores the newly created zone information.	See the following File type property list
provisioning.taskResult.createdZoneAliases	file	Stores the newly created zone aliases.	See the following File type property list
provisioning.taskResult.updatedZoneConfigurations	file	Stores the updated zone configuration.	See the following File type property list
provisioning.taskResult.updatedZones	file	Stores the updated zone information.	See the following File type property list
provisioning.taskResult.updatedZoneAliases	file	Stores the updated zone aliases.	See the following File type property list

File type property list

Table 84 LUNPathConfigurationInformation

Data nesting information	Description	Range
value ¹		
hostName	Host Name	-
hostPortName	Host Port WWN	-
portWorldWideName	Storage Port WWN	-
storageDeviceId	Storage Device ID	-
portName	Storage Port Name	-
lun	LUN	-
portType	Port Type	-
capacity	Capacity	-
ldevId	LDEV ID	-
hostGroupNameOrIscsiTarget	Host Group Name	-

Data nesting information		Description	Range
	hostGroupNumber	Host Group Number	-
	hostMode	Host Mode	-
	hostModeOptions	Host Mode Options	-
	storageSystemModel	Storage System Model	-
	storageSystemSerialNumber	Storage System Serial No.	-
	ldevLabel	LDEV Label	-
	virtualStorageMachineResourceGroupName	Resource Group Name	-
	virtualLdevId	Virtual LDEV ID	-
	poolId	Pool ID	-
	asymmetricAccessStatus	Asymmetric Access State	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 85 provisioning.taskResult.createdZoneConfigurations

Data nesting information		Description	Range
value ¹			
	name	Name	-
	zoneNames	Zone names	-
	bnaname	BNA name	-
	fabricName	Fabric name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 86 provisioning.taskResult.createdZones

Data nesting information		Description	Range
value ¹			
	name	Name	-
	displayName	Type	-

Data nesting information		Description	Range
	aliasNames	Alias names	-
	memberNames	Member names	-
	bnaname	BNA name	-
	fabricName	Fabric name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 87 provisioning.taskResult.createdZoneAliases

Data nesting information		Description	Range
value ¹			
	name	Name	-
	memberNames	Member names	-
	bnaname	BNA name	-
	fabricName	Fabric name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 88 provisioning.taskResult.updatedZoneConfigurations

Data nesting information		Description	Range
value ¹			
	name	Name	-
	zoneNames	Zone names	-
	bnaname	BNA name	-
	fabricName	Fabric name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 89 provisioning.taskResult.updatedZones

Data nesting information		Description	Range
value ¹			
	name	Name	-
	displayName	Type	-
	aliasNames	Alias names	-
	memberNames	Member names	-
	bnaname	BNA name	-
	fabricName	Fabric name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 90 provisioning.taskResult.updatedZoneAliases

Data nesting information		Description	Range
value ¹			
	name	Name	-
	memberNames	Member names	-
	bnaname	BNA name	-
	fabricName	Fabric name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Allocate volumes with Clone/Snapshot service properties

Use the following properties to modify or create values for the Allocate volumes with clone/snapshot service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate volumes with clone/snapshot service (edit)

keyName	Type	Description	Range	Default value
ConfigurationManagerConnection	File	Specify the Configuration Manager Connection.	See the "File type property list" section following this table.	-
StorageSystem	File	Specify the Storage System.	See the "File type property list" section following this table.	-
ResourceGroup	File	Specify the Resource Group.	See the "File type property list" section following this table.	-
ExistingOrCreateNewVolume	String	Specify whether to use existing volumes or create new ones.	"New Volumes" or "Existing Volumes"	"New Volumes"
Pool	File	Specify the pool.	See the "File type property list" section following this table.	-
CapacityFormat	String	Specify the volume capacity format as Byte or Block	"Byte" or "Block"	"Byte"
VolumeSettings	File	Specify the parameters required to create new volumes.	See the "File type property list" section following this table.	-

keyName	Type	Description	Range	Default value
VolumeFilter	File	Specify conditions for filtering the candidate volumes. Not all candidates are displayed when there are many candidate volumes. Specify the conditions to narrow down the volume list.	See the "File type property list" section following this table.	-
VolumeFilterJoinType	String	Specify the Source Volume Filter join type.	"and" or "or"	"and"
Volumes	File		See the "File type property list" section following this table.	-
ResourceCriteria	File	Specify the resource criteria.	See the "File type property list" section following this table.	-
PortType	String	Specify the port type as Fibre or iSCSI.	"Fibre" or "iSCSI"	"Fibre"
HostGroupSettings	File	Specify the parameters that are needed in order to create a new Host Group/iSCSI Target.	See the "File type property list" section following this table.	-
provisioning.fabricSetting.enabled	boolean	Specifying True enables fabric information collection functionality.	-	-

keyName	Type	Description	Range	Default value
provisioning.fabricSetting.connection.names	string	Specify the connection name defined in the General Connections on the Administration Tab. Separate multiple values by commas. If this value is omitted, the system uses all connections that are defined for the product name listed in the General Connections.	-	-
provisioning.fabricSetting.resourcegroups	string	Specify the switch management server resource group. Separate multiple values by commas.	-	-
provisioning.fabricSetting.fabrics	string	Specify the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	-	-

keyName	Type	Description	Range	Default value
provisioning.fabricSetting.usingExistingZone	boolean	Specifies whether to select a predefined zone or any connectable path. If you specify True, the system selects paths within the range of the existing Zone setting. If you specify False, the system selects connectable paths regardless of the existing Zone setting.	-	-
provisioning.fabricSetting.hops.restriction	boolean	Determines whether the service will fail if there is no path that matches the specified collection range.	-	-
provisioning.fabricSetting.hops.range	integer	When using the Host Restriction option, specify the collection range by the number of hops.	-	0 only
provisioning.zoneSetting.enabled	boolean	Specifying True enables modify zone settings functionality.	-	-

keyName	Type	Description	Range	Default value
provisioning.zoneSetting.useExistingZoneAliases	boolean	Specify True to use predefined Zone Aliases regardless of the naming conventions the user specifies. If you specify False, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions.	-	-
provisioning.zoneSetting.updateActiveZoneConfiguration	boolean	Specify "true" if you want to add a Zone to the active Zone Configuration.	-	-
provisioning.zoneSetting.zoneConfigurationName	string	Specify the name of Zone Configuration to be added if you want to add Zone to other than the active Zone Configuration.	-	-

keyName	Type	Description	Range	Default value
provisioning.zoneSetting.namingScript.zone	File	Specify the script of the naming convention which determines the Zone name to the path.	See the "File type property list" section following this table.	-
provisioning.zoneSetting.namingScript.hostZoneAlias	File	Specify the script of the naming convention which determines the Zone name to the host port.	See the "File type property list" section following this table.	-
provisioning.zoneSetting.namingScript.storageZoneAlias	File	Specify the script of the naming convention which determines the Zone name to the storage port.	See the "File type property list" section following this table.	-
CopyType	string	Specify the copy type as Clone or Snapshot.	"Clone" or "Snapshot"	"Clone"

keyName	Type	Description	Range	Default value
NumberOfGenerations	integer	Specify the number of secondary volumes to be created for the primary volume. The number of secondary volumes becomes the number of generations. Also, a copy group is created for each generation.	1 - 3	1
PrefixOfCopyGroupName	string	Specify the prefix of the copy group name to be assigned when creating the copy group. The copy group name is created by adding the prefix to the serial number of the generation.	The length should be less than 10. And the string should be consisted from only following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,',';','-','!',':','@','_'	"Backups"
CTGOption	boolean	Specifies whether to set the CTG option at pair creation. If you specify 'true', a copy pair is created by using the CTG option.	true = copy pair is created by using CTG option false = copy pair is created by not using CTG option	false

keyName	Type	Description	Range	Default value
CreateCopyPair ¹	boolean	Specifies whether to create S-Vols. If you specify 'false', a copy pair for Snapshot is created without S-Vols.	true = copy pair is created with S-Vols. false = copy pair is created without S-Vols.	true
SecondaryVolumeType	String	Specify the volume type as DP-VOL or V-VOL	"DP-VOL" or "V-VOL"	DP-VOL
SecondaryPool	File	Specify the pool for S-Vols.	See the "File type property list" section following this table.	-
SecondaryPoolForSnapPool	File	Specify the pool for S-Vols.	See the "File type property list" section following this table.	-
AverageDifferentialDataSize ²	integer	Specify the average differential data size per collection (%).	1 - 100	20
SecondaryVolumeSettings	File	Specify the parameters required to create new volumes for S-Vols.	See the "File type property list" section following this table.	-
SecondaryVolumeSettingsForExistingPVol	File	Specify the parameters required to create new volumes for S-Vols.	See the "File type property list" section following this table.	-

keyName	Type	Description	Range	Default value
SecondaryResourceCriteria	File	Specify the resource criteria for S-Vols..	See the "File type property list" section following this table.	-
SecondaryResourceCriteriaForExistingPVol	File	Specify the resource criteria for S-Vols.	See the "File type property list" section following this table.	-
SecondaryPortType	string	Specify the port type as Fibre or iSCSI for S-Vols.	"Fibre" or "iSCSI"	"Fibre"
SecondaryHostGroupSettings	File	Specify the parameters required to create a new Host Group/ iSCSI Target or specify to use an existing Host Group/iSCSI Target for S-Vols.	See the "File type property list" section following this table.	-
provisioning.fabricSetting.enabled	boolean	Specify True to enable fabric information collection.	-	-

keyName	Type	Description	Range	Default value
provisioning.fabricSetting.connection.names	string	Specify the connection name defined in the General Connections on the Administration Tab. Separate multiple values by commas. If this value is omitted, the system uses all connections that are defined for the product name listed in the General Connections.	-	-
provisioning.fabricSetting.resourcegroups	string	Specify the switch management server resource group. Separate multiple values by commas.	-	-
provisioning.fabricSetting.fabrics	string	Specify the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	-	-

keyName	Type	Description	Range	Default value
provisioning.fabricSetting. .usingExistingZone	boolean	Specify whether to select a predefined zone or any connectable path. If you specify True, the system selects paths within the range of the existing Zone setting. If you specify False, the system selects connectable paths regardless of the existing Zone setting.	-	-
provisioning.fabricSetting. .hops.restriction	boolean	Determines whether the service will fail if there is no path that matches the specified collection range.	-	-
provisioning.fabricSetting. .hops.range	integer	When using the Host Restriction option, specify the collection range by the number of hops.	0 only	-
provisioning.zoneSetting. enabled	boolean	Specifying True enables modify zone settings functionality.	-	-

keyName	Type	Description	Range	Default value
provisioning.zoneSetting.useExistingZoneAliases	boolean	Specify True to use predefined Zone Aliases regardless of the naming conventions the user specifies. If you specify False, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions.	-	-
provisioning.zoneSetting.updateActiveZoneConfiguration	boolean	Specify "true" if you want to add a Zone to the active Zone Configuration.	-	-
provisioning.zoneSetting.zoneConfigurationName	string	Specify the name of Zone Configuration to be added if you want to add Zone to other than the active Zone Configuration.	-	-

keyName	Type	Description	Range	Default value
provisioning.zoneSetting.namingScript.zone	File	Specify the script of the naming convention which determines the Zone name to the path.	See the "File type property list" section following this table.	
provisioning.zoneSetting.namingScript.hostZoneAlias	File	Specify the script of the naming convention which determines the Zone name to the host port.	See the "File type property list" section following this table.	
provisioning.zoneSetting.namingScript.storageZoneAlias	File	Specify the script of the naming convention which determines the Zone name to the storage port.	See the "File type property list" section following this table.	
<ol style="list-style-type: none"> 1. When "CopyType" is "Snapshot", CreateCopyPair can be specified. 2. When "CopyType" is "Snapshot", AverageDifferentialDataSize can be specified. 				

File type property list

Table 91 ConfigurationManagerConnection

Data nesting information		Description	Range
values			
	productName	Product name of registering to Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IP address	-
	port	Port	-

Data nesting information		Description	Range
	protocol	Protocol	-
	userID	User ID	-
	status	Status of connection	-
	connectedTime	Connected time	-

Table 92 StorageSystem

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 93 ResourceGroup

Data nesting information		Description	Range
values			
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-

Table 94 VolumeFilter

Data nesting information		Description	Range
values			
	field	Field	"LDEV ID (Dec)", "LDEV ID (Hex)", "Label", "Pool ID"

Data nesting information		Description	Range
	operator	Operator	When specifying "LDEV ID (Dec)" or "LDEV ID (Hex)" or "Pool ID", the following operators can be specified: "=", "<", ">", "<=", ">=", "!=". When specify "Label", the following operators can be specified: "=", "!=", "startsWith", "endsWith".
	value	Value	-

Table 95 Volumes

Data nesting information		Description	Range
values			
	ldevId	LDEV ID	-
	virtualLdevId	Virtual LDEV ID	-
	label	Label	-
	resourceGroupId	Resource Group ID	-
	poolId	Pool ID	-
	byteFormatCapacity	Capacity	-
	blockCapacity	Block capacity	-
	lun	LUN ID	-

Table 96 Pool

Data nesting information		Description	Range
values			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-
	numOfLdevs	Number of LDEVs	-

Table 97 Volume Settings

Data nesting information		Description	Range
values ¹			
	volumeUsage	Volume usage	A maximum of 64 characters can be entered.
	numberOfVolumes	Number of volumes	1-500
	ldevIdStartsFrom	LDEV ID starts from	0-FFFFFF
	volumeCapacityInMiB ²	Volume capacity	1-
	blockCapacity ³	Volume capacity	96000-
	volumeLabel	Volume label	A maximum of 32 characters can be entered.
	volumeLabel	Volume label	A maximum of 64 characters can be entered.
	lunStartsFrom	LUN starts from	0-07FF
	virtualLdevIdStartsFrom	Virtual LDEV ID starts from	0-FE FF

Data nesting information	Description	Range
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "CapacityFormat" is "Byte", volumeCapacityInMiB can be specified. 3. When "CapacityFormat" is "Block", blockCapacity can be specified. 		

Table 98 ResourceCriteria

Data nesting information	Description	Range
values ¹		
storagePortCriteria	Storage Port Criteria	-
expressions	Expressions	-
name	Name	"Name".
op	Operation	"Equals", "Not Equals", "Starts With", "Ends With".
value	Value	-
join	Join condition of the Expressions	"All", "Any".
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 		

Table 99 HostGroupSettings

Data nesting information	Description	Range	Remarks
values ¹			
hostGroupName	Host Group name	A maximum of 64 characters can be entered.	When "PortType" is "Fibre", hostGroupName can be specified.
iScsiTargetName	iSCSI target name	A maximum of 32 characters can be entered.	When "PortType" is "iSCSI", iScsiTargetName can be specified.

Data nesting information	Description	Range	Remarks
wwnSettings ¹	WWN settings		When "PortType" is "Fibre", wwnSettings can be specified.
wwn	WWN	A maximum of 16 characters is allowed in hexadecimal.	-
wwnNickname	WWN nickname	A maximum of 64 characters can be entered.	-
iScsiSettings ¹	iSCSI settings		When "PortType" is "iSCSI", iScsiSettings can be specified.
iScsiName	iSCSI name	"Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-,: - eui format: Specify 20 characters in hexadecimal."	-
iScsiNickname	iSCSI nickname	A maximum of 32 characters can be entered.	-
hostMode	Host Mode	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"	Refer to <i>Values that can be specified in the hostmode parameter</i> in the <i>Hitachi Command Suite CLI Reference Guide</i> .
hostModeOptions	Host Mode options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> .	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

**Table 100 provisioning.zoneSetting.namingExpression.zone /
provisioning.zoneSetting.namingExpression.hostZoneAlias /
provisioning.zoneSetting.namingExpression.storageZoneAlias**

Specifications of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument.</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage system ▪ storageSystemName: Name of physical storage system on Configuration Manager ▪ storageSystemName: Name of physical storage system on Configuration Manager ▪ storageSystemSerialNumber: Serial number of physical storage system ▪ storagePortName: Display port name of the storage system ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-") ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-") ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-") ▪ serviceProperties: List of the service properties passed to the plug-in
return	<p>The script must return a string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters

Specifications of the script	Description
	<p>4. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+_ ", "QOSMn+_ ", "QOSLn_" is not allowed (case ignored. "n" is number.)</p>
<p>example</p>	<pre>(function(args) { var name; if(! args.virtualSerialNumber args.virtualSerialNumber == "-"){ name = args.hostName + "_" + args.storageSystemName + "_" + args.storagePortName; }else{ name = args.hostName + "_" + args.virtualStorageSystemName + "_" + args.storagePortName; } if (!(name === null typeof(name) == "string" name instanceof String)) { throw new Error("Zone name must be a string: "+ name); } name = name.replace(/^[A-Za-z0-9_]/g, '_'); if(name.length > 60){ throw new Error("Zone name must be within 60 characters: "+ name); } if (/^[A-Z]/i.test(name) == false) { throw new Error("Zone name must start with a alphabet: "+ name); } if (/^LSAN_/i.test(name) /^TI_/i.test(name) / ^QOS[HML][0-9]+_/i.test(name)) { throw new Error("Zone name has the prefix LSAN_, TI_ or QOSxx_ cannot be for normal zone: "+name); } return name; })</pre>

Table 101 SecondaryPool

Data nesting information	Description	Range	Remarks
values			
poolId	Pool ID	-	-
poolName	Pool name	-	-

Data nesting information	Description	Range	Remarks
poolType	Pool Type	-	-
usedCapacityRate	Used capacity rate	-	-
availableVolumeCapacity	Available Volume capacity	-	-
totalPoolCapacity	Total Pool capacity	-	-
numOfLdevs	Number of LDEVs	-	-

Table 102 SecondaryPoolForSnapPool

Data nesting information	Description	Range	Remarks
values			
poolId	Pool ID	-	-
poolName	Pool name	-	-
poolType	Pool Type	-	-
usedCapacityRate	Used capacity rate	-	-
availableVolumeCapacity	Available Volume capacity	-	-
totalPoolCapacity	Total Pool capacity	-	-
numOfLdevs	Number of LDEVs	-	-

Table 103 SecondaryVolumeSettings

Data nesting information	Description	Range	Remarks
values ¹			
volumeUsage	Volume Usage	A maximum of 64 characters can be entered.	-
ldevIdStartsFrom	LDEV ID Starts from	0-FFFFFF	-

Data nesting information		Description	Range	Remarks
	volumeLabel	Volume Label	A maximum of 64 characters can be entered.	-
	lunStartsFrom	LUN Starts From	0-07FF	-
	virtualLdevIdStartsFrom	Virtual LDEV ID Starts From	0-FE FF	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.				

Table 104 SecondaryVolumeSettingsForExistingPvol

Data nesting information		Description	Range	Remarks
values ¹				
	PvolLdevID	Primary volume LDEV ID	-	-
	ldevIdStartsFrom	LDEV ID Starts from	0-FFFFFF	-
	volumeLabel	Volume Label	A maximum of 64 characters can be entered.	-
	lunStartsFrom	LUN Starts From	0-07FF	-
	virtualLdevIdStartsFrom	Virtual LDEV ID Starts From	0-FE FF	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.				

Table 105 SecondaryResourceCriteria

Data nesting information		Description	Range	Remarks
values ¹				
	storagePortCriteria	Storage Port Criteria	-	-

Data nesting information				Description	Range	Remarks
		condition		Condition	-	-
			name	Name	"Name"	-
			op	Operation	"Equals", "Not Equals", "Starts With", "Ends With"	-
			value	Value	-	-
		join		Join condition of the Expressions	"All", "Any"	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.						

Table 106 SecondaryResourceCriteriaForExistingPvol

Data nesting information				Description	Range	Remarks
values ¹						
	PvolLdevID			Primary Volume LDEV ID	-	-
	storagePort Criteria			Storage Port Criteria	-	-
		condition		Condition	-	-
			name	Name	"Name"	-
			op	Operation	"Equals", "Not Equals", "Starts With", "Ends With"	-
			value	Value	-	-
		join		Join condition of the Expressions	"All", "Any"	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.						

Table 107 SecondaryHostGroupSettings

Data nesting information		Description	Range	
value ¹				
	hostGroupName ²	Host Group Name / iSCSI Target Alias	A maximum of 64 characters can be entered.	
	iScsiTargetName ³	iSCSI Target Name	A maximum of 32 characters can be entered.	
	wwnSettings ^{1, 4}	WWN Settings		
		wwn	WWN	A maximum of 16 characters is allowed in hexadecimal.
		wwnNickname	WWN Nickname	A maximum of 64 characters can be entered.
	iScsiSettings ^{1, 5}	iSCSI Settings		
		iScsiName	iSCSI Name	Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-,: -eui format: Specify 20 characters in hexadecimal.
		iScsiNickname	iSCSI Nickname	A maximum of 32 characters can be entered.

Data nesting information		Description	Range
	hostMode	Host Mode	Refer to "Values that can be specified in the hostmode parameter" in the Hitachi Command Suite CLI Reference Guide.
	hostModeOptions	Host Mode Options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the Hitachi Command Suite CLI Reference Guide.
<p>Remarks</p> <ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "PortType" is "Fibre", hostGroupName can be specified. 3. When "PortType" is "iSCSI", iScsiTargetName can be specified. 4. When "PortType" is "Fibre", wwnSettings can be specified. 5. When "PortType" is "iSCSI", iScsiSettings can be specified. 			

Table 108 provisioning.zoneSetting.namingExpression.zone / provisioning.zoneSetting.namingExpression.hostZoneAlias / provisioning.zoneSetting.namingExpression.storageZoneAlias

Specifications of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument.</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA.

Specifications of the script	Description
	<ul style="list-style-type: none"> ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage system ▪ storageSystemName: Name of physical storage system on Configuration Manager ▪ storageSystemName: Name of physical storage system on Configuration Manager ▪ storageSystemSerialNumber: Serial number of physical storage system ▪ storagePortName: Display port name of the storage system ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-") ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-") ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-") ▪ serviceProperties: List of the service properties passed to the plug-in
return	<p>The script must return a string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters 4. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+_ ", "QOSMn+_ ", "QOSLn_" is not allowed (case ignored. "n" is number.)
example	<pre>(function(args) { var name; if(! args.virtualSerialNumber args.virtualSerialNumber == "-"){ name = args.hostName + "_" + args.storageSystemName + "_" + args.storagePortName; }else{ name = args.hostName + "_" + args.virtualStorageSystemName + "_" + args.storagePortName;</pre>

Specifications of the script	Description
	<pre> } if (!(name === null typeof(name) == "string" name instanceof String)) { throw new Error("Zone name must be a string: "+ name); } name = name.replace(/[^A-Za-z0-9_]/g, '_'); if(name.length > 60){ throw new Error("Zone name must be within 60 characters: "+ name); } if (/^[A-Z]/i.test(name) == false) { throw new Error("Zone name must start with a alphabet: "+ name); } if (/^LSAN_/i.test(name) /^TI_/i.test(name) / ^QOS[HML][0-9]+_/i.test(name)) { throw new Error("Zone name has the prefix LSAN_, TI_ or QOSxx_ cannot be for normal zone: "+name); } return name; }) </pre>

Allocate volumes with clone/snapshot service (submit)

keyName	Type	Description	Range	Default value
ConfigurationManagerConnection	File	Specify the Configuration Manager Connection.	See the "File type property list" section following this table.	-
StorageSystem	File	Specify the Storage System.	See the "File type property list" section following this table.	-
ResourceGroup	File	Specify the Resource Group.	See the "File type property list" section following this table.	-

keyName	Type	Description	Range	Default value
ExistingOrCreateNewVolume	String	Specify whether to use existing volumes or create new ones.	"New Volumes" or "Existing Volumes"	"New Volumes"
Pool	File	Specify the pool.	See the "File type property list" section following this table.	-
CapacityFormat	String	Specify the volume capacity format as Byte or Block	"Byte" or "Block"	"Byte"
VolumeSettings	File	Specify the parameters required to create new volumes.	See the "File type property list" section following this table.	-
VolumeFilter	File	Specify conditions for filtering the candidate volumes. Not all candidates are displayed when there are many candidate volumes. Specify the conditions to narrow down the volume list.	See the "File type property list" section following this table.	-
VolumeFilterJoinType	String	Specify the Source Volume Filter join type.	"and" or "or"	"and"
Volumes	File		See the "File type property list" section following this table.	-

keyName	Type	Description	Range	Default value
ResourceCriteria	File	Specify the resource criteria.	See the "File type property list" section following this table.	-
PortType	String	Specify the port type as Fibre or iSCSI.	"Fibre" or "iSCSI"	"Fibre"
HostGroupSettings	File	Specify the parameters that are needed in order to create a new Host Group/iSCSI Target.	See the "File type property list" section following this table.	-
CopyType	string	Specify the copy type as Clone or Snapshot.	"Clone" or "Snapshot"	"Clone"
PrefixOfCopyGroupName	string	Specify the prefix of the copy group name to be assigned when creating the copy group. The copy group name is created by adding the prefix to the serial number of the generation.	The length should be less than 10. And the string should be consisted from only following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,;,:-'.!':!';@', '_'	"Backups"
CreateCopyPair ¹	boolean	Specifies whether to create S-Vols. If you specify 'false', a copy pair for Snapshot is created without S-Vols.	true = copy pair is created with S-Vols. false = copy pair is created without S-Vols.	true

keyName	Type	Description	Range	Default value
SecondaryVolumeType	String	Specify the volume type as DP-VOL or V-VOL	"DP-VOL" or "V-VOL"	DP-VOL
SecondaryPool	File	Specify the pool for S-Vols.	See the "File type property list" section following this table.	-
SecondaryPoolForSnapPool	File	Specify the pool for S-Vols.	See the "File type property list" section following this table.	-
SecondaryVolumeSettings	File	Specify the parameters required to create new volumes for S-Vols.	See the "File type property list" section following this table.	-
SecondaryVolumeSettingsForExistingPVol	File	Specify the parameters required to create new volumes for S-Vols.	See the "File type property list" section following this table.	-
SecondaryResourceCriteria	File	Specify the resource criteria for S-Vols..	See the "File type property list" section following this table.	-
SecondaryResourceCriteriaForExistingPVol	File	Specify the resource criteria for S-Vols.	See the "File type property list" section following this table.	-
SecondaryPortType	string	Specify the port type as Fibre or iSCSI for S-Vols.	"Fibre" or "iSCSI"	"Fibre"

keyName	Type	Description	Range	Default value
SecondaryHostGroupSettings	File	Specify the parameters required to create a new Host Group/iSCSI Target or specify to use an existing Host Group/iSCSI Target for S-Vols.	See the "File type property list" section following this table.	-
<p>1. When "CopyType" is "Snapshot", CreateCopyPair can be specified.</p>				

File type property list

Table 109 ConfigurationManagerConnection

Data nesting information		Description	Range
values			
	productName	Product name of registering to Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IP address	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status of connection	-
	connectedTime	Connected time	-

Table 110 StorageSystem

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID	-

Data nesting information		Description	Range
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 111 ResourceGroup

Data nesting information		Description	Range
values			
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-

Table 112 VolumeFilter

Data nesting information		Description	Range
values			
	field	Field	"LDEV ID (Dec)", "LDEV ID (Hex)", "Label", "Pool ID"

Data nesting information		Description	Range
	operator	Operator	When specifying "LDEV ID (Dec)" or "LDEV ID (Hex)" or "Pool ID", the following operators can be specified: "=", "<", ">", "<=", ">=", "!=". When specify "Label", the following operators can be specified: "=", "!=", "startsWith", "endsWith".
	value	Value	-

Table 113 Volumes

Data nesting information		Description	Range
values			
	ldevId	LDEV ID	-
	virtualLdevId	Virtual LDEV ID	-
	label	Label	-
	resourceGroupId	Resource Group ID	-
	poolId	Pool ID	-
	byteFormatCapacity	Capacity	-
	blockCapacity	Block capacity	-
	lun	LUN ID	-

Table 114 Pool

Data nesting information		Description	Range
values			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-
	numOfLdevs	Number of LDEVs	-

Table 115 Volume Settings

Data nesting information		Description	Range
values ¹			
	volumeUsage	Volume usage	A maximum of 64 characters can be entered.
	numberOfVolumes	Number of volumes	1-500
	ldevIdStartsFrom	LDEV ID starts from	0-FFFFFF
	volumeCapacityInMiB ²	Volume capacity	1-
	blockCapacity ³	Volume capacity	96000-
	volumeLabel	Volume label	A maximum of 32 characters can be entered.
	volumeLabel	Volume label	A maximum of 64 characters can be entered.
	lunStartsFrom	LUN starts from	0-07FF
	virtualLdevIdStartsFrom	Virtual LDEV ID starts from	0-FE FF

Data nesting information	Description	Range
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "CapacityFormat" is "Byte", volumeCapacityInMiB can be specified. 3. When "CapacityFormat" is "Block", blockCapacity can be specified. 		

Table 116 ResourceCriteria

Data nesting information	Description	Range
values ¹		
storagePortCriteria	Storage Port Criteria	-
expressions	Expressions	-
name	Name	"Name".
op	Operation	"Equals", "Not Equals", "Starts With", "Ends With".
value	Value	-
join	Join condition of the Expressions	"All", "Any".
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 		

Table 117 HostGroupSettings

Data nesting information	Description	Range	Remarks
values ¹			
hostGroupName	Host Group name	A maximum of 64 characters can be entered.	When "PortType" is "Fibre", hostGroupName can be specified.
iScsiTargetName	iSCSI target name	A maximum of 32 characters can be entered.	When "PortType" is "iSCSI", iScsiTargetName can be specified.

Data nesting information	Description	Range	Remarks
wwnSettings ¹	WWN settings		When "PortType" is "Fibre", wwnSettings can be specified.
wwn	WWN	A maximum of 16 characters is allowed in hexadecimal.	-
wwnNickname	WWN nickname	A maximum of 64 characters can be entered.	-
iScsiSettings ¹	iSCSI settings		When "PortType" is "iSCSI", iScsiSettings can be specified.
iScsiName	iSCSI name	"Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-,: - eui format: Specify 20 characters in hexadecimal."	-
iScsiNickname	iSCSI nickname	A maximum of 32 characters can be entered.	-
hostMode	Host Mode	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"	Refer to <i>Values that can be specified in the hostmode parameter</i> in the <i>Hitachi Command Suite CLI Reference Guide</i> .
hostModeOptions	Host Mode options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> .	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Table 118 SecondaryPool

Data nesting information		Description	Range	Remarks
values				
poolId		Pool ID	-	-
poolName		Pool name	-	-
poolType		Pool Type	-	-
usedCapacityRate		Used capacity rate	-	-
availableVolumeCapacity		Available Volume capacity	-	-
totalPoolCapacity		Total Pool capacity	-	-
numOfLdevs		Number of LDEVs	-	-

Table 119 SecondaryPoolForSnapPool

Data nesting information		Description	Range	Remarks
values				
poolId		Pool ID	-	-
poolName		Pool name	-	-
poolType		Pool Type	-	-
usedCapacityRate		Used capacity rate	-	-
availableVolumeCapacity		Available Volume capacity	-	-
totalPoolCapacity		Total Pool capacity	-	-
numOfLdevs		Number of LDEVs	-	-

Table 120 SecondaryVolumeSettings

Data nesting information		Description	Range	Remarks
values ¹				
volumeUsage		Volume Usage	A maximum of 64 characters can be entered.	-

Data nesting information		Description	Range	Remarks
	ldevIdStartsFrom	LDEV ID Starts from	0-FFFFFF	-
	volumeLabel	Volume Label	A maximum of 64 characters can be entered.	-
	lunStartsFrom	LUN Starts From	0-07FF	-
	virtualLdevIdStartsFrom	Virtual LDEV ID Starts From	0-FE FF	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.				

Table 121 SecondaryVolumeSettingsForExistingPvol

Data nesting information		Description	Range	Remarks
values ¹				
	PvolLdevID	Primary volume LDEV ID	-	-
	ldevIdStartsFrom	LDEV ID Starts from	0-FFFFFF	-
	volumeLabel	Volume Label	A maximum of 64 characters can be entered.	-
	lunStartsFrom	LUN Starts From	0-07FF	-
	virtualLdevIdStartsFrom	Virtual LDEV ID Starts From	0-FE FF	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.				

Table 122 SecondaryResourceCriteria

Data nesting information		Description	Range	Remarks
values ¹				

Data nesting information			Description	Range	Remarks
storagePort Criteria			Storage Port Criteria	-	-
	condition		Condition	-	-
		name	Name	"Name"	-
		op	Operation	"Equals", "Not Equals", "Starts With", "Ends With"	-
		value	Value	-	-
	join		Join condition of the Expressions	"All", "Any"	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.					

Table 123 SecondaryResourceCriteriaForExistingPvol

Data nesting information			Description	Range	Remarks
values ¹					
PvolLdevID			Primary Volume LDEV ID	-	-
storagePort Criteria			Storage Port Criteria	-	-
	condition		Condition	-	-
		name	Name	"Name"	-
		op	Operation	"Equals", "Not Equals", "Starts With", "Ends With"	-
		value	Value	-	-
	join		Join condition of the Expressions	"All", "Any"	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.					

Table 124 SecondaryHostGroupSettings

Data nesting information		Description	Range	
value ¹				
	hostGroupName ²	Host Group Name / iSCSI Target Alias	A maximum of 64 characters can be entered.	
	iScsiTargetName ³	iSCSI Target Name	A maximum of 32 characters can be entered.	
	wwnSettings ^{1, 4}	WWN Settings		
		wwn	WWN	A maximum of 16 characters is allowed in hexadecimal.
		wwnNickname	WWN Nickname	A maximum of 64 characters can be entered.
	iScsiSettings ^{1, 5}	iSCSI Settings		
		iScsiName	iSCSI Name	Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-,: -eui format: Specify 20 characters in hexadecimal.
		iScsiNickname	iSCSI Nickname	A maximum of 32 characters can be entered.

Data nesting information		Description	Range
	hostMode	Host Mode	Refer to "Values that can be specified in the hostmode parameter" in the Hitachi Command Suite CLI Reference Guide.
	hostModeOptions	Host Mode Options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the Hitachi Command Suite CLI Reference Guide.
<p>Remarks</p> <ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "PortType" is "Fibre", hostGroupName can be specified. 3. When "PortType" is "iSCSI", iScsiTargetName can be specified. 4. When "PortType" is "Fibre", wwnSettings can be specified. 5. When "PortType" is "iSCSI", iScsiSettings can be specified. 			

Allocate volumes with clone/snapshot service (task details)

keyName	Type	Description	Range
LUNPathConfigurationInformation	File	Stores the allocated LUN path information from the volume allocation results.	See the "File type property list" section following this table.
SecondaryVolumeLUNPathConfigurationInformation	File	Stores the allocated LUN path information from the volume allocation results.	See the "File type property list" section following this table.

keyName	Type	Description	Range
CopyPairConfigurationInformation	File	Stores the allocated LUN path information from the volume allocation results.	See the "File type property list" section following this table.
provisioning.taskResult.createdZoneConfigurations	File	List of newly created Zone Configurations	See the "File type property list" section following this table.
provisioning.taskResult.createdZones	File	List of newly created Zones	See the "File type property list" section following this table.
provisioning.taskResult.createdZoneAliases	File	List of newly created Zone Aliases	See the "File type property list" section following this table.
provisioning.taskResult.updatedZoneConfigurations	File	List of Zone Configurations where the settings were updated	See the "File type property list" section following this table.
provisioning.taskResult.updatedZones	File	List of Zones where the settings were updated	See the "File type property list" section following this table.
provisioning.taskResult.updatedZoneAliases	File	List of Zone Aliases where the settings were updated	See the "File type property list" section following this table.
provisioning.taskResult.createdZoneConfigurations	File	List of newly created Zone Configurations	See the "File type property list" section following this table.
provisioning.taskResult.createdZones	File	List of newly created Zones	See the "File type property list" section following this table.

keyName	Type	Description	Range
provisioning.taskResult.createdZoneAliases	File	List of newly created Zone Aliases	See the "File type property list" section following this table.
provisioning.taskResult.updatedZoneConfigurations	File	List of Zone Configurations where the settings were updated	See the "File type property list" section following this table.
provisioning.taskResult.updatedZones	File	List of Zones where the settings were updated	See the "File type property list" section following this table.
provisioning.taskResult.updatedZoneAliases	File	List of Zone Aliases where the settings were updated	See the "File type property list" section following this table.

File type property list

Table 125 LUNPathConfigurationInformation

Data nesting information	Description	Range
value ¹		
storageDeviceId	Storage device ID	-
hostPort	WWN/iSCSI name	-
storagePort	Storage port	-
lun	LUN	-
portType	Port type	-
capacity	Capacity	-
ldevId	LDEV ID	-
hostGroupNameOrIscsiTarget	Host Group name/iSCSI target name	-
hostGroupNumber	Host Group number	-
hostMode	Host Mode	-
hostModeOptions	Host Mode options	-

Data nesting information	Description	Range
model	Model	-
serialNumber	Serial number	-
ldevLabel	LDEV label	-
virtualStorageMachineResourceGroupName	Resource Group in Virtual Storage System	-
virtualModel	Model in Virtual Storage System	-
virtualSerialNumber	Serial number in Virtual Storage System	-
resourceGroupName	Virtual Storage Machine Resource Group name	-
virtualLdevId	Virtual LDEV ID	-
configurationManager	Configuration Manager	-
poolId	Pool ID	-
asymmetricAccessStatus	ALUA settings	-
1. Repeatable Repeatable items must be repeated and must include all lower layer tags.		

Table 126 SecondaryVolumeLUNPathConfigurationInformation

Data nesting information	Description	Range
value ¹		
storageDeviceId	Storage device ID	-
hostPort	WWN/iSCSI name	-
storagePort	Storage port	-
lun	LUN	-
portType	Port type	-
capacity	Capacity	-
ldevId	LDEV ID	-
hostGroupNameOrIscsiTarget	Host Group name/iSCSI target name	-
hostGroupNumber	Host Group number	-

Data nesting information		Description	Range
	hostMode	Host Mode	-
	hostModeOptions	Host Mode options	-
	model	Model	-
	serialNumber	Serial number	-
	ldevLabel	LDEV label	-
	virtualStorageMachineResourceGroupName	Resource Group in Virtual Storage System	-
	virtualModel	Model in Virtual Storage System	-
	virtualSerialNumber	Serial number in Virtual Storage System	-
	resourceGroupName	Virtual Storage Machine Resource Group name	-
	virtualLdevId	Virtual LDEV ID	-
	configurationManager	Configuration Manager	-
	poolId	Pool ID	-
	asymmetricAccessStatus	ALUA settings	-
<p>1. Repeatable Repeatable items must be repeated and must include all lower layer tags.</p>			

Table 127 CopyPairConfigurationInformation

Data nesting information		Description	Range
value ¹			
	copyType	Storage device ID	-
	groupName	WWN/iSCSI name	-
	hostPorts	Storage port	-
	backupHostPorts	LUN	-
	hostGroup	Port type	-
	backupHostGroup	Capacity	-
	volumeUsage	LDEV ID	-

Data nesting information	Description	Range	
	pairName	Host Group name/iSCSI target name	-
	pvolLdevId	Host Group number	-
	svolLdevId	Host Mode	-
	storageSystemModel	Host Mode options	-
	storageSystemSerialNumber	Model	-
	pvolVirtualLdevId	Serial number	-
	svolVirtualLdevId	LDEV label	-
	virtualStorageSystem	Resource Group in Virtual Storage System	-
1. Repeatable Repeating items must be repeated and must include all lower layer tags.			

Table 128 CopyPairConfigurationInformation

Data nesting information	Description	Range	
value ¹			
	copyType	Copy Type	-
	groupName	Copy Group Name	-
	hostPorts	Target host port which primary volume has allocated to.	-
	backupHostPorts	Target host port which secondary volume has allocated to.	-
	hostGroup	Primary Host Group	-
	backupHostGroup	Secondary Host Group	-
	volumeUsage	Volume Usage	-
	pairName	Copy Pair Name	-
	pvolLdevId	Primary LDEV ID (in hexadecimal)	-
	svolLdevId	Secondary LDEV ID (in hexadecimal)	-
	storageSystemModel	Storage System Model	-

Data nesting information		Description	Range
	storageSystemSerialNumber	Storage System Serial No.	-
	pvolVirtualLdevId	Primary Virtual LDEV ID	-
	svolVirtualLdevId	Secondary Virtual LDEV ID	-
	virtualStorageSystem	Virtual Storage System Name	-
1. Repeatable Repeatable items must be repeated and must include all lower layer tags.			

Table 129 provisioning.taskResult.zoneConfiguration

Data nesting information		Description	Range
value ¹		List of newly created Zone Configuration	
	name	Name of newly created Zone Configuration name	-
	bnaname	Name of BNA that manages the settings	-
	fabricName	Name of Fabric where the settings exist	-
	zoneNames ¹	Zone to be added to the created Zone Configuration	-
1. Repeatable Repeatable items must be repeated and must include all lower layer tags.			

Table 130 provisioning.taskResult.zoneConfiguration

Data nesting information		Description	Range
value ¹		List of newly created Zone Configuration	
	name	Name of newly created Zone Configuration	-
	bnaname	Name of BNA that manages the settings	-
	fabricName	Name of Fabric where the settings exist	-

Data nesting information		Description	Range
	zoneNames ¹	Zone to be added to the created Zone Configuration	-
1. Repeatable Repeatable items must be repeated and must include all lower layer tags.			

Table 131 provisioning.taskResult.createdZones

Data nesting information		Description	Range
value ¹		List of newly created Zone	
	name	Name of newly created Zone	-
	bnaname	Name of BNA that manages the settings	-
	fabricName	Name of Fabric where the settings exist	-
	aliasNames ¹	Zone alias to be added to the created Zone	-
	memberNames ¹	WWN of the port added to the created Zone	-
1. Repeatable Repeatable items must be repeated and must include all lower layer tags.			

Table 132 provisioning.taskResult.createdZoneAliases

Data nesting information		Description	Range
value ¹		List of newly created Zone aliases	
	name	Name of newly created Zone alias	-
	bnaname	Name of BNA that manages the settings	-
	fabricName	Name of Fabric where the settings exist	-
	memberNames ¹	WWN of the port added to the created Zone	-

Data nesting information	Description	Range
1.	Repeatable Repeatable items must be repeated and must include all lower layer tags.	

Table 133 provisioning.taskResult.updatedZoneConfigurations

Data nesting information	Description	Range
value ¹	List of newly created Zone Configuration where the settings were updated	
name	Name of newly created Zone Configuration where the settings were updated	-
bnaname	Name of BNA that manages the settings	-
fabricName	Name of Fabric where the settings exist	-
zoneNames ¹	Name of added Zone	-
1.	Repeatable Repeatable items must be repeated and must include all lower layer tags.	

Table 134 provisioning.taskResult.updatedZones

Data nesting information	Description	Range
value ¹	List of newly created Zones where the settings were updated	
name	Name of newly created Zone where the settings were updated	-
bnaname	Name of BNA that manages the settings	-
fabricName	Name of Fabric where the settings exist	-
aliasNames ¹	Zone alias to be added to the created Zone	-
memberNames ¹	WWN of the added port	-

Data nesting information	Description	Range
1. Repeatable Repeatable items must be repeated and must include all lower layer tags.		

Table 135 provisioning.taskResult.updatedZoneAliases

Data nesting information	Description	Range
value ¹	List of newly created Zone aliases where the settings were updated	
name	Name of newly created Zone alias where the settings were updated	-
bnaName	Name of BNA that manages the settings	-
fabricName	Name of Fabric where the settings exist	-
memberNames ¹	WWN of the added port	-
1. Repeatable Repeatable items must be repeated and must include all lower layer tags.		

Clone (Shadow Image) service properties

Use the following properties to modify or create values for the Clone (Shadow Image) service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Clone (ShadowImage) edit

key Name	Explanation	Input/ Output	Type	Range
replication.advancedOptions.value	Value of Advanced Option property group	Input	File	See the "File type property list" section following this table.
replication.volumeSetting.primaryVolumeSettings.value	Value of P-Vol's Volume Setting for Edit timing	Input	File	Same as provisioning.volumeSetting.volumeSettings.value. Please refer to it.
replication.volumeSetting.primaryVolumeSettings.restriction	Restriction condition for a value of P-Vol's Volume Setting for Edit timing	Input	File	Same as provisioning.volumeSetting.volumeSettings.restriction. Please refer to it.
replication.volumeSetting.secondaryVolumeSettings.value	Value of S-Vol's Volume Setting for Edit timing	Input	File	See the "File type property list" section following this table.
replication.volumeSetting.secondaryVolumeSettings.restriction	Restriction condition for a value of S-Vol's Volume Setting for Edit timing	Input	File	See the "File type property list" section following this table.
replication.copyPairSetting.numberOfGenerations	Number of Copy Group generation.	Input	integer	1 - 3
replication.copyPairSetting.prefixOfCopyGroupName	Copy Group Prefix	Input	string	The length must be less than 16 and the string consist of the following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,'-','_','!','@'

key Name	Explanation	Input/ Output	Type	Range
replication.copyPairSetting.initialCopyEnabled	Flag(Switch) of enabling initial copy	Input	boolean	true = do pair definition & initial copy false = do pair definition
replication.copyPairSetting.ctgOption	CTG option	Input	boolean	true = copy pair is created by using CTG option false = copy pair is created by not using CTG option
replication.copyPairSetting.virtualLdevEnabled	Use VLDEV for VSM Volumes	Input	boolean	true = copy pair is created by using VLDEV ID false = copy pair is created by using LDEV ID
replication.copyPairSetting.ctgOption	CTG option	Input	boolean	true = copy pair is created by using CTG option false = copy pair is created by not using CTG option
replication.copyPairSetting.virtualLdevEnabled	Use VLDEV for VSM Volumes	Input	boolean	true = copy pair is created by using VLDEV ID false = copy pair is created by using LDEV ID

Required property list in Edit Service

- replication.advancedOption.advancedOptions.value
- replication.volumeSetting.secondaryVolumeSettings.value
- replication.copyPairSetting.numberOfGenerations
- replication.copyPairSetting.prefixOfCopyGroupName
- replication.copyPairSetting.initialCopyEnabled
- replication.copyPairSetting.virtualLdevEnabled

File type property list

Table 136 replication.advancedOption.advancedOptions.value

Data nesting information		Explanation	Range
values		advanced Option root	-
	numberOfPaths ¹	number of paths	1-65536
	hostModeSettings ²	Host Mode	-
	arrayType	Array of display array family name	VSP USP V HUS VM VSP G1000 VSP G1500 VSP F1500 HUS AMS VSP Fx00 models VSP Gx00 models
	hostMode ³	Host Mode value	String of Host Mode Also refer to "Table 4-5 Values that can be specified in the hostmode parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> .
	hostModeOptions	Host Mode Options value	Host Mode Option's value in integer or string. Also refer to the following items in <i>Hitachi Command Suite CLI Reference Guide</i> . - For USP V, VSP, VSP G1000, VSP G1000, VSP F1500, HUS VM, VSP Fx00 models, VSP Fx00 models: "Table 4-7 parameters for hostmodeoption" - For AMS, HUS 100: "Table 4-6 parameters for hostmode2"

Data nesting information			Explanation	Range
				Note: hostmode2 means the host mode option for AMS, HUS 100. In the Device Manager GUI, it is displayed as host mode option.
<ol style="list-style-type: none"> 1. If an invalid number was specified which is larger than the maximum number of ports in a target host, task will be failed with warning message. 2. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item. 3. If you specify "Auto", the value will be set by default value. The default value is decided by specified host's OS type and selected target storage. If you specify a non-existing host mode value, Automation Director treats it as "Auto". 				

Table 137 replication.volumeSetting.secondaryVolumeSettings.value

Data nesting information			Explanation	Range
values ¹			Information for Volume Setting in Edit.	-
	usage		String value for Volume Usage.	Length must be less than 64.
	copyPairCreationEnabled		On/Off for whether Automation Director creates copy pair.	Boolean.
	storageProfile		Storage Profile name.	Storage Profile name which is already defined.
	ldevLabel		LDEV Label.	The character which can be used: A-Za-z0-9~!@#\$\$%^&*()_+={ }[] ;:'<>./` length must be less than 64.
	lunSetting		LUN settings information.	-
		lunStartsFrom ²	Start number of LUN.	0 - 07FF

Data nesting information		Explanation	Range
	fullAllocation	Full Allocation.	Specify "Enable" to guarantee the writing to the full range of the allocated volumes. You can only allocate volumes to the storage system that supports this feature. If "Disable" is specified, writing to the volumes may occur an error when there is no free space in the pool.
<ol style="list-style-type: none"> 1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item. 2. Must be specified in hex. For example, 01DC 			

Table 138 replication.volumeSetting.secondaryVolumeSettings.restriction

Data nesting information		Explanation	Range
type		-	-
visibility		-	-
readOnly		-	-
itemInstances ¹		-	-
	type	-	-
	properties	-	-
	usage	Volume Usage (Omitted)	-
	type	-	-
	visibility	-	-
	readOnly	-	-
	defaultValue	Does not require editing.	Length must be less than 64

Data nesting information				Explanation	Range
		isCreateCopyPair		On/Off switch for whether Automation Director creates copy pair (Omitted).	-
			type	-	-
			visibility	-	-
			readOnly	-	-
			defaultValue	-	
	storageProfile			Storage Profile (Omitted).	-
		type		-	-
		visibility		-	-
		readOnly		-	-
		defaultValue		Does not require editing.	String.
		ldevLabel		LDEV Label	-
			type	-	-
			visibility	-	-
			defaultValue	Does not require editing.	Length must be less than 64
	lunSetting			LUN information (Omitted)	-
		type		-	-
		hidden		-	-
		properties		-	-
			lunStartsFrom	-	-
			type	-	-
			visibility	-	-

Data nesting information					Explanation	Range
				defaultV alue	Start number of LUN	0 - 07FF ²
	fullAllocation					
		type				
		visibility				
		defaultValue			Disable	
<ol style="list-style-type: none"> 1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item. 2. Must be specified in hex. For example, 01DC 						

Clone (ShadowImage) submit

key Name	Explanation	Input/ Output	Type	Range
replication.host Setting.targetH osts.value	Target host name for volume allocation.	input	File	Specified host must be discovered by Device Manager that is registered in Automation Director. See the "File type property list" section following this table.
replication.cop yPairSetting.pr efixOfCopyGro upName	Copy Group Prefix name.	input	String	The length must be less than 28 and the string consist os the following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,'-', '_', '!', '@'.
provisioning.ta skResultRawDa ta.ldevs	Volume information for P-Vol.	input	File	See the "File type property list" section following this table.

File type property list

Table 139 replication.hostSetting.targetHosts.value

Data nesting information		Explanation	Range
Values		Array of host name strings information.	-
	deviceManagerName	Name of Device Manager that manages the host.	Device Manager name that is specified in Device Manager connections.
	hosts	Array of host name string.	-
	name	Host name string.	-

Table 140 provisioning.taskResultRawData.ldevs

Data nesting information		Explanation	Range
Values		Array of host name strings information	-
	usage ¹	Volume Usage of P-Vol	-
	deviceId	LDEV ID of created volume from HDP/HDT	-
	storageSystemType	Display array type of selected storage system which has the created volume.	-
	storageSystemSerialNumber	Serial Number of selected storage system which has the created volume.	-
	deviceManagerName	Device Manager name which manages the storage system that has the created volume.	-
	displayUnit	Unit name string for displaying volume capacity size.	block/KB/MB/GB/TB
	virtualSerialNumber	Virtual serial Number of the selected virtual storage system.	-

Data nesting information		Explanation	Range
	virtualLdevId	LDEV ID of created virtual volume from HDP/HDT	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Clone (ShadowImage) task detail

key Name	Explanation	Input/ Output	Type	Range
replication.taskResult.lunPathConfigurationInformation	Task run result information.	Output	File	See the "File type property list" section following this table.
replication.taskResult.NumberOfLunPath	Task run result information.	Output	string	Number of allocated LUN paths.
replication.taskResult.copyPairConfigurationInformation	Task run result information.	Output	File	See the "File type property list" section following this table.
service.errorMessage	Task run result information.	Output	string	Summary information of error messages.
replication.taskResultRawData.ldevs	Task run result information.	Output	File	See the "File type property list" section following this table.
replication.taskResultRawData.lunPaths	Task run result information.	Output	File	See the "File type property list" section following this table.
replication.taskResultRawData.copyPairs	Task run result information.	Output	File	See the "File type property list" section following this table.

File type property list

Table 141 replication.taskResult.lunPathConfigurationInformation

Data nesting information		Explanation	Range
values ¹		LUN Path configuration part of task result	-
	usage	Volume Usage name	-
	host	Host name	-
	hostPort	Port name on the host	-
	lun	LUN Number	-
	storagePort	Port ID	-
	portType	Port Type(FC or iSCSI)	-
	volume	LDEV ID	-
	ldevLabel	LDEV label	-
	dpPool	Pool ID	-
	storageSystem	Storage System name	-
	provisionedCapacity	Created volume capacity	-
	capacity	Specified volume capacity in Submit	-
	hostGroup	Host Group name	-
	deviceManagerTaskName	Device Manager task name	-
	deviceManagerName	Device Manager name	-
	virtualStorageSystemName	Virtual storage system name	-
	virtualStorageSystemType	Display name of virtual storage system virtual model (System Type)	-
	virtualSerialNumber	Serial Number of virtual storage system	-
	virtualLdevId	LDEV ID in virtual storage system	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Table 142 replication.taskResult.copyPairConfigurationInformation

Data nesting information		Explanation	Range
values ¹		Copy Pair Configuration part of task result	-
	copyGroupName	Copy Group name	-
	primaryPairManagementServer	Pair management server for P-Vol	-
	primaryInstanceNumber	RAID Manager instance number for P-Vol	-
	secondaryPairManagementServer	Pair management server for S-Vol	-
	secondaryInstanceNumber	RAID Manager instance number for S-Vol	-
	primaryHosts ¹	Target host name which primary volume has allocated to.	-
	secondaryHosts	Target host name which secondary volume has allocated to.	-
	usage	Volume Usage name	-
	pairName	Copy Pair Name	-
	primaryVolume	LDEV ID of P-Vol	-
	secondaryVolume	LDEV ID of S-Vol	-
	storageSystem	Storage System name	-
	deviceManagerName	Device Manager name	-
	tiPoolId	Pool ID which created V-VOL is allocated	-
	primaryVirtualVolume	LDEV ID of primary volume in virtual storage system	-
	secondaryVirtualVolume	LDEV ID of secondary volume in virtual storage system	-
	virtualStorageSystem	Virtual storage system name	-

Data nesting information	Explanation	Range
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.		

Table 143 replication.taskResultRawData.ldevs

Data nesting information	Explanation	Range
values ¹	S-Vol's volume information raw data	-
usage	Volume Usage of S-Vol	-
deviceId	Created DP/DT volume's LDEV ID	-
storageSystemType	Display Array Type of the target storage which volume has been allocated.	-
storageSystemSerialNumber	Serial Number of the target storage which volume has been allocated.	-
deviceManagerName	Device Manager name which manages the storage system that has the created volume.	-
displayUnit	Unit name string for displaying volume capacity size.	block/KB/MB/GB/TB
virtualSerialNumber	Virtual serial Number of the selected virtual storage system.	-
virtualLdevId	Created virtual DP/DT volume's LDEV ID	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.		

Table 144 replication.taskResultRawData.lunPaths

Data nesting information	Explanation	Range
values	Path information raw data	-

Data nesting information		Explanation	Range
	usage	VolumeUsage	-
	hostName	Host Name	-
	hostPortName	Host port name	-
	hostStorageDomainName	Host Storage Domain name	-
	hostStorageDomainId	Host Storage Domain ID	-
	lun	LUN Number	-
	portWorldWideName	Storage Port WWN	-
	targetIscsiName	iSCSI name	-
	portName	Storage system's port name	-
	portType	Port Type of storage system (FC or iSCSI)	-
	portObjectId	Port Object ID of Storage system	-
	portId	Port ID of storage system	-
	ldevNumber	LDEV number	-
	ldevLabel	LDEV Label	-
	dpPoolId	Pool ID	-
	dpPoolName	Pool Name	-
	storageSystemName	Storage System name	-
	storageSystemModel	Model name of Storage system	-
	family	Array Family of Storage system	-
	storageSystemSerialNumber	Serial Number of storage system	-
	capacity	Volume Capacity	-
	unit	Unit of volume capacity for display	-
	provisionedCapacityInBlock	Created volume capacity (in number of Block)	-
	pairVolumeType	Volume's pair type (P or S)	-

Data nesting information		Explanation	Range
	volLdevId	LDEV ID	-
	volLuNumber	LU number	-
	deviceManagerTaskName	Device Manager task name	-
	deviceManagerName	Device Manager name	-
	virtualStorageSystemName	Virtual storage system name	-
	virtualStorageSystemType	Display name of virtual storage system virtual model (Array Type)	-
	virtualSerialNumber	Serial Number of virtual storage system	-
	virtualLdevId	Virtual LDEV ID	-

Table 145 replication.taskResultRawData.copyPairs

Data nesting information		Explanation	Range
copyResults ¹		Pair definition information raw data	-
	copyGroupName	Copy Group name	-
	primaryPairManagementServer	Pair management server for P-Vol	-
	primaryInstanceNumber	RAID Manager instance number for P-Vol	-
	primaryUdpPort	UDP port number for P-Vol	-
	primaryHosts	Target hosts of volume allocation for P-Vol	-
		name	Host name
	secondaryPairManagementServer	Pair management server for S-Vol	-
	secondaryInstanceNumber	RAID Manager instance number for S-Vol	-
	secondaryUdpPort	UDP port number for S-Vol	-

Data nesting information		Explanation	Range
	secondaryHosts	Target hosts of volume allocation for S-Vol	-
	name	Host name	-
	usage	VolumeUsage	-
	pairName	Pair name	-
	primaryVolumeNumber	LDEV ID of P-Vol (in dec.)	-
	primaryVolumeNumberStr	LDEV ID of P-Vol. If a storage is USP V, VSP, VSP G1000, VSP G1000, VSP F1500, HUS VM, VSP Fx00 models, VSP Fx00 models, it will be expressed in hex. If a storage is AMS, HUS 100, it will be expressed in dec.	-
	secondaryVolumeNumber	LDEV ID of S-Vol (in dec.)	-
	secondaryVolumeNumberStr	LDEV ID of P-Vol. If a storage is USP V, VSP, VSP G1000, VSP G1000, VSP F1500, HUS VM, VSP Fx00 models, VSP Fx00 models, it will be expressed in hex. If a storage is AMS, HUS 100, it will be expressed in dec.	-
	storageSystemName	Storage System name	-
	tiPoolId	Pool ID of S-VOL	
	primaryVirtualVolumeNumberStr	LDEV ID of primary volume in virtual storage system	-
	secondaryVirtualVolumeNumberStr	LDEV ID of secondary volume in virtual storage system	-
	virtualStorageSystemName	Virtual storage system name	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Snapshot (Thin Image) service properties

Use the following properties to modify or create values for the Snapshot (Thin Image) service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Snapshot (Thin Image) edit

key Name	Explanation	Input/ Output	Type	Range
replication.advancedOption.advancedOptions.value	Value of Advanced Option property group.	Input	File	See the "File type property list" section following this table.
replication.volumeSetting.primaryVolumeSettings.value	Value of P-Vol's Volume Setting for Edit timing.	Input	File	Same as provisioning.volumeSetting.volumeSettings.value. Please refer to it.
replication.volumeSetting.primaryVolumeSettings.restriction	Restriction condition for a value of P-Vol's Volume Setting for Edit timing.	Input	File	Same as provisioning.volumeSetting.volumeSettings.restriction. Please refer to it.
replication.volumeSetting.secondaryVolumeSettings.value	Value of S-Vol's Volume Setting for Edit timing.	Input	File	See the "File type property list" section following this table.
replication.volumeSetting.secondaryVolumeSettings.restriction	Restriction condition for a value of S-Vol's Volume Setting for Edit timing.	Input	File	See the "File type property list" section following this table.
replication.copyPairSetting.numberOfGenerations	Number of Copy Group generation.	Input	Integer	1 - 3

key Name	Explanation	Input/ Output	Type	Range
replication.copyPairSetting.prefixOfCopyGroupName	Copy Group Prefix.	Input	String	The length must be less than 16 and the string consist of the following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,'-','_','!','@'
replication.copyPairSetting.initialCopyEnabled	Flag(Switch) of enabling initial copy.	Input	Boolean	true = do pair definition & initial copy false = do pair definition
replication.copyPairSetting.groupType	Group type which the pair belongs to.	Input	String	TI_SG = Snapshot group TI_CG = Copy group.
replication.copyPairSetting.ctgOption	CTG option.	Input	Boolean	true = copy pair is created by using CTG option false = copy pair is created by not using CTG option.
replication.hostSetting.targetHosts.value	Target host name for volume allocation.	Input	File	See the "File type property list" section following this table.
replication.copyPairSetting.virtualLdevEnabled	Use VLDEV for VSM Volumes.	Input	Boolean	true = copy pair is created by using VLDEV ID false = copy pair is created by using LDEV ID .

Required property list in Edit Service

- replication.advancedOption.advancedOptions.value
- replication.volumeSetting.secondaryVolumeSettings.value
- replication.copyPairSetting.numberOfGenerations
- replication.copyPairSetting.prefixOfCopyGroupName
- replication.copyPairSetting.initialCopyEnabled

- replication.copyPairSetting.groupType
- replication.copyPairSetting.ctgOption
- replication.copyPairSetting.virtualLdevEnabled

File type property list

*1: When you repeat a repeatable item, you must include all lower layer tags in each repeated item.

Table 146 replication.advancedOption.advancedOptions.value

Data nesting information		Explanation	Range
values		advanced Option root	-
	numberOfPaths ¹	number of paths	1-65536
	hostModeSettings ²	Host Mode	-
	arrayType	Array of display array family name	VSP USP V HUS VM VSP G1000 VSP G1500 VSP F1500 HUS AMS VSP Fx00 models VSP Gx00 models
	hostMode ³	Host Mode value	String of Host Mode Also refer to "Table 4-5 Values that can be specified in the hostmode parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> .
	hostModeOptions	Host Mode Options value	Host Mode Option's value in integer or string. Also refer following items in <i>Hitachi Command Suite CLI Reference Guide</i> .

Data nesting information			Explanation	Range
				- For USP V, VSP, VSP G1000, VSP G1000, VSP F1500, HUS VM, VSP Fx00 models, VSP Fx00 models: "Table 4-7 parameters for hostmodeoption" - For AMS, HUS 100: "Table 4-6 parameters for hostmode2" Note: hostmode2 means the host mode option for AMS, HUS 100:. In the Device Manager GUI, it is displayed as host mode option.
<ol style="list-style-type: none"> 1. If an invalid number was specified that is larger than the maximum number of ports in a target host, the task will fail with warning message. 2. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item. 3. If you specify "Auto", the value will be set by default value. The default value is decided by specified host's OS type and selected target storage. If you specify a non-existing host mode value, Automation Director treats it as "Auto". 				

Table 147 replication.volumeSetting.secondaryVolumeSettings.value

Data nesting information		Explanation	Range
values ¹		Information for Volume Setting in Edit.	-
	usage	String value for Volume Usage.	Length must be less than 64.
	copyPairCreationEnabled	On/Off for whether Automation Director creates copy pair.	Boolean.
	storageProfile	Storage Profile name.	Storage Profile name which is already defined.

Data nesting information		Explanation	Range
	ldevLabel	LDEV Label.	The character which can be used: A-Za-z0-9 ~!@#\$%^&*()_+={} ;:'<>./` length must be less than 64.
	lunSetting	LUN settings information.	-
	lunStartsFrom	Start number of LUN.	0 - 07FF ²
	averageDifferentialData	Average differential data size per collection (%).	1-100.
<ol style="list-style-type: none"> 1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item. 2. Must be specified in hex. For example, 01DC 			

Table 148 replication.volumeSetting.secondaryVolumeSettings.restriction

Data nesting information		Explanation	Range
type		-	-
visibility		-	-
readOnly		-	-
itemInstances ¹		-	-
	type	-	-
	properties	-	-
	usage	Volume Usage (Omitted)	-
	type	-	-
	visibility	-	-
	readOnly	-	-
	defaultValue	Does not require editing.	Length must be less than 64

Data nesting information				Explanation	Range
		isCreateCopyPair		On/Off switch for whether Automation Director creates copy pair (Omitted).	-
			type	-	-
			visibility	-	-
			readOnly	-	-
			defaultValue	-	
	storageProfile			Storage Profile (Omitted).	-
		type		-	-
		visibility		-	-
		readOnly		-	-
		defaultValue		Does not require editing.	String.
	ldevLabel			LDEV Label	-
		type		-	-
		visibility		-	-
		defaultValue		Does not require editing.	Length must be less than 64
	lunSetting			LUN information (Omitted)	-
		type		-	-
		hidden		-	-
		properties		-	-
			lunStartsFrom	-	-
			type	-	-
			visibility	-	-

Data nesting information				Explanation	Range
			defaultV alue	Start number of LUN	0 - 07FF ²
	averageDifferentialD ata			Average differential data size per collection (%).	
		type			
		visibility			
		readOnly			
		hidden			
		defaultValue		Disable	1-100.
<ol style="list-style-type: none"> 1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item. 2. Must be specified in hex. For example, 01DC 					

Table 149 replication.hostSetting.targetHosts.value

Data nesting information			Explanation	Range
values			Array of host name strings information	-
	deviceManagerName		Name of Device Manager that manages the host	Device Manager name that is specified in Device Manager connections
	hosts		Array of host name string	-
		name	Host name string	-
	hostGroupName ¹		Host group name string	-
<ol style="list-style-type: none"> 1. Specify the host group name that connects S-VOL. If the host name is specified in Submit, this setting is ignored 				

Snapshot (Thin Image) submit

key Name	Explanation	Input/Output	Type	Range
replication.hostSetting.targetHosts.value	Target host name for volume allocation.	Input	File	Specified host must be discovered by Device Manager that is registered in Automation Director. See the "File type property list" section following this table.
replication.copyPairSetting.prefixOfCopyGroupName	Copy Group Prefix name.	Input	String	The length must be less than 28 and the string consist of the following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,'-', '_', ':', '@'.
provisioning.taskResultRawData.ldevs	Volume information for P-Vol.	Input	File	See the "File type property list" section that follows this table.

File type property list

*1: When you repeat a repeatable item, you must include all lower layer tags in each repeated item.

Table 150 replication.hostSetting.targetHosts.value

Data nesting information		Explanation	Range
Values		Array of host name strings information.	-
	deviceManagerName	Device Manager name which manage the host	Device Manager name which is specified in Device Manager connections.
	hosts	Array of host name string.	-
	name	Host name string.	-
	hostGroupName ¹		-
1. Cannot edit. The specified value is ignored.			

Table 151 provisioning.taskResultRawData.ldevs

Data nesting information		Explanation	Range
Values		Array of host name strings information.	-
	usage ¹	Volume Usage of P-Vol.	-
	deviceId	LDEV ID of created volume from HDP/HDT.	-
	storageSystemType	Display array type of selected storage system which has the created volume.	-
	storageSystemSerialNumber	Serial Number of selected storage system which has the created volume.	-
	deviceManagerName	Device Manager name which manages the storage system that has the created volume.	-
	displayUnit	Unit name string for displaying volume capacity size.	block/KB/MB/GB/TB
	virtualSerialNumber	Virtual serial Number of the selected virtual storage system.	-
	virtualLdevId	LDEV ID of created virtual volume from HDP/HDT.	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

Snapshot (Thin Image) task detail

This section describes the property list and explains the snapshot service specific properties.

Task detail has two snapshot-specific properties.

- Input value in submit task (same as the property for submit)
- Run result details of task (see following table)

key Name	Explanation	Input/ Output	Type	Range
replication.taskResult.lunPathConfigurationInformation	Task run result information.	Output	File	See the "File type property list" section following this table.
replication.taskResult.NumberOfLunPath	Task run result information.	Output	string	Number of allocated LUN paths.
replication.taskResult.copyPairConfigurationInformation	Task run result information.	Output	File	See the "File type property list" section following this table.
service.errorMessage	Task run result information.	Output	string	Summary information of error messages.
replication.taskResultRawData.ldevs	Task run result information.	Output	File	See the "File type property list" section following this table.
replication.taskResultRawData.lunPaths	Task run result information.	Output	File	See the "File type property list" section following this table.
replication.taskResultRawData.copyPairs	Task run result information.	Output	File	See the "File type property list" section following this table.

File type property list

*1: When you repeat a repeatable item, you must include all lower layer tags in each repeated item.

Table 152 replication.taskResult.lunPathConfigurationInformation

Data nesting information	Explanation	Range
values ¹	LUN Path configuration part of task result.	-
usage	Volume Usage name.	-
host	Host name.	-

Data nesting information		Explanation	Range
	hostPort	Port name on the host.	-
	lun	LUN Number.	-
	storagePort	Port ID.	-
	portType	Port Type(FC or iSCSI).	-
	volume	LDEV ID.	-
	ldevLabel	LDEV label.	-
	dpPool	Pool ID.	-
	storageSystem	Storage System name.	-
	provisionedCapacity	Created volume capacity.	-
	capacity	Specified volume capacity in Submit.	-
	hostGroup	Host Group name.	-
	deviceManagerTaskName	Device Manager task name.	-
	deviceManagerName	Device Manager name.	-
	virtualStorageSystemName	Virtual storage system name.	-
	virtualStorageSystemType	Display name of virtual storage system virtual model (Array Type).	-
	virtualSerialNumber	Serial Number of virtual storage system.	-
	virtualLdevId	LDEV ID in virtual storage system.	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Table 153 replication.taskResult.copyPairConfigurationInformation

Data nesting information	Explanation	Range
values	Copy Pair Configuration part of task result	-

Data nesting information		Explanation	Range
	copyGroupName	Copy Group name	-
	primaryPairManagementServer	Pair management server for P-Vol	-
	primaryInstanceNumber	RAID Manager instance number for P-Vol	-
	secondaryPairManagementServer	Pair management server for S-Vol	-
	secondaryInstanceNumber	RAID Manager instance number for S-Vol	-
	primaryHosts ¹	Target host name which primary volume has allocated to.	-
	secondaryHosts	Target host name which secondary volume has allocated to.	-
	usage	Volume Usage name	-
	pairName	Copy Pair Name	-
	primaryVolume	LDEV ID of P-Vol	-
	secondaryVolume	LDEV ID of S-Vol	-
	storageSystem	Storage System name	-
	deviceManagerName	Device Manager name	-
	tiPoolId	Pool ID which created V-VOL is allocated	-
	primaryVirtualVolume	LDEV ID of primary volume in virtual storage system	-
	secondaryVirtualVolume	LDEV ID of secondary volume in virtual storage system	-
	virtualStorageSystem	Virtual storage system name	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Table 154 replication.taskResultRawData.ldevs

Data nesting information		Explanation	Range
values ¹		S-Vol's volume information raw data	-
	usage	Volume Usage of S-Vol	-
	deviceId	Created DP/DT volume's LDEV ID	-
	storageSystemType	Display Array Type of the target storage which volume has been allocated.	-
	storageSystemSerialNumber	Serial Number of the target storage which volume has been allocated.	-
	deviceManagerName	Device Manager name which manages the storage system that has the created volume.	-
	displayUnit	Unit name string for displaying volume capacity size.	block/KB/MB/GB/TB
	virtualSerialNumber	Virtual serial Number of the selected virtual storage system.	-
	virtualLdevId	Created virtual DP/DT volume's LDEV ID	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Table 155 replication.taskResultRawData.lunPaths

Data nesting information		Explanation	Range
values ¹		Path information raw data	-
	usage	VolumeUsage	-
	hostName	Host Name	-
	hostPortName	Host port name	-
	hostStorageDomainName	Host Storage Domain name	-
	hostStorageDomainId	Host Storage Domain ID	-
	lun	LUN Number	-

Data nesting information		Explanation	Range
	portWorldWideName	Storage Port WWN	-
	targetIscsiName	iSCSI name	-
	portName	Storage system's port name	-
	portType	Port Type of storage system (FC or iSCSI)	-
	portObjectId	Port Object ID of Storage system	-
	portId	Port ID of storage system	-
	ldevNumber	LDEV number	-
	ldevLabel	LDEV Label	-
	dpPoolId	Pool ID	-
	dpPoolName	Pool name	-
	storageSystemName	Storage System name	-
	storageSystemModel	Model name of Storage system	-
	family	Array Family of Storage system	-
	storageSystemSerialNumber	Serial Number of storage system	-
	capacity	Volume Capacity	-
	unit	Unit of volume capacity for display	-
	provisionedCapacityInBlock	Created volume capacity (in number of Block)	-
	pairVolumeType	Volume's pair type (P or S)	-
	volLdevId	LDEV ID	-
	volLuNumber	LU number	-
	deviceManagerTaskName	Device Manager task name	-
	deviceManagerName	Device Manager name	-
	virtualStorageSystemName	Virtual storage system name	-

Data nesting information		Explanation	Range
	virtualStorageSystemType	Display name of virtual storage system virtual model (Array Type)	-
	virtualSerialNumber	Serial Number of virtual storage system	-
	virtualLdevId	Virtual LDEV ID	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

Table 156 replication.taskResultRawData.copyPairs

Data nesting information		Explanation	Range
copyResults ¹		Pair definition information raw data	-
	copyGroupName	Copy Group name	-
	primaryPairManagementServer	Pair management server for P-Vol	-
	primaryInstanceNumber	RAID Manager instance number for P-Vol	-
	primaryUdpPort	UDP port number for P-Vol	-
	primaryHosts	Target hosts of volume allocation for P-Vol	-
		name	Host name
	secondaryPairManagementServer	Pair management server for S-Vol	-
	secondaryInstanceNumber	RAID Manager instance number for S-Vol	-
	secondaryUdpPort	UDP port number for S-Vol	-
	secondaryHosts	Target hosts of volume allocation for S-Vol	-
		name	Host name
	usage	VolumeUsage	-
	pairName	Pair name	-

Data nesting information		Explanation	Range
	primaryVolumeNumber	LDEV ID of P-Vol (in dec.)	-
	primaryVolumeNumberStr	LDEV ID of P-Vol. If a storage is USP V, VSP, VSP G1000, VSP G1000, VSP F1500, HUS VM, VSP Fx00 models, VSP Fx00 models, it will be expressed in hex. If a storage is AMS, HUS 100, it will be expressed in dec.	-
	secondaryVolumeNumber	LDEV ID of S-Vol (in dec.)	-
	secondaryVolumeNumber Str	LDEV ID of P-Vol. If a storage is USP V, VSP, VSP G1000, VSP G1000, VSP F1500, HUS VM, VSP Fx00 models, VSP Fx00 models, it will be expressed in hex. If a storage is AMS, HUS 100, it will be expressed in dec.	-
	storageSystemName	Storage System name	-
	tiPoolId	Pool ID which created V-VOL is allocated	-
	virtualStorageSystemType	Display name of virtual storage system virtual model (Array Type)	-
	virtualSerialNumber	Serial Number of virtual storage system	-
	virtualLdevId	Virtual LDEV ID	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Allocate like volumes service properties

Use the following properties to modify or create values for the Allocate like volumes service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate like volumes (edit)

Key Name	Explanation	Input/Output	Type	Range
allocatelikevolumes.volumeSetting.volumeSettings.restriction	Threshold information about the volume capacity and the number of volumes to create.	Input	File	See the "File type property list" section following this table.

File type property list

Table 157 allocatelikevolumes.volumeSetting.volumeSettings.restriction

Data nesting information		Explanation	Range
type		-	-
visibility		-	-
readOnly		-	-
properties		-	-
	capacity	Threshold information of volume capacity	-
	type	-	-
	visibility	-	-
	readOnly	-	-
	optionValues	-	-
		method	Value type of threshold of number of volumes "specific" : Multiple Values "range" : Range not specified : No Restriction
		values	Threshold value of volume capacity If the method is "specific", specify the value list that can be specified. If the method is "range", specify the minimum value and maximum value in order.

Data nesting information			Explanation	Range
		defaultValue	Default values of number of volume capacity	If the method is "specific", specify one of the values. If the method is "range", specify a value in the value range.
	numberOfVolumes		Threshold information of number of volumes.	-
		type	-	-
		visibility	-	-
		readOnly		-
		optionValues	-	-
			method	Value type of threshold value of volume capacity "specific" : Multiple Values "range" : Range not specified : No Restriction
			values	Threshold of number of volumes If the method is "specific", specify the value list that can be specified. If the method is "range", specify the minimum value and maximum value in order.
		defaultValue	Default values of number of volume capacity	If the method is "specific", specify one of the values. If the method is "range", specify a value in the value range.

Allocate like volumes (submit)

KeyName	Explanation	Input/Output	Type	Range
allocatelikevolumes.volumeSource.volumeSource.value	The referenced volume information.	Input	File	See the "File type property list" section following this table.
allocatelikevolumes.volumeSettings.volumeSettings.value	Information about the volume capacity and the number of volumes to allocate.	Input	File	See the "File type property list" section following this table.

Table 158 allocatelikevolumes.volumeSource.volumeSource.value

Data nesting information		Explanation	Range
values		-	-
	deviceManagerName	The name of the Device Manager instance that manages the storage system of the referenced volume.	The name specified in Device Manager Connections
	lunPath	-	-
	hostPort	Host port WWN	00.00.00.00.00.00-00.00.00-FF.FF.FF.FF.FF.FF.FF.FF
	storagePort	Storage port WWN	00.00.00.00.00.00-00.00.00-FF.FF.FF.FF.FF.FF.FF.FF
	lun ¹	LU Number (The logical unit number assigned to the volume for a host)	0 - 07FF * Also see Remarks.
1. Must be specified in hex. For example, 01DC			

Table 159 allocatelikevolumes.volumeSetting.volumeSettings.value

Data nesting information		Explanation	Range
values		-	-
	capacity ¹	The size of the allocated volumes	Volume capacity
	numberOfVolumes ²	The number of volumes to allocate	Number of volumes
<p>1. Refer to the "capacity" row in the "AddVirtualVolume command parameters" table in <i>Hitachi Command Suite CLI Reference Guide</i>.</p> <p>VSP G1000, VSP G1000, VSP F1500 (microcode 80-03-0X-XX/XX or later) : 48000~274877906944KB(=256TB)</p> <p>VSP G1000, VSP G1000, VSP F1500 (microcode earlier than 80-03-0X-XX/XX) : 48000~64424505600 KB(=60TB)</p> <p>(microcode earlier than 80-03-0X-XX/XX) : 48000~64424505600 KB(=60TB)</p> <p>(microcode earlier than 80-03-0X-XX/XX) : 48000~64424505600 KB(=60TB)</p> <p>VSP Gx00 models(microcode earlier than 83-02-0X-XX/XX) : 48000~64424505600 KB</p> <p>VSP Fx00 models : 48000~274877906944KB(=256TB)</p> <p>VSP : 48000~64424505600 KB</p> <p>USP V(microcode earlier than 06-03) : 48000~3221159680 KB</p> <p>USP V(microcode 06-03 or later) : 48000~4294967296 KB</p> <p>HUS VM : 48000 ~ 64424505600 KB</p> <p>HUS : 32768 ~ 137438953472 KB(=128TB)</p> <p>AMS : 32768 ~ 6442450944 KB</p> <p>2. 1 - 500</p>			

Allocate like volumes (task detail)

keyName	Explanation	Input/Output	Type	Range
allocatelikevolumes.taskResult.lunPathConfigurationInformation	Task run result information.	Output	File	See the "File type property list" section following this table.

keyName	Explanation	Input/Output	Type	Range
allocatelikevolumes.taskResult.numberOfLdev	Task run result information.	Output	String	The number of the allocated volumes.
allocatelikevolumes.taskResult.numberOfLunPath	Task run result information.	Output	String	The number of paths.
service.errorMessage	Task run result information.	Output	String	Summary information of error messages.
allocatelikevolumes.taskResultRawData.ldevs	Task run result information.	Output	File	See the "File type property list" section following this table.
allocatelikevolumes.taskResultRawData.lunPaths	Task run result information.	Output	File	See the "File type property list" section following this table.

File type property list

Table 160 allocatelikevolumes.taskResult.lunPathConfigurationInformation

Data nesting information	Explanation	Range
values ¹	LUN path Configuration information.	-
usage	Volume Usage name (fixed value "-" in Allocate like volumes).	-
host	Host name.	-
hostPort	Host Port WWN/iSCSI Name.	-
lun	LU Number.	-
storagePort	Storage Port WWN.	-
portType	Storage Port type (FC or iSCSI).	-
volume	LDEV ID.	-
dpPool	Pool ID.	-
storageSystem	Storage System name.	-
provisionedCapacity	The size of the allocated volumes (Blocks).	-

Data nesting information		Explanation	Range
	capacity	The size of the allocated volumes that specified when submit.	-
	hostGroup	Host Group name/ iSCSI Target iSCSI Name.	-
	deviceManagerTaskName	Task name of Device Manager.	-
	deviceManagerName	The name of Device Manager that ran the task.	-
	virtualStorageSystemName	The name of the virtual storage system.	-
	virtualStorageSystemType	The display array type of the virtual storage system.	-
	virtualSerialNumber	The serial number of the virtual storage system.	-
	virtualLdevId	Virtual LDEV ID.	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

Table 161 allocatelikeyolumes.taskResultRawData.ldevs

Data nesting information		Explanation	Range
values ¹		Volume information	-
	usage	Volume Usage name (fixed value "-" in Allocate like volumes)	-
	deviceId	LDEV ID	-
	storageSystemType	The display array type of the storage system of the allocated volume	-
	storageSystemSerialNumber	The serial number of the storage system of the allocated volume	-
	deviceManagerName	The name of Device Manager that ran the task	-
	displayUnit	Display unit for the size of the allocated volumes	-

Data nesting information		Explanation	Range
	virtualSerialNumber	The serial number of the virtual storage system	-
	virtualLdevId	Virtual LDEV ID	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

Table 162 allocatelikevolumes.taskResultRawData.lunPaths

Data nesting information		Explanation	Range
values ¹		The LUN path information	-
	usage	Volume Usage name (fixed value "-" in Allocate like volumes)	-
	hostName	Host name	-
	hostPortName	Host Port WWN/iSCSI Name	-
	hostStorageDomainName	Host storage domain name	-
	hostStorageDomainId	Host Group ID/iSCSI Target ID	-
	lun	LU Number	-
	portWorldWideName	Storage Port WWN	-
	targetIscsiName	iSCSI Target iSCSI Name	-
	portName	Storage Port name	-
	portType	Storage Port type (FC or iSCSI)	-
	portObjectId	Storage Port object ID	-
	portId	Storage Port ID	-
	ldevNumber	LDEV Number	-
	ldevLabel	LDEV label	-
	dpPoolId	Pool ID	-
	dpPoolName	Pool name	-
	storageSystemName	Storage System name	-
	storageSystemModel	Storage System model name	-
	family	Storage System family name	-

Data nesting information		Explanation	Range
	storageSystemSerialNumber	Storage System serial number	-
	capacity	The size of the allocated volumes that specified when submitted	-
	unit	The unit of the allocated volumes size that specified when submitted	-
	provisionedCapacityInBlock	The size of the allocated volumes (Blocks)	-
	pairVolumeType	Pair type (P or S)	-
	volLdevId	LDEV ID	-
	volLuNumber	LU Number	-
	deviceManagerTaskName	Task name of Device Manager	-
	deviceManagerName	The name of Device Manager that ran the task	-
	virtualStorageSystemName	The name of the virtual storage system	-
	virtualStorageSystemType	The display array type of the virtual storage system	-
	virtualSerialNumber	The serial number of the virtual storage system	-
	virtualLdevId	Virtual LDEV ID	-
	ipAddress	The IP address that can communicate to acquire host information	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Allocate like volumes with Configuration Manager service properties

Use the following properties to modify or create values for the Allocate like volumes with Configuration Manager service.

Allocate Like Volumes with Configuration Manager (edit)

Key name	Type	Description	Range	Default value
cmRestConnection	file	Specify the Configuration Manager connection.	See the following file type property list	-
storage	file	Specify the storage system.	See the following file type property list	-
SourceVolumeFilter	file	Use the filters to display only the source volumes that match the specified criteria.	See the following file type property list	-
SourceVolumeFilterJoinType	string	Use the "and" and the "or" operators to join multiple filters.	and, or	and
SourceVolume	file	Specify the source volumes.	See the following file type property list	-
CapacityInMiB	integer	Specify the volume capacity.	Refer to "capacity" row in the "AddVirtualVolume command parameters" table in the <i>Hitachi Command Suite CLI Reference Guide</i> .	-
NumberOfVolumes	integer	Specify the number of volumes.	1-500	1
pool	file	Specify the pool.	See the following file type property list	-

Key name	Type	Description	Range	Default value
VolumeLabel	string	Specify the volume label.	A maximum of 64 characters can be entered.	-
LdevIdStartsFrom	integer	Specify the startup LDEV ID for the volume to be allocated.	0-FEFF	-
LunStartsFrom	integer	Specify the starting logical unit number assigned to the volume for a host.	0-07FF	-
VirtualLdevIdStartsFrom	integer	Specify the startup virtual LDEV ID for the volume to be allocated.	0-FEFF	-
ResourceGroup	file	LDEV ID will be searched from specified resource group. If it is not specified, it will be searched from same resource group as the source volume.	See the following file type property list	-

File type property list

Table 163 cmRestConnection

Data nesting information		Description	Range
value			
	productName	Category	-
	name	Name	-
	ipAddress	IP Address/Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-

Data nesting information		Description	Range
	connectedTime	Connected Time	-

Table 164 storage

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	isSecure	Secure Connection	-
	svplp	SVP IP Address	-
	ctl1Ip	Controller 1 IP	-
	ctl2Ip	Controller 2 IP	-
	targetCtl	Operated Controller	-

Table 165 SourceVolumeFilter

Data nesting information		Description	Range
value ¹			
	field	Field	"LDEV ID", "Label", "Pool ID"
	operator	Operator	When specifying "LDEV ID" or "Pool ID", the following operators can be specified: "=", "<", ">", "<=", ">=", "!=". When specifying "Label", the following operators can be specified: "=", "!=", "starts with", "ends with". When specifying "Pool ID", the following operators can be specified: "=", "<", ">", "<=", ">=", "!=".
	value	Value	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Table 166 SourceVolume

Data nesting information		Description	Range
value			
	ldevId	LDEV ID	-
	label	Label	-
	poolId	Pool ID	-
	byteFormatCapacity	Capacity	-

Table 167 Pool

Data nesting information		Description	Range
value			
	poolId	Pool ID	-
	poolName	Pool Type	-
	poolType	Pool Type	-
	usedCapacityRate	Used Capacity Rate(%)	-
	availableVolumeCapacity	Available Capacity	-
	totalPoolCapacity	Total Capacity	-
	numOfLdevs	Number of Volumes	-

Table 168 ResourceGroup

Data nesting information		Description	Range
value			
	resourceGroupId	Resource group	-

Allocate Like Volumes with Configuration Manager (submit)

Key name	Type	Description	Range	Default value
cmRestConnection	file	Specify the Configuration Manager connection.	See the following file type property list	-
storage	file	Specify the storage system.	See the following file type property list	-
SourceVolumeFilter	file	Use the filters to display only the source volumes that match the specified criteria.	See the following file type property list	-
SourceVolumeFilterJoinType	string	Use the "and" and the "or" operators to join multiple filters.	and, or	and
SourceVolume	file	Specify the source volumes.	See the following file type property list	-
CapacityInMiB	integer	Specify the volume capacity.	Refer to "capacity" row in the "AddVirtualVolume command parameters" table in the <i>Hitachi Command Suite CLI Reference Guide</i> .	-
NumberOfVolumes	integer	Specify the number of volumes.	1-500	1
pool	file	Specify the pool.	See the following file type property list	-

Key name	Type	Description	Range	Default value
VolumeLabel	string	Specify the volume label.	A maximum of 64 characters can be entered.	-
LdevIdStartsFrom	integer	Specify the startup LDEV ID for the volume to be allocated.	0-FE FF	-
LunStartsFrom	integer	Specify the starting logical unit number assigned to the volume for a host.	0-07 FF	-
VirtualLdevIdStartsFrom	integer	Specify the startup virtual LDEV ID for the volume to be allocated.	0-FE FF	-
ResourceGroup	file	LDEV ID will be searched from specified resource group. If it is not specified, it will be searched from same resource group as the source volume.	See the following file type property list	-

File type property list

Table 169 cmRestConnection

Data nesting information		Description	Range
value			
	productName	Category	-
	name	Name	-
	ipAddress	IP Address/Host Name	-
	port	Port	-
	protocol	Protocol	-

Data nesting information		Description	Range
	userID	User ID	-
	status	Status	-
	connectedTime	Connected Time	-

Table 170 storage

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	isSecure	Secure Connection	-
	svplp	SVP IP Address	-
	ctl1Ip	Controller 1 IP	-
	ctl2Ip	Controller 2 IP	-
	targetCtl	Operated Controller	-

Table 171 SourceVolumeFilter

Data nesting information		Description	Range
value ¹			
	field	Field	"LDEV ID", "Label", "Pool ID"
	operator	Operator	When specifying "LDEV ID" or "Pool ID", the following operators can be specified: "=", "<", ">", "<=", ">=", "!=". When specifying "Label", the following operators can be specified: "=", "!=", "starts with", "ends with". When specifying "Pool ID", the following operators can be specified: "=", "<", ">", "<=", ">=", "!=".
	value	Value	-

Data nesting information	Description	Range
1.	Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.	

Table 172 SourceVolume

Data nesting information	Description	Range
value		
	ldevId	LDEV ID
	label	Label
	poolId	Pool ID
	byteFormatCapacity	Capacity

Table 173 Pool

Data nesting information	Description	Range
value		
	poolId	Pool ID
	poolName	Pool Type
	poolType	Pool Type
	usedCapacityRate	Used Capacity Rate(%)
	availableVolumeCapacity	Available Capacity
	totalPoolCapacity	Total Capacity
	numOfLdevs	Number of Volumes

Table 174 ResourceGroup

Data nesting information	Description	Range
value		
	resourceGroupId	Resource group

Allocate Like Volumes with Configuration Manager (task detail)

Key name	Type	Description	Range
LUNPathConfigurationInformation	file	Stores the allocated LUN path information from the volume allocation results.	See the following file type property list

File type property list

Table 175 LUNPathConfigurationInformation

Data nesting information		Description	Range
value ¹			
	hostPort	Host Port	-
	storagePort	Storage Port	-
	lun	LUN	-
	portType	Port Type	-
	capacity	Capacity	-
	ldevId	Volume	-
	hostGroupNameOrIscsiTarget	Host Group Name/iSCSI Target	-
	model	Model	-
	serialNumber	Serial No.	-
	ldevLabel	LDEV Label	-
	resourceGroupName	Resource Group	-
	virtualLdevId	Virtual LDEV ID	-
	configurationManager	Configuration Manager	-
	poolId	Pool	-
	parityGroup	Parity Group	-
	attributes	Attributes	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

VMware service properties

Use the following properties to modify or create values for the VMware service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

VMware (edit)

key Name	Explanation	Input/Output	Type	Range	Default value
createDatastore.DatastoreEnvironmentSettings.DatastorePrefix	The prefix of the datastore name.	Input	String	The length must be less than 38.	GenericDatastore
createDatastore.DatastoreEnvironmentSettings.VMFSVersion	Value of VMFS Version.	Input	integer	3,5.	5
createDatastore.DatastoreEnvironmentSettings.Blocksize	Value of Block size.	Input	integer	1,2,4,8.	1
createDatastore.DatastoreEnvironmentSettings.StorageIOControl	Value to enable the control of storage.	Input	boolean	true = I/O control enabled. false = I/O control disabled.	FALSE
createDatastore.DatastoreEnvironmentSettings.Latencythreshold	Threshold of storage control.	Input	integer	5-100.	30

VMware (submit)

keyName	Explanation	Input/Output	Type	Range	Default value
createDatastore.paths	Information of the allocated volume.	Input	File	See the "File type property list" section following this table.	
createDatastore.source.datastore	Information of the source data store.	Input	File	See the "File type property list" section following this table.	
createDatastore.DatastoreEnvironmentSettings.DatastorePrefix	The prefix of the datastore name.	Input	String	The length must be less than 38.	GenericDatastore
createDatastore.taskResult.RawData.Datastores	Information of the created datastore.	Output	File	See the "File type property list" section following this table.	
service.errorMessage	Error message.	Output	String	Summary of error message.	

File type property list

Table 176 createDatastore.paths

Data nesting information	Explanation	Range
values ¹	Information of the allocated volume.	-
hostname	Host name.	-
serialNumber	Serial Number of storage system.	-

Data nesting information		Explanation	Range
	ldevNumber	LDEV number.	-
	usage	Name of volume usage.	-
	deviceManagerName	Device Manager name.	-
	volume	LDEV ID.	-
	storageModel	Model name of storage system.	-
	ipAddress	IP address of host.	-
	storageSystem	Array family name of storage system.	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Table 177 createDatastore.source.datastore

Data nesting information		Explanation	Range
values		Information of the source datastore.	-
	vcenterIp	Connection information name of the source vCenter.	-
	hostName	Source host name.	-
	datastoreName	Source datastore name.	-
	extentName	Detailed information of the source datastore.	-

Table 178 createDatastore.taskResult.RawData.Datastores

Data nesting information		Explanation	Range
values ¹		Information of the created datastore.	-
	canonicalName	Detailed information of the source data store.	-
	datastoreName	Name of the source datastore.	-

Data nesting information		Explanation	Range
	vmfsVersion	Value of VMFS Version.	-
	blockSizeMB	Value of Block size.	-
	datastoreAccessMode	Access mode of datastore.	-
	storageIOControlEnabled	Value to enable the control of storage.	-
	latencyThreshold	Threshold of storage control.	-
	hostName	Name of host.	-
	storageSystem	Name of storage system.	-
	volume	LDEV ID.	-
	volumeUsage	Name of Volume usage.	-
	deviceManagerName	Name of Device Manager.	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

VMware (task detail)

This section provides the property lists and the explanations of provisioning-specific properties.

There are two Automation Director-specific properties in Task Detail:

- Input value in submit task
- Run result details of task



Note: The input value in submit task is same as the properties of submit properties.

keyName	Explanation	Input/Output	Type	Range
createDatastore.taskResult.RawData.Datastores	The run result information of the task.	Output	File	See the "File type property list" section following this table.

keyName	Explanation	Input/Output	Type	Range
service.errorMessage	The run result information of the task.	Output	String	Summary of error message.

File type property list

Table 179 createDatastore.taskResult.RawData.Datastores

Data nesting information	Explanation	Range
values ¹	Run result.	-
canonicalName	Canonical Name.	-
datastoreName	Datastore Name.	-
vmfsVersion	VMFS Version.	-
blockSizeMB	Block size.	-
datastoreAccessMode	Datastore Access Mode.	-
storageIOControlEnabled	Storage I/O Control.	-
latencyThreshold	Latency Threshold.	-
hostName	Host Name.	-
storageSystem	Storage System.	-
volume	Volume.	-
volumeUsage	Volume Usage.	-
deviceManagerName	Device manager that created the volume.	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>		

Oracle service properties

Use the following properties to modify or create values for the Oracle service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Oracle (edit)

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Oracle.primaryServerName	In an Oracle RAC configuration, specify the host name of a primary DB server. In the case of Single Instance configuration, specify the host name of an Oracle DB server. Specify the same name as the name written in the hosts file.	in	string	Enter no more than 255 characters. Usable characters are alphanumeric characters and the following characters: . -		Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Oracle.memberServerName	In an Oracle RAC configuration, specify the host name of a member DB server. In a Single Instance configuration, you are not required to specify. Specify the same one as written in hosts file.	in	string	Enter no more than 255 characters. Usable characters are alphanumeric characters and the following characters: . - ,		Req'd	Req'd	Req'd	Req'd
Oracle.asm InstanceID	Specify the Oracle ASM instance ID.	in	string	Enter no more than 8 characters. Usable characters are alphanumeric characters and the following characters: _ # \$ +		Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Oracle.grid HomePath	Specify the path of the home directory of Oracle Grid Infrastructure.	in	string	Enter no more than 255 characters. Usable characters are alphanumeric characters and the following characters: " # % & ' () * + , - . / ; ; < = > ? @ _		Req'd	Req'd	Req'd	Not Req'd
Oracle.grid UserID	Specify the user ID for the Oracle Grid Infrastructure.	in	string	Enter a character string of no more than 32 characters. The string must not include the following character: "		Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Default Value	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Oracle.diskGroupname	Specify the Oracle ASM disk group to which a volume is being added.	in	string	Enter no more than 30 characters. Usable characters are alphanumeric characters and the following characters: \$ # _		Req'd	Req'd	Req'd	Req'd
Common.osUserID	Specify the user ID of the Oracle DB server.	in	string	Enter a character string of no more than 32 characters. The string must not include the following character: "		Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Common.osPassword	Specify the OS password of the Oracle DB server.	in	password	For the UNIX OS, enter a character string of no more than 255 characters. The string must not include the following characters: < > ; & For the Windows, enter no more than 255 characters.		Req'd	Req'd	Req'd	Req'd
Common.suPassword	Specify the SU password of the Oracle DB server.	in	password	Enter a character string of no more than 255 characters. The string must not include the following characters: < > ; &.		Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
OS.privOwner	Specify the owner information set for the volume.	in	string	Enter a character string of no more than 256 characters. The string must not include the following characters: < > ; &		Req'd	Req'd	Req'd	Not Req'd
OS.privGroupName	Specify the group name set for the volume.	in	string	Enter a character string of no more than 256 characters. The string must not include the following characters: < > ; &		Req'd	Req'd	Req'd	Not Req'd
OS.privPermissions	This property is the access permission information to set for the volume.	in	string	Enter a number of 3 or fewer digits.	660	Req'd	Req'd	Req'd	Not Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
aix.attrAlgorithm	Specify the channel selection algorithm for the multipath feature.	in	list	fail_over round_robin	round_robin	Req'd	Not Req'd	Not Req'd	Not Req'd
aix.attrMode	Specify the mode of the health check for the multipath feature.	in	list	enabled failed nonactive	enabled	Req'd	Not Req'd	Not Req'd	Not Req'd
aix.attrInterval	Specify the interval of the health check for the multipath feature.	in	integer	Enter an integer from 0 to 3600.	60	Req'd	Not Req'd	Not Req'd	Not Req'd
aix.attrQueueDepth	Specify the number of I/O requests that each device can handle at one time.	in	integer	Enter an integer from 1 to 256.	32	Req'd	Not Req'd	Not Req'd	Not Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Oracle.directoryPathRemote	Specify the output directory for log files on the DB server.	in	string	For the UNIX OS, enter a character string of no more than 200 characters. The string must not include a space, a trailing \, a trailing /, or any of the following characters: < > ; & * ? " % ` For the Windows, enter no more than 200 characters. The string must not include a trailing \, or any of the following characters: < > ; & * ? " % / \O	AIX : [/tmp/oracle_logs] Solaris: [/var/tmp/oracle_logs] Linux: [/tmp/oracle_logs] Windows: [C:\temp\O	Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
					rac le_ log s]				
Oracle.folderPathLocal	Specify the output directory for log files on the server that runs the service.	in	string	Enter a character string of no more than 200 characters. The string must not include a trailing \ or any of the following characters: < > ; & * ? " %	C:\Oracle_logs	Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
UserResponsePlugin.t oAddress	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	in	string	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.		Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
UserResponsePlugin.cAddress	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	in	string	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.		Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
UserResponsePlugin.bccAddress	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	in	string	A maximum of 1024 characters can be entered. Characters that can be used include alphanumeric characters and symbols.		Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Default Value	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
UserResponsePlugin.encodedType	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	in	list	us-ascii iso-2022-jp shift_jis euc-jp utf-8	utf-8	Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
UserResponsePlugin.mailSubject	Specify the subject line of notification emails sent when the service is waiting for a user response.	in	string	A character string of no more than 256 characters can be entered.	Allocate Volume and Add to Oracle Database Task Pending	Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
UserResponsePlugin.mailBody	Specify the body text of notification emails sent when the service is waiting for a user response.	in	string	A character string of no more than 1024 characters can be entered.	Allocate Volume and add to Oracle Database is pending regarding Oracle configuration. Check the	Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
					following dialog:				
UserResponsePlugin.dialogText	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	in	string	A character string of no more than 512 characters can be entered.		Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
UserResponsePlugin.responseTimeout	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	in	integer	Integer between 1 and 20160 can be entered.	1440	Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val. *	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
linux.multipathConfPath	Specify the path that contains the multipath.conf. This parameter can be omitted. If you do not specify a value, the directory "/etc" or "/usr/share/device-mapper-multipath-0.4.9" is searched. If the file is not in the directory, an error occurs.	in	string	Enter a character string of no more than 255 characters. The string must not include a space, a trailing \, a trailing /, or any of the following characters: < > ; & * ? " % `		Not Req'd	Not Req'd	Req'd	Not Req'd
oracle.grid Password	Specify the user password for Oracle Grid Infrastructure.	in	password	A character string of no more than 255 characters.		Not Req'd	Not Req'd	Not Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
oracle.label Prefix	Specify the prefix of the ASM link name.	in	string	A character string of no more than 27 characters. Spaces and the following characters cannot be used: \ / "		Not Req'd	Not Req'd	Not Req'd	Req'd
* Default value									

Oracle (submit)

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val .*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Oracle.primaryServerName	In an Oracle RAC configuration, specify the host name of a primary DB server. In the case of Single Instance configuration, specify the host name of an Oracle DB server. Specify the same name as the name written in the hosts file.	Input	string	Enter no more than 255 characters. Usable characters are alphanumeric characters and the following characters: . -		Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Oracle.memberServerName	In an Oracle RAC configuration, specify the host name of a member DB server. In a Single Instance configuration, you are not required to specify. Specify the same one as written in hosts file.	Input	string	Enter no more than 255 characters. Usable characters are alphanumeric characters and the following characters: . - ,		Req'd	Req'd	Req'd	Req'd
Oracle.asmlnstanceID	Specify the Oracle ASM instance ID.	Input	string	Enter no more than 8 characters. Usable characters are alphanumeric characters and the following characters: _ # \$ +		Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val .*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Oracle.grid HomePath	Specify the path of the home directory of Oracle Grid Infrastructure.	Input	string	Enter no more than 255 characters. Usable characters are alphanumeric characters and the following characters: " # % & ' () * + , - . / : ; < = > ? @ _		Req'd	Req'd	Req'd	Not Req'd
Oracle.grid UserID	Specify the user ID for the Oracle Grid Infrastructure.	Input	string	Enter a character string of no more than 32 characters. The string must not include the following character: "		Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Oracle.diskGroupNname	Specify the Oracle ASM disk group to which a volume is added.	Input	string	Enter no more than 30 characters. Usable characters are alphanumeric characters and the following characters: \$ # _		Req'd	Req'd	Req'd	Req'd
Common.oSUserID	Specify the user ID of the Oracle DB server.	Input	string	Enter a character string of no more than 32 characters. The string must not include the following character: "		Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Common.o sPassword	Specify the OS password of the Oracle DB server.	Input	password	For the UNIX OS, enter a character string of no more than 255 characters. The string must not include the following characters: < > ; & For the Windows, enter no more than 255 characters.		Req'd	Req'd	Req'd	Req'd
Common.s uPassword	Specify the SU password of the Oracle DB server.	Input	password	Enter a character string of no more than 255 characters. The string must not include the following characters: < > ; &.		Req'd	Req'd	Req'd	Not Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val .*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
OS.privOwner	Specify the owner information set for the volume.	Input	string	Enter a character string of no more than 256 characters. The string must not include the following characters: < > ; &		Req'd	Req'd	Req'd	Not Req'd
OS.privGroupName	Specify the group name set for the volume.	Input	string	Enter a character string of no more than 256 characters. The string must not include the following characters: < > ; &		Req'd	Req'd	Req'd	Not Req'd
OS.privPermissions	This property is the access permission information to set for the volume.	Input	string	Enter a number of 3 or fewer digits.	660	Req'd	Req'd	Req'd	Not Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Oracle.directoryPathRemote	Specify the output directory for log files on the DB server.	Input	string	For the UNIX OS, enter a character string of no more than 200 characters. The string must not include a space, a trailing \, a trailing /, or any of the following characters: < > ; & * ? " % ` For the Windows, enter no more than 200 characters. The string must not include a trailing \, or any of the following characters: < > ; & * ? " % /	AIX : [/tmp/Oracle_logs] Solaris: [/var/tmp/Oracle_logs] Linux: [/tmp/Oracle_logs] Windows: [C:\temp\O	Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
					rac le_l ogs]				
Oracle.folderPathLocal	Specify the output directory for log files on the server that runs the service.	Input	string	Enter a character string of no more than 200 characters. The string must not include a trailing \ or any of the following characters: < > ; & * ? " %	C:\Or acl e_l ogs	Req'd	Req'd	Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val.*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
linux.multipathConfPath	Specify the path that contains the multipath.conf. This parameter can be omitted. If you do not specify a value, the directory "/etc" or "/usr/share/device-mapper-multipath-0.4.9" is searched. If the file is not in the directory, an error occurs.	Input	string	Enter a character string of no more than 255 characters. The string must not include a space, a trailing \, a trailing /, or any of the following characters: < > ; & * ? " % `		Not Req'd	Not Req'd	Req'd	Not Req'd
oracle.gridPassword	Specify the user password for Oracle Grid Infrastructure.	Input	password	A character string of no more than 255 characters.		Not Req'd	Not Req'd	Not Req'd	Req'd

						Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	Def. val .*	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
oracle.label Prefix	Specify the prefix of the ASM link name.	Input	string	A character string of no more than 27 characters. Spaces and the following characters cannot be used: \ / "		Not Req'd	Not Req'd	Not Req'd	Not Req'd
* Default value									

Oracle (task detail)

					Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Oracle.deviceList	List of devices on which to perform the operation.	Output	string	-	Req'd	Req'd	Req'd	Req'd

					Required to specify in each service template			
key Name	Explanation	I/O	Type	Range	AIX Prov Vol	Solaris Prov Vol	Linux Prov Vol	Windows Prov Vol
Oracle.ldevId	List of LDEV IDs on which to perform the operation.	Output	string	-	Req'd	Req'd	Req'd	Req'd

Allocate volumes for a symmetric cluster server from two storage systems service properties

Use the following properties to modify or create values for the allocate volumes for a symmetric cluster server from two storage systems service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate volumes for a symmetric cluster server from two storage systems (edit)

keyName	Explanation	Input/Output	Type	Range
provisioning.advancedOption.advancedOptions.value	Information of dedicated AdvancedOption in edit service.	Input	File	See the "File type property list" section following this table.
provisioning.bootVolumeSetting.volumeSettings.value	Information of dedicated VolumeSetting in Edit service.	Input	File	See the "File type property list" section following this table.

keyName	Explanation	Input/Output	Type	Range
provisioning.bootVolumeSetting.volumeSettings.restriction	Information of dedicated VolumeSetting in Edit service.	Input	File	See the "File type property list" section following this table.
provisioning.dataVolumeSetting.volumeSettings.value	Information of shared VolumeSetting in Edit service.	Input	File	See the "File type property list" section following this table.
provisioning.dataVolumeSetting.volumeSettings.restriction	Information of shared VolumeSetting in Edit service.	Input	File	See the "File type property list" section following this table.
provisioning.resourceCriteria.resourceSelectionCriteria.bootVolumeUsageSpecific.value	Information of dedicated Resource Criteria in Edit service.	Input	File	See the "File type property list" section following this table.
provisioning.resourceCriteria.resourceSelectionCriteria.bootVolumeUsageSpecific.restriction	Information of dedicated Resource Criteria in Edit service.	Input	File	See the "File type property list" section following this table.
provisioning.resourceCriteria.resourceSelectionCriteria.dataVolumeUsageSpecific.value	Information of shared Resource Criteria in Edit service.	Input	File	See the "File type property list" section following this table.
provisioning.resourceCriteria.resourceSelectionCriteria.dataVolumeUsageSpecific.restriction	Information of shared Resource Criteria in Edit service.	Input	File	See the "File type property list" section following this table.

keyName	Explanation	Input/Output	Type	Range
provisioning.storagePairSetting.primaryStorageSettings.value	Information of PrimaryStorageSetting in Edit service.	Input	File	See the "File type property list" section following this table.
provisioning.storagePairSetting.primaryStorageSettings.restriction	Information of PrimaryStorageSetting in Edit service.	Input	File	See the "File type property list" section following this table.
provisioning.storagePairSetting.secondaryStorageSettings.value	Information of SecondaryStorageSetting in Edit service.	Input	File	See the "File type property list" section following this table.
provisioning.storagePairSetting.secondaryStorageSettings.restriction	Information of SecondaryStorageSetting in Edit service.	Input	File	See the "File type property list" section following this table.

Properties list required to specify in Edit service

All the above properties

File type property list

*1 : Repeatable items must be repeated and must include all lower layer tags.

Table 180 provisioning.bootVolumeSetting.volumeSettings.value

Data nesting information	Explanation	Range
values ¹	Volume Setting information in edit service.	-
usage	Characters of Volume Usage	A maximum of 64 characters can be entered.
numberOfVolumes	Number of volumes	1 - 500

Data nesting information		Explanation	Range
	capacity	Volume capacity	<p>Specify the capacity of volumes to allocate. The following storage systems will be used when the specified capacity is in the range.</p> <p>Refer to the "capacity" row in the "AddVirtualVolume command parameters" table in <i>Hitachi Command Suite CLI Reference Guide</i>.</p> <p>VSP G1000, VSP G1000, VSP F1500 (microcode 80-03-0X-XX/XX or later) : 48000~274877906944KB(=256TB)</p> <p>VSP G1000, VSP G1000, VSP F1500 (microcode earlier than 80-03-0X-XX/XX) : 48000~64424505600KB(=60TB)</p> <p>VSP Gx00 models (microcode 83-02-0X-XX/XX or later) : 48000~274877906944KB(=256TB)</p> <p>VSP Gx00 models (microcode earlier than 83-02-0X-XX/XX) : 48000~64424505600 KB</p>

Data nesting information		Explanation	Range
			<p>VSP Fx00 models : 48000~ 274877906944KB(=256TB)</p> <p>VSP : 48000~ 64424505600 KB</p> <p>USP V (microcode earlier than 06-03) : 48000~ 3221159680 KB</p> <p>USP V (microcode 06-03 or later) : 48000~4294967296 KB</p> <p>HUS VM : 48000 ~ 64424505600 KB</p> <p>HUS : 32768 ~ 137438953472 KB(=128TB)</p> <p>AMS : 32768 ~ 6442450944 KB</p>
	storageProfile	Storage Profile name	Storage Profile name that is already defined.
	ldevLabel	LDEV label	A maximum of 64 characters can be entered.
	ldevSettings	LDEV setting	-
	fullAllocation	Full allocation	<p>Specify "Enable" to guarantee the writing to the full range of the allocated volumes.</p> <p>You can only allocate volumes to the storage system that supports this feature.</p>

Data nesting information			Explanation	Range
				If "Disable" is specified, writing to the volumes may occur an error when there is no free space in the pool.
		primaryLdevIdStartsFrom	Starting number of LDEVID in primary storage	AMS, HUS 100: 0 - 4095. USP V, VSP, VSP G1000, VSP G1000, VSP F1500, HUS VM, VSP Fx00 models, VSP Fx00 models: 00:00:00 - 00:FE:FF
		secondaryLdevIdStartsFrom	Starting number of LDEVID in secondary storage	AMS, HUS 100: 0 - 4095. USP V, VSP, VSP G1000, VSP G1000, VSP F1500, HUS VM, VSP Fx00 models, VSP Fx00 models: 00:00:00 - 00:FE:FF
	lunSetting		LUN setting	-
		primaryLunStartsFrom ²	Starting number of LUN in primary storage	0 - 07FF
		secondaryLunStartsFrom ²	Starting number of LUN in secondary storage	0 - 07FF
<ol style="list-style-type: none"> 1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item. 2. Specified in hexadecimal. For example, 07FF is the maximum value of LUNs that can be specified in Storage that contains pools which are filled with Storage Class condition. 				

Table 181 provisioning.dataVolumeSetting.volumeSettings.value

Data nesting information		Explanation	Range
values ¹		Volume Setting information in edit service.	-
	usage	Characters of Volume Usage.	A maximum of 64 characters can be entered.
	numberOfVolumes	Number of volumes.	1 - 500.
	capacity	Volume capacity.	Specify the capacity of volumes to allocate. The following storage systems will be used when the specified capacity is in the range. Refer to the "capacity" row in the "AddVirtualVolume command parameters" table in <i>Hitachi Command Suite CLI Reference Guide</i> . VSP G1000, VSP G1000, VSP F1500 (microcode 80-03-0X-XX/XX or later) : 48000~274877906944KB(=256TB) VSP G1000, VSP G1000, VSP F1500 (microcode earlier than 80-03-0X-XX/XX) : 48000~64424505600 KB(=60TB) VSP Gx00 models (microcode 83-02-0X-XX/XX or later) : 48000~274877906944KB(=256TB) VSP Gx00 models (microcode earlier than 83-02-0X-XX/XX) : 48000~64424505600 KB

Data nesting information		Explanation	Range
			VSP Fx00 models : 48000 ~ 274877906944KB(=256T B) VSP : 48000~ 64424505600 KB USP V (microcode earlier than 06-03) : 48000~ 3221159680 KB USP V (microcode 06-03 or later) : 48000~ 4294967296 KB HUS VM : 48000 ~ 64424505600 KB HUS : 32768 ~ 137438953472 KB(=128TB) AMS : 32768 ~ 6442450944 KB
	storageProfile	Storage Profile name.	Storage Profile name that is already defined.
	ldevLabel	LDEV label.	A maximum of 64 characters can be entered.
	ldevSettings	LDEV setting.	-
		Full Allocation ₂	Fully allocated.
		ldevIdStartsFrom	Starting number of LDEVID.
	lunSetting		LUN setting.
		lunStartsFrom	Starting number of LUN.
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p> <p>2. Specify "Enable" to guarantee the writing to the full range of the allocated volumes.</p> <p>You can only allocate volumes to the storage system that supports this feature.</p> <p>If "Disable" is specified, writing to the volumes may occur an error when there is no free space in the pool.</p>			

Data nesting information	Explanation	Range
3.	AMS, HUS 100: 0 - 4095. USP V, VSP, VSP G1000, VSP G1000, VSP F1500, HUS VM, VSP Fx00 models, VSP Fx00 models: 00:00:00 - 00:FE:FF	
4.	0 - 07FF	

Table 182
provisioning.resourceCriteria.resourceSelectionCriteria.bootVolumeUsageSpecific.
value

Data nesting information				Explanation	Range
values ¹				ResourceCriteria information in edit service	-
	usage			Characters of Volume Usage.	Same as volumeSetting
	criteria			Filtering criteria.	-
		groupCriteria		Filtering criteria of group definition.	-
			infrastructureGroupCriteria	Filtering criteria of IG definition.	-
			Condition	Conditional statement.	-
			join	Join.	"and" or "or"
			expressions	Identifier.	-

Data nesting information						Explanation	Range
					op	Operator.	Value defined at ValueList Common for all the resources: eq, ne, starts, ends
					name	Name.	Value defined at ValueList IG: name RG: name Pool: poolId, name Port: name
					value	Value.	-
		resourceCriteria				Filtering criteria of RG definition.	-
		*Same as infrastructureGroupCriteria					-
		resourceCriteria				Filtering criteria of storage resources.	-
		storagePortCriteria				Filtering criteria of storage port.	-
			condition			Filtering criteria of port configuration .	-
				join		Join.	"and" or "or"

Data nesting information						Explanation	Range
					expressions	Identifier.	-
					op	Operator.	"eq", "ne", "starts", or "ends"
					name	Name.	"name"
					value	Value.	-
				performanceCondition		Filtering criteria of port performance.	-
					join	Join.	"and" or "or"
					expressions	Identifier.	-
					op	Operator.	"lt" or "gt"
					name	Name.	"avgXferPerSec" or "avgIoPerSec"
					value	Value.	-
				numberCondition		Filtering criteria of port performance.	-
					join	Join.	"and"
					expressions	Identifier.	-
					op	Operator.	"it"
					name	Name.	"numberOfLuns" or "numberOfWwns"
					value	Value.	-
			dynamicProvisioningPoolCriteria			HDP/HDT Pool criteria.	-

Data nesting information				Explanation	Range
			*Same as infrastructureGroupCriteria	-	-

1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.

Table 183
provisioning.resourceCriteria.resourceSelectionCriteria.dataVolumeUsageSpecific.value

Data nesting information				Explanation	Range
values ¹				ResourceCriteria information in edit.	-
	usage			Characters of Volume Usage.	Same as volumeSetting
	criteria			Filtering criteria.	-
		groupCriteria		Filtering criteria of group definition.	-
			infrastructureGroupCriteria	Filtering criteria of IG definition.	-
			Condition	Conditional statement.	-
			join	Join.	"and" or "or"
			expressions	Identifier.	-

Data nesting information						Explanation	Range
					op	Operator.	Value defined at ValueList Common for all the resources: eq, ne, starts, ends
					name	Name.	Value defined at ValueList IG: name RG: name Pool: poolId, name Port: name
					value	Value.	-
		resourceCriteria				Filtering criteria of RG definition.	-
		*Same as infrastructureGroupCriteria					-
		resourceCriteria				Filtering criteria of storage resources.	-
		storagePortCriteria				Filtering criteria of storage port.	-
			condition			Filtering criteria of port configuration .	-
				join		Join.	"and" or "or"

Data nesting information					Explanation	Range
				expressions	Identifier.	-
				op	Operator.	"eq", "ne", "starts", or "ends"
				name	Name.	"name"
				value	Value.	-
			performanceCondition		Filtering criteria of port performance.	-
				join	Join.	"and" or "or"
				expressions	Identifier.	-
				op	Operator.	"lt" or "gt"
				name	Name.	"avgXferPerSec" or "avgIoPerSec"
				value	Value.	-
			numberCondition			
				join	Join.	"and"
				expressions	Identifier.	-
				op	Operator.	"lt"
				name	Name.	"numberOfLuns" or "numberOfWwns"
				value	Value.	-
			dynamicProvisioningPoolCriteria		HDP/HDT Pool criteria.	-
			*Same as infrastructureGroupCriteria		-	-

1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.

Table 184 provisioning.advancedOption.advancedOptions.value

Data nesting information			Explanation	Range
values ¹			advancedOption information.	-
	numberOfPaths		Number of paths.	1 - 65536
	hostModeSettings		Host mode setting.	
		arrayType	Display array family (Not required to specify. Reference only).	VSP USP V HUS VM VSP G1000 VSP G1500 VSP F1500 HUS AMS VSP Fx00 models VSP Gx00 models
		hostMode ²	Host mode.	Characters of Host mode name. Refer to "Table 4-5 Values that can be specified in the hostmode parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> .

Data nesting information			Explanation	Range
		hostModeOptions	Host mode option setting.	<p>Characters or numbers that correspond to Host mode options.</p> <p>Refer to following part of <i>Hitachi Command Suite CLI Reference Guide</i> VSP and USP V : "Table 4-7 Values that can be specified in the hostmodeoption parameter" HUS and AMS : "Table 4-6 Values that can be specified in the hostmode2 parameter" * In <i>Hitachi Command Suite CLI Reference Guide</i>, hostmode2 is expressed in "List of host connection mode 2", this means hostmodeoption of HUS and AMS.</p>
<ol style="list-style-type: none"> 1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item. 2. If you specified "Auto" characters of Host mode name. *2 Refer to "Table 4-5 Values that can be specified in the hostmode parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i>. Otherwise, the default value will be set. The default value is defined from the OS of the host and target Storage you specified by Device Manager. If you specified a Host mode that doesn't exist, the behavior is same as the behavior if you specified "Auto". 				

Table 185 provisioning.storagePairSetting.primaryStorageSettings.value

Data nesting information		Explanation	Range
values		Primary storage system information	-
	storageSystem	Storage system name	-
	model	Model	-
	serialNumber	Serial number	-

Table 186 provisioning.storagePairSetting.secondaryStorageSettings.value

Data nesting information		Explanation	Range
values		Secondary storage system information	-
	storageSystem	Storage system name	-
	model	Model	-
	serialNumber	Serial number	-

Table 187 provisioning.bootVolumeSetting.volumeSettings.restriction

Data nesting information						Explanation	Range
type ¹						Volume Setting user restriction values information	-
visibility							-
readOnly							-
itemInstances							-
	type						-
	properties						-

Data nesting information						Explanation	Range
		usage				Volume Usage information (Do not edit)	-
			type				-
			visibility				-
			readOnly				-
			defaultValue				-
		numberOfVolumes				Threshold information of number of volumes	-
			type				integer
			visibility				exec
			optionValues				-
				method		Value type of threshold of number of volumes	specific/range

Data nesting information						Explanation	Range
				values		Threshold of number of volumes	If the type is "specific", specify the value list that can be specified. If the type is "range", specify the minimum value and maximum value in order.
			defaultV alue			Default values of number of volume	If the type is "specific", specify one of the values. If the type is "range", specify a value in the value range.
		capacity				Threshold information of volume capacity	-
			type				capacity
			visibility				exec

Data nesting information						Explanation	Range
			optionValues				-
				method		Value type of threshold value of volume capacity	specific/range
				values		Threshold value of volume capacity	If the type is "specific", specify the value list that can be specified. If the type is "range", specify the minimum value and maximum value in order.
			defaultValue			Default values of number of volume capacity	If the type is "specific", specify one of the values. If the type is "range", specify a value in the value range.

Data nesting information						Explanation	Range
		storageProfile				Storage Profile information (Do not edit.)	-
			type				-
			visibility				-
			readOnly				-
			defaultValue				-
		ldevLabel				LDEV label information (Do not edit.)	-
			type				-
			visibility				-
			defaultValue				-
		ldevSetting				LDEV information	-
			type				-
			properties				-
				fullAllocation		Fully Allocation	-
					type		-
					visibility		-
					default Value		-
				primaryLdevIdStartsFrom			-
					type		-

Data nesting information						Explanation	Range
					visibility		-
					default Value		-
				secondaryLdevIdStartsFrom			-
					type		-
					visibility		-
					default Value		-
		lunSetting				LUN information (Do not edit.)	-
			type				-
			properties				-
				primaryLunStartsFrom			-
					type		-
					visibility		-
					defaultValue		-
				secondaryLunStartsFrom			-
					type		-
					visibility		-
					defaultValue		-

1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.

Table 188 provisioning.dataVolumeSetting.volumeSettings.restriction

Data nesting information						Explanation	Range
type						Volume Setting user restriction values information	-
visibility							-
readOnly							-
itemInstances ¹							-
	type						-
	properties						-
		usage				Volume Usage information (Do not edit.)	-
			type				-
			visibility				-
			readOnly				-
			defaultValue				-
		numberOfVolumes				Threshold information of number of volumes	-
			type				integer
			visibility				exec
			optionValues				-

Data nesting information						Explanation	Range
				method		Value type of threshold of number of volumes	specific/range
				values		Threshold of number of volumes	If the type is "specific", specify the value list that can be specified. If the type is "range", specify the minimum value and maximum value in order.
			defaultV alue			Default values of number of volume	If the type is "specific", specify one of the values. If the type is "range", specify a value in the value range.
		capacit y				Threshold information of volume capacity	-

Data nesting information						Explanation	Range
			type				capacity
			visibility				exec
			optionValues				-
				method		Value type of threshold value of volume capacity	specific/range
				values		Threshold value of volume capacity	If the type is "specific", specify the value list that can be specified. If the type is "range", specify the minimum value and maximum value in order.

Data nesting information						Explanation	Range
			defaultV alue			Default values of number of volume capacity	If the type is "specific ", specify one of the values. If the type is "range", specify a value in the value range.
		storage Profile				Storage Profile information (Do not edit.)	-
			type				-
			visibility				-
			readOnl y				-
			defaultV alue				-
		ldevLab el				LDEV label information (Do not edit.)	-
			type				-
			visibility				-
			defaultV alue				-
		ldevSet ting				LDEV information	-
			type				-

Data nesting information						Explanation	Range
			properties				-
				fullAllocation		Fully Allocation	-
					type		-
					visibility		-
					defaultValue		-
				ldevIdStartsFrom		Start number of LDEVID	-
					type		-
					visibility		-
					defaultValue		-
		lunSetting				LUN information (Do not edit.)	-
			type				-
			properties				-
				lunStartsFrom		Start number of LUN	-
					type		-
					visibility		-
					defaultValue		-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.							

Table 189
provisioning.resourceCriteria.resourceSelectionCriteria.bootVolumeUsageSpecific.
restriction

Data nesting information														Exp	Rn g	
typ e															Res ourc eCri teria user restri ction valu es info rma tion	-
visi bilit y																-
rea dO nly																-
ite mIn sta nce s ¹																-
	ty p e															-
	p r o p e r t i e s															-

Data nesting information														Exp	Rn g
		usage												Volume Usage information	-
			type												-
			visibility												-
			defaultValue												-
		criteria												Filtering criteria information	-
			type												-
			properties												-
				group Criteria										Filtering criteria of group definition	-

Data nesting information														Exp	Rn g	
					typ e											-
					pr op ert ies											-
					inf ras tru ctu re Gr ou pC rit eri a										Flte ring crite ria of IG	-
							typ e									-
							pr op ert ies									-
								co ndi tio n								-
									ty pe							-
									pr op ert ies							-
										join						-
											typ e					-

Data nesting information														Exp	Rn g
											visi bili ty				-
											def aul tVa lue				-
										exp res sio ns					-
										typ e					-
										ite ml nst an ces					-
										typ e					-
										pro per tie s					-
											op				-
												ty p e			-

Data nesting information													Exp	Rn g
													defaultV alue	Val ue def ine d at Val ue List Com mon for all the res ou rce s: eq, ne, sta rts, en ds
													na me	-
													ty pe	-

Data nesting information														Exp	Rn g
														default Value	Value defined at Value List IG: name RG: name Pool: pool d, name Port: name
														value	-
														type	-
														defaultValue	-
						resourceGroupCriteria							Filtering criteria of RG		
						*Same as infrastructureGroupCriteria									

Data nesting information														Exp	Rn g		
				res ou rce Cri teri a													
					typ e												
					pr op ert ies												
						storagePortCriteria									Filtering criteria of stor age port		
							condition										
							*Same as infrastructureGroupCriteria										
							performanceCondition										
							*Same as infrastructureGroupCriteria										
							dynamicProvisioningPoolCriteria									Filtering criteria of HDP /HD T Pool	
							*Same as infrastructureGroupCriteria										

1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.

Table 190
provisioning.resourceCriteria.resourceSelectionCriteria.dataVolumeUsageSpecific.
restriction

Data nesting information														Explanation	Range	
type															ResourceCriteria user restriction values information	-
visibility																-
readOnly																-
itemInstances ¹																-
type																-
properties																-
		usage													VolumeUsage information	-
			type													-
			visibility													-
			defaultValue													-

Data nesting information														Explanation	Range
		criteria												Filtering criteria information	-
			type												-
			properties												-
				groupCriteria										Filtering criteria of group definition	-
					type										-
					properties										-
				infrastructureGroupCriteria										Filtering criteria of IG	-
						type									-
						properties									-
							condition								-
								type							-
								properties							-

Data nesting information													Explanation	Range	
										join					-
											type				-
											visibility				-
											defaultValue				-
											expressions				-
											type				-
											itemInstances ¹				-
											type				-
											properties				-
												op			-
													type		-
													visibility		-

Data nesting information													Explanation	Range
													defaultValue	Value defined at Value List Common for all the resources: eq, ne, starts, ends
												n a m e		-
												t y p e		-

Data nesting information													Explanation	Range
													visibility	-
													default Value	Value defined at Value List IG: name RG: name Pool: pool d, name Port: name
													value	-
													type	-

Data nesting information														Explanation	Range	
														visibility		-
														default value		-
					resourceGroupCriteria									Filtering criteria of RG		
					*Same as infrastructureGroupCriteria											
				resource Criteria												
					type											
					properties											

Data nesting information							Explanation	Range
						storagePortCriteria	Filtering criteria of storage port	
						condition		
						*Same as infrastructureGroupCriteria		
						performanceCondition		
						*Same as infrastructureGroupCriteria		
						dynamicProvisioningPoolCriteria	Filtering criteria of HDP/HDT Pool	
						*Same as infrastructureGroupCriteria		

Table 191 provisioning.storagePairSetting.primaryStorageSettings.restriction

Data nesting information				Explanation	Range
type					-
visibility				Primary storage system restriction information	-
properties					-
		storageSystem		Storage system name	-
			type		-
			visibility		-
			defaultValue		-
		model		Model	-

Data nesting information				Explanation	Range
			type		-
			visibility		-
			defaultValue		-
		serialNumber		Serial number	-
			type		
			visibility		-
			defaultValue		-

Table 192 provisioning.storagePairSetting.secondaryStorageSettings.restriction

Data nesting information				Explanation	Range
type					-
visibility				Secondary storage system restriction information	-
properties					-
	storageSystem			Storage system name	-
			type		-
			visibility		-
			defaultValue		-
		model		Model	-
			type		-
			visibility		-
			defaultValue		-
		serialNumber		Serial number	-
			type		-
			visibility		-
			defaultValue		-

Resource Criteria JSON example

ResourceCriteria.restriction:

```

{
  "type": "array",
  "visibility": "exec",
  "readOnly": true,
  "itemInstances": [
    {
      "type": "object",
      "properties": {
        "usage": {
          "type": "string",
          "visibility": "exec",
          "defaultValue": "boot"
        },
        "criteria": {
          "type": "object",
          "properties": {
            "groupCriteria": {
              "type": "object",
              "properties": {
                "infrastructureGroupCriteria": {
                  "type": "object",
                  "properties": {
                    "condition": {
                      "type": "object",
                      "properties": {
                        "join": {
                          "type": "list",
                          "visibility": "exec",
                          "defaultValue": "or"
                        },
                        "expressions": {
                          "type": "array",
                          "itemInstances": [
                            {
                              "type": "object",
                              "properties": {
                                "op": {
                                  "type": "list",
                                  "defaultValue": "starts"
                                },
                                "name": {
                                  "type": "list",
                                  "defaultValue": "name"
                                },
                                "value": {
                                  "type": "string",
                                  "defaultValue": "test"
                                }
                              }
                            }
                          ]
                        }
                      }
                    }
                  }
                }
              }
            }
          }
        }
      }
    }
  ]
}

```

```

        }
      }
    ]
  }
}
},
"resourceGroupCriteria": {
  "type": "object",
  "properties": {
    "condition": {
      "type": "object",
      "properties": {
        "join": {
          "type": "list",
          "visibility": "exec",
          "defaultValue": "or"
        },
        "expressions": {
          "type": "array",
          "itemInstances": [
            {
              "type": "object",
              "properties": {
                "op": {
                  "type": "list",
                  "defaultValue": "starts"
                },
                "name": {
                  "type": "list",
                  "defaultValue": "name"
                },
                "value": {
                  "type": "string",
                  "defaultValue": "H"
                }
              }
            }
          ]
        }
      }
    }
  }
},
"resourceCriteria": {
  "type": "object",
  "properties": {

```



```

"storagePortCriteria": {
  "type": "object",
  "properties": {
    "condition": {
      "type": "object",
      "properties": {
        "join": {
          "type": "list",
          "visibility": "exec",
          "defaultValue": "or"
        },
        "expressions": {
          "type": "array",
          "itemInstances": [
            {
              "type": "object",
              "properties": {
                "op": {
                  "type": "list",
                  "defaultValue": "starts"
                },
                "name": {
                  "type": "list",
                  "defaultValue": "name"
                },
                "value": {
                  "type": "string",
                  "defaultValue": "C"
                }
              }
            }
          ]
        }
      }
    }
  }
},
"dynamicProvisioningPoolCriteria": {
  "type": "object",
  "properties": {
    "condition": {
      "type": "object",
      "properties": {
        "join": {
          "type": "list",
          "visibility": "exec",
          "defaultValue": "or"
        },
        "expressions": {
          "type": "array",
          "itemInstances": [

```

```

{
  "type": "object",
  "properties": {
    "op": {
      "type": "list",
      "defaultValue": "eq"
    },
    "name": {
      "type": "list",
      "defaultValue": "poolId"
    },
    "value": {
      "type": "string",
      "defaultValue": "0"
    }
  }
},
{
  "type": "object",
  "properties": {
    "op": {
      "type": "list",
      "defaultValue": "eq"
    },
    "name": {
      "type": "list",
      "defaultValue": "poolId"
    },
    "value": {
      "type": "string",
      "defaultValue": "1"
    }
  }
},
{
  "type": "object",
  "properties": {
    "op": {
      "type": "list",
      "defaultValue": "eq"
    },
    "name": {
      "type": "list",
      "defaultValue": "poolId"
    },
    "value": {
      "type": "string",
      "defaultValue": "3"
    }
  }
},

```

```

    {
      "type": "object",
      "properties": {
        "op": {
          "type": "list",
          "defaultValue": "starts"
        },
        "name": {
          "type": "list",
          "defaultValue": "name"
        },
        "value": {
          "type": "string",
          "defaultValue": "H"
        }
      }
    }
  ]
}

```

Allocate volumes for a symmetric cluster server from two storage systems (submit)

keyName	Explanation	Input/Output	Type	Range	Default value
provisioning.hostSetting.targetHosts.value	The target host name to allocate volume.	Input	File	See the "File type property list" section following this table.	

keyName	Explanation	Input/Output	Type	Range	Default value
provisioning.bootVolumeSetting.volumeSettings.value	Dedicated volumeSetting information.	Input	File	See the "File type property list" section following this table.	The value specify in Edit window.
provisioning.dataVolumeSetting.volumeSettings.value	Shared volumeSetting information.	Input	File	See the "File type property list" section following this table.	The value specify in Edit window.
provisioning.resourceCriteria.resourceSelectionCriteria.bootVolumeUsageSpecific.value	Dedicated resourceCriteria information.	Input	File	See the "File type property list" section following this table.	The value specify in Edit window.
provisioning.resourceCriteria.resourceSelectionCriteria.dataVolumeUsageSpecific.value	Shared resourceCriteria information.	Input	File	See the "File type property list" section following this table.	The value specify in Edit window.
provisioning.storagePairSetting.primaryStorageSettings.value	Primary StorageSystem information.	Input	File	See the "File type property list" section following this table.	The value specify in Edit window.
provisioning.storagePairSetting.secondaryStorageSettings.value	Secondary StorageSystem information.	Input	File	See the "File type property list" section following this table.	The value specify in Edit window.

File type property list

Table 193 provisioning.hostSetting.targetHosts.value

Data nesting information		Explanation	Range
values		Array of host name.	-
	infrastructureGroupName	infrastructureGroupNa me	-
	deviceManagerName	Device Manager's name which manage the host.	The name specified in Device Manager connections.
	newHosts	New host addition flag.	"true" or "false". If you specify "true", adds new host.
	hosts ¹	Array of host information.	-
		name	Host name.
		osType	OS type.
		hostPorts	Array of host port.
<p>1. Repeatable. Repeatable items must be repeated and include all lower layer tags. For example: "{\n \"values\": {\n \"deviceManagerName\": \"vm010253\", \n \"hosts \": [\n {\n \"name\": \"testHosts001\" \n } \n] \n } \n</p>			

Allocate volumes for a symmetric cluster server from two storage systems (task detail)

keyName	Explanation	Input/ Output	Type	Range
provisioning.ta skResult.lunPat hConfigurationI nformation	The run result information of task.	Output	File	See the "File type property list" section following this table.
provisioning.ta skResult.Numb erOfLunPath	The run result information of task.	Output	String	Number of paths that allocated.

keyName	Explanation	Input/Output	Type	Range
service.errorMessage	The run result information of task.	Output	String	Summary of error message.
provisioning.taskResultRawData.ldevs	The run result information of task.	Output	File	See the "File type property list" section following this table.
provisioning.taskResultRawData.lunPaths	The run result information of task.	Output	File	See the "File type property list" section following this table.

- In Allocate volumes for a symmetric cluster server from two storage systems, since the Allocate Step plug-in is run 6 times, properties of all above (except `service.errorMessage`) are output as 6 pairs.
- In Allocate volumes for a symmetric cluster server from two storage systems, the `provisioning.taskResultRawData.ldevs` and `provisioning.taskResultRawData.lunPaths` properties of internal information are not displayed in the window but is output to File by the `FileExport` plug-in.

File type property list

Table 194 provisioning.taskResult.lunPathConfigurationInformation

Data nesting information	Explanation	Range
values ¹	Run result.	-
usage	Volume Usage name.	-
host	Host name.	-
hostPort	Host port name.	-
lun	LUN.	-
storagePort	Port ID.	-
portType	Port type (FC or iSCSI).	-
volume	LDEV ID.	-
ldevLabel	LdevLabel.	-
dpPool	Pool ID.	-
storageSystem	Storage System name.	-

Data nesting information		Explanation	Range
	provisionedCapacity	Create volume capacity.	-
	capacity	Volume capacity when you submit.	-
	hostGroup	Host Group name.	-
	deviceManagerTaskName	Task Name of Device Manager.	-
	deviceManagerName	Device Manager that ran the task.	-
	virtualStorageSystemName	Virtual storage system name.	-
	virtualStorageSystemType	Type of virtual storage system.	-
	virtualSerialNumber	Serial number of virtual storage system.	-
	virtualLdevId	Virtual LDEV ID.	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Table 195 provisioning.taskResultRawData.ldevs

Data nesting information		Explanation	Range
values		Volume information	
	usage	VolumeUsage	
	deviceId	Created DP/DT volume's LDEV ID	
	storageSystemType	Display Array Type of the target storage which volume has been allocated.	
	storageSystemSerialNumber	Serial Number of the target storage which volume has been allocated.	
	storageSystemSerialName	Name of target store system	

Data nesting information		Explanation	Range
	deviceManagerName ²	Device Manager name which manages the storage system that has the created volume.	
	displayUnit ²	Unit name string for displaying volume capacity size.	
	virtualSerialNumber	Virtual serial Number of the selected virtual storage system.	
	virtualStorageSystemName	Virtual storage system name	
	virtualDisplayArrayType	Virtual array type of storage system	
	virtualLdevId	Created virtual DP/DT volume's LDEV ID	
	poolId	Pool ID which volume has been allocated.	
<ol style="list-style-type: none"> 1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item. 2. block/KB/MB/GB/TB 			

Table 196 provisioning.taskResultRawData.lunPaths

Data nesting information		Explanation	Range
values		Path information raw data	
	usage	VolumeUsage	
	hostName	Host Name	
	hostPortName	Host port name	
	hostStorageDomainName	Host Storage Domain name	
	hostStorageDomainId	Host Storage Domain ID	
	lun	LUN Number	
	portWorldWideName	Storage Port WWN	
	targetIscsiName	iSCSI name	
	portName	Storage system's port name	
	portType	Port Type of storage system (FC or iSCSI)	

Data nesting information		Explanation	Range
	portObjectId	Port Object ID of Storage system	
	portId	Port ID of storage system	
	ldevNumber	LDEV number	
	ldevLabel	LDEV Label	
	dpPoolId	Pool ID	
	dpPoolName	Pool name	
	storageSystemName	Storage System name	
	storageSystemModel ¹	Model name of Storage system	
	family	Array Family of Storage system	
	storageSystemSerialNumber	Serial Number of storage system	
	capacity	Volume Capacity	
	unit	Unit of volume capacity for display	
	provisionedCapacityInBlock	Created volume capacity (in number of Block)	
	pairVolumeType	Volume's pair type (P or S)	
	volLdevId	LDEV ID	
	volLuNumber	LU number	
	deviceManagerTaskName	Device Manager's task name	
	deviceManagerName	Device Manager name	
	virtualStorageSystemName	Virtual storage system name	
	virtualStorageSystemType	Display name of virtual storage system virtual model (Array Type)	
	virtualSerialNumber	Serial Number of virtual storage system	
	virtualLdevId	Virtual LDEV ID	
	pathObjectId	Path Object ID	
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Allocate like volumes for a symmetric cluster server from two storage systems service properties

Use the following properties to modify or create values for the allocate like volumes for a symmetric cluster server from two storage systems service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate like volumes for a symmetric cluster server from two storage systems (edit)

Key Name	Explanation	Input/ Output	Type	Range
allocatelikevolumes.volumeSetting.volumeSettings.restriction	Threshold information about the volume capacity and the number of volumes to create.	Input	File	See the "File type property list" section following this table.
DirectoryPath	File export directory.	Output	String	

Table 197 allocatelikevolumes.volumeSetting.volumeSettings.restriction

Data nesting information				Explanation	Range
type				-	-
visibility				-	-
readOnly				-	-
properties				-	-
	capacity			Threshold information of volume capacity	-
		type		-	-
		visibility		-	-

Data nesting information			Explanation	Range
		optionValues		-
			method	Value type of threshold of number of volumes "specific" : Multiple Values "range" : Range not specified : No Restriction .
			values	Threshold value of volume capacity If the method is "specific", specify the value list that can be specified. If the method is "range", specify the minimum value and maximum value in order.
		defaultValue		Default values of number of volume capacity If the method is "specific", specify one of the values. If the method is "range", specify a value in the value range.
		numberOfVolumes		Threshold information of number of volumes. -

Data nesting information				Explanation	Range
		type		-	-
		visibility		-	-
		optionValues		-	-
			method	Value type of threshold value of volume capacity	"specific" : Multiple Values "range" : Range not specified : No Restriction .
			values	Threshold of number of volumes	If the method is "specific", specify the value list that can be specified. If the method is "range", specify the minimum value and maximum value in order.
		defaultValue		Default values of number of volume	If the method is "specific", specify one of the values. If the method is "range", specify a value in the value range.

Data nesting information			Explanation	Range
	ldevLabel		LDEV label information	-
		visibility	-	-
		readOnly	-	-
		hidden	-	-
		defaultValue	Default values of LDEV label	-

Allocate like volumes for a symmetric cluster server from two storage systems (submit)

KeyName	Explanation	Input/Output	Type	Range
allocatelikevolumes.volumeSource.volumeSource.value	The Primary referenced volume information.	Input	File	See the "File type property list" section following this table.
allocatelikevolumes.volumeSetting.volumeSettings.value	Information about the volume capacity and the number of volumes to allocate.	Input	File	See the "File type property list" section following this table.
AP_AllocateLikeVolumesPlugin_2/ allocatelikevolumes.volumeSource.volumeSource.value	The Secondary referenced volume information.	Input	File	See the "File type property list" section following this table.

File type property list

**Table 198 AP_AllocateLikeVolumesPlugin_2/
allocatelikeyolumes.volumeSource.volumeSource.value**

Data nesting information		Explanation	Range
values		-	-
	deviceManagerName	The name of the Device Manager instance that manages the storage system of the referenced volume.	The name specified in Device Manager Connections.
	lunPath	-	-
	hostPort	Host port WWN.	00.00.00.00.00.00.00.00-FF.FF.FF.FF.FF.FF.FF
	storagePort	Storage port WWN.	00.00.00.00.00.00.00.00-FF.FF.FF.FF.FF.FF.FF
	lun ¹	LU Number(The logical unit number assigned to the volume for a host).	0 - 07FF
<p>1. Must be specified in hex. For example, 01DC.</p>			

Table 199 allocatelikeyolumes.volumeSetting.volumeSettings.value

Data nesting information		Explanation	Range
values		-	-
	capacity ¹	The size of the allocated volumes	Volume capacity
	numberOfVolumes ²	The number of volumes to allocate	Number of volumes
	ldevLabel	LDEV label	

Data nesting information	Explanation	Range
<p>1. Refer to the "capacity" row in the "AddVirtualVolume command parameters" table in <i>Hitachi Command Suite CLI Reference Guide</i>.</p> <p>VSP G1000, VSP G1000, VSP F1500 (microcode 80-03-0X-XX/XX or later) : 48000~274877906944KB(=256TB)</p> <p>VSP G1000, VSP G1000, VSP F1500 (microcode earlier than 80-03-0X-XX/XX) : 48000~64424505600 KB(=60TB)</p> <p>(microcode earlier than 80-03-0X-XX/XX) : 48000~64424505600 KB(=60TB)</p> <p>(microcode earlier than 80-03-0X-XX/XX) : 48000~64424505600 KB(=60TB)</p> <p>VSP Gx00 models(microcode earlier than 83-02-0X-XX/XX) : 48000~64424505600 KB</p> <p>VSP Fx00 models : 48000~274877906944KB(=256TB)</p> <p>VSP : 48000~64424505600 KB</p> <p>USP V(microcode earlier than 06-03) : 48000~3221159680 KB</p> <p>USP V(microcode 06-03 or later) : 48000~4294967296 KB</p> <p>HUS VM : 48000 ~ 64424505600 KB</p> <p>HUS : 32768 ~ 137438953472 KB(=128TB)</p> <p>AMS : 32768 ~ 6442450944 KB</p>		
2. 1 - 500		

Allocate like volumes for a symmetric cluster server from two storage systems (task detail)

keyName	Explanation	Input/Output	Type	Range
allocatelikevolumes.taskResult.lunPathConfigurationInformation	Task run result information.	Output	File	See the "File type property list" section following this table.
allocatelikevolumes.taskResult.numberOfLdev	Task run result information.	Output	String	The number of the allocated volumes.
allocatelikevolumes.taskResult.numberOfLunPath	Task run result information.	Output	String	The number of paths.

keyName	Explanation	Input/Output	Type	Range
service.errorMessage	Task run result information.	Output	String	Summary information of error messages.
allocatelikevolumes.taskResultRawData.ldevs	Task run result information.	Output	File	See the "File type property list" section following this table.
allocatelikevolumes.taskResultRawData.lunPaths	Task run result information.	Output	File	See the "File type property list" section following this table.
AP_AllocateLikeVolumesPlugin_2/allocatelikevolumes.taskResult.lunPathConfigurationInformation	Task run result information.	Output	File	See the "File type property list" section following this table.
AP_AllocateLikeVolumesPlugin_2/allocatelikevolumes.taskResult.numberOfLdev	Task run result information.	Output	String	The number of the allocated volumes.
AP_AllocateLikeVolumesPlugin_2/allocatelikevolumes.taskResult.numberOfLunPath	Task run result information.	Output	String	The number of paths.
AP_AllocateLikeVolumesPlugin_2/allocatelikevolumes.taskResultRawData.ldevs	Task run result information.	Output	File	See the "File type property list" section following this table.
AP_AllocateLikeVolumesPlugin_2/allocatelikevolumes.taskResultRawData.lunPaths	Task run result information.	Output	File	See the "File type property list" section following this table.

keyName	Explanation	Input/Output	Type	Range
fileexport.exportFilePath	File export path.	Output	String	

File type property list

**Table 200 AP_AllocateLikeVolumesPlugin_2/
allocatelikevolumes.taskResult.lunPathConfigurationInformation**

Data nesting information	Explanation	Range
values ¹	LUN path Configuration information.	-
usage	Volume Usage name (fixed value "-" in AP).	-
host	Host name.	-
hostPort	Host Port WWN/iSCSI Name.	-
lun	LU Number.	-
storagePort	Storage Port WWN.	-
portType	Storage Port type (FC or iSCSI).	-
volume	LDEV ID.	-
dpPool	Pool ID.	-
storageSystem	Storage System name.	-
provisionedCapacity	The size of the allocated volumes (Blocks).	-
capacity	The size of the allocated volumes that specified when submit.	-
hostGroup	Host Group name/ iSCSI Target iSCSI Name.	-
deviceManagerTaskName	Task name of Device Manager.	-
deviceManagerName	The name of Device Manager that ran the task.	-
virtualStorageSystemName	The name of the virtual storage system.	-

Data nesting information		Explanation	Range
	virtualStorageSystemType	The display array type of the virtual storage system.	-
	virtualSerialNumber	The serial number of the virtual storage system.	-
	virtualLdevId	Virtual LDEV ID.	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

allocatelikeyolumes.taskResultRawData.ldevs

**Table 201 AP_AllocateLikeVolumesPlugin_2/
allocatelikeyolumes.taskResultRawData.ldevs**

Data nesting information		Explanation	Range
values ¹		Volume information.	-
	usage	Volume Usage name (fixed value "-" in AP).	-
	deviceld	LDEV ID.	-
	storageSystemType	The display array type of the storage system of the allocated volume.	-
	storageSystemSerialNumber	The serial number of the storage system of the allocated volume.	-
	storageSystemName	The name of the store system.	-
	deviceManagerName	The name of Device Manager that ran the task.	-
	displayUnit	Display unit for the size of the allocated volumes.	-
	virtualSerialNumber	The serial number of the virtual storage system.	-
	virtualLdevId	Virtual LDEV ID.	-
	virtualStorageSystemName	Virtual storage system name.	-
	virtualDisplayArrayType	Virtual array type of storage system.	-

Allocate like volumes for a symmetric cluster server from two storage systems (task detail)

Data nesting information		Explanation	Range
	poolID	Pool ID.	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

allocatelikevolumes.taskResultRawData.lunPaths

**Table 202 AP_AllocateLikeVolumesPlugin_2/
allocatelikevolumes.taskResultRawData.lunPaths**

Data nesting information		Explanation	Range
values ¹		The LUN path information.	-
	usage	Volume Usage name (fixed value "-" in AP).	-
	hostName	Host name.	-
	hostPortName	Host Port WWN/iSCSI Name.	-
	hostStorageDomainName	Host storage domain name.	-
	hostStorageDomainId	Host Group ID/iSCSI Target ID.	-
	lun	LU Number.	-
	portWorldWideName	Storage Port WWN.	-
	targetIscsiName	iSCSI Target iSCSI Name.	-
	portName	Storage Port name.	-
	portType	Storage Port type (FC or iSCSI).	-
	portObjectId	Storage Port object ID.	-
	portId	Storage Port ID.	-
	ldevNumber	LDEV Number.	-
	ldevLabel	LDEV label.	-
	dpPoolId	Pool ID.	-
	dpPoolName	Pool name.	-
	storageSystemName	Storage System name.	-
	storageSystemModel	Storage System model name.	-
	family	Storage System family name.	-

Data nesting information		Explanation	Range
	storageSystemSerialNumber	Storage System serial number.	-
	capacity	The size of the allocated volumes that specified when submitted.	-
	unit	The unit of the allocated volumes size that specified when submitted.	-
	provisionedCapacityInBlock	The size of the allocated volumes (Blocks).	-
	pairVolumeType	Pair type (P or S).	-
	volLdevId	LDEV ID.	-
	volLuNumber	LU Number.	-
	deviceManagerTaskName	Task name of Device Manager.	-
	deviceManagerName	The name of Device Manager that ran the task.	-
	virtualStorageSystemName	The name of the virtual storage system.	-
	virtualStorageSystemType	The display array type of the virtual storage system.	-
	virtualSerialNumber	The serial number of the virtual storage system.	-
	virtualLdevId	Virtual LDEV ID.	-
	pathObjectID	Object ID of path.	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

Create file share service properties

Use the following properties to modify or create values for the Create file share service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Create file share (edit)

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.resourceCriteria.fileServer.value	Specifies information about the cluster or server for which file shares are being created.	In	File	See the "File type property list" section following this table.	
fileProvisioning.resourceCriteria.fileServer.restriction	Specifies the restriction of [Cluster/Server] that can be specified.	In	File	See the "File type property list" section following this table.	
fileProvisioning.resourceCriteria.evs.value	Specifies information about the EVS for which file shares are being created.	In	File	See the "File type property list" section following this table.	
fileProvisioning.resourceCriteria.evs.restriction	Specifies the restriction of the EVSs that can be specified.	In	File	See the "File type property list" section following this table.	
fileProvisioning.resourceCriteria.fileSystem.value	Specifies information about the file system for which file shares are to create.	In	File	See the "File type property list" section following this table.	
fileProvisioning.resourceCriteria.fileSystem.restriction	Specifies the restriction of the file systems that can be specified.	In	File	See the "File type property list" section following this table.	

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.storageSetting.storagePoolTypeList	Specifies one of the following options for the storage pool type to use when creating file shares. - Tiered - Untiered.	In	List	Untiered, Tiered.	Untiered .
fileProvisioning.storageSetting.storageProfile	Specifies the storage profile of the storage pools to select when the storage pool type is "Untiered".	In	String	Valid only when [Server/Cluster] is not specified.	Gold Read.
fileProvisioning.storageSetting.storageProfileForTier0	Specifies the storage profile of the storage pools for Tier 0 to select when the storage pool type is "Tiered".	In	String	Valid only when [Server/Cluster] is not specified.	Ultimate .
fileProvisioning.storageSetting.storageProfileForTier1	Specifies the storage profile of the storage pools for Tier 1 to select when the storage pool type is "Tiered".	In	String	Valid only when [Server/Cluster] is not specified.	Gold Read.

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.storageSetting.commonPartOfPath	Specifies the common part of the path where file shares are created.	In	String	[Maximum string length] Connected string of Common Part of Path and Path is maximum 255 characters. *Connected string includes the separator character [Prohibited characters] CIFS plug-in : Conform to ShareName NFS plug-in : Conform to ExportName * But the file separator (/, \) can be entered. [Format] Start from the separator. The separator character is not continuous in the status where Common Part of Path and Path are connected.	\\

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.storageSetting.path	Specifies the additional path when you create a shared directory in a subdirectory of the [Common Part of Path] value in the Edit window.	In	String	[Maximum string length] Connected string of Common Part of Path and Path is maximum 255 characters. *Connected string includes the separator character [Prohibited characters] CIFS plug-in : Conform to ShareName NFS plug-in : Conform to ExportName * But the file separator (/, \) can be entered. [Format] Refer to Common Part of Path.	
fileProvisioning.storageSetting.shareName	Specifies the name of the CIFS share.	In	String	Maximum: 80 characters Prohibited characters: 0x0000~ 0x001F " * / : < > ? \ 0xFFFF~ 0xFFFF	

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.storageSetting.exportName	Specifies the name of the NFS export.	In	String	Maximum: 79 characters Prohibited characters: 0x0001~0x001F / \	
fileProvisioning.storageSetting.createPath	Specifies whether to create the specified path when it does not exist. - true: Create the path. - false: Do not create the path.	In	Boolean	True, false.	True.
fileProvisioning.cifsSetting.cifsEnable	Specifies whether to create CIFS shares. - true: Create CIFS shares. - false: Do not create CIFS shares.	In	Boolean	True, false.	True.
fileProvisioning.cifsSetting.comment	Stores additional information about the CIFS share.	In	String	Maximum: 255 characters.	

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.cifsSetting.userLimitEnable	Specifies whether to limit the number of users who can be associated with a CIFS share. - true: Limit the number of users. - false: Do not limit the number of users.	In	Boolean	True, false.	false
fileProvisioning.cifsSetting.maxUserCount	Specifies the maximum number of users who can be associated with a CIFS share.	In	Integer	Only 0-9 can be entered (Only numerical value) Range: 0 - 2147483647	0
fileProvisioning.cifsSetting.cifsShowSnapshots	Specifies one of the following options for the setting that controls access to snapshots by CIFS shares: - Show and Allow Access - Hide and Allow Access - Hide and Disable Access.	In	List	Show and Allow Access Hide and Allow Access Hide and Disable Access.	Show and Allow Access

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.cifsSetting.cacheOptions	Specifies one of the following options for the CIFS Share cache setting: - Manual local caching for documents - Automatic local caching for documents - Automatic local caching for programs - Local caching disabled.	In	List	Manual local caching for documents Automatic local caching for documents Automatic local caching for programs Local caching disabled.	Manual local caching for documents
fileProvisioning.cifsSetting.cifsTransferReplicationTarget	Specifies one of the following options for the behavior of the file system when it is recovered from a snapshot: - Enable - Disable - Use FS Default.	In	List	Enable Disable Use FS Default.	Use FS Default
fileProvisioning.cifsSetting.symbolicLinksEnable	Specifies whether to enable the use of symbolic links for CIFS shares. - true - false.	In	Boolean	True, false.	True.

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.cifsSetting.globalSymbolicLinksEnable	Specifies whether to enable the use of global symbolic links via Microsoft's DFS mechanism. - true - false.	In	Boolean	True, false.	True.
fileProvisioning.cifsSetting.forceFilenameLowercaseEnable	Specifies whether to forcibly change all uppercase letters in the names of files created in CIFS shares to lowercase letters. - true - false.	In	Boolean	True, false.	false
fileProvisioning.cifsSetting.abeEnable	Specifies whether to enable ABE. - true - false.	In	Boolean	True, false.	false
fileProvisioning.cifsSetting.virusScanningEnable	Specifies whether to enable virus scans. - true - false.	In	Boolean	True, false.	false
fileProvisioning.cifsSetting.mode	Specifies one of the following modes for creating individual home directories for users: - Off - ADS - User - DomainAndUser - Unix.	In	List	Off ADS User DomainAndUser Unix.	Off.

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.cifsSetting.path	Specifies the path where the individual home directories of users are created.	In	String	Maximum:127 characters Prohibited characters: Conform to ShareName.	
fileProvisioning.cifsSetting.permissionList.value	Specifies the users who can access a CIFS share and their permissions.	In	File	See the "File type property list" section following this table.	
fileProvisioning.cifsSetting.permissionList.restriction	Lists the access permissions that can be specified.	In	File	See the "File type property list" section following this table.	
fileProvisioning.cifsSetting.cifsAccessConfigurationList	Specifies the IP addresses of clients that can access a share. See [Service Details] in the Overview pane for further information.	In	File	Maximum:5957 characters.	
fileProvisioning.nfsSetting.nfsEnable	Specifies whether to create NFS exports. - true: Create NFS exports. - false: Do not create NFS exports.	In	Boolean	True, false.	True.

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.nfsSetting.nfsPathOption	Specifies whether to allow the use of nested NFS shares. - true - false.	In	Boolean	True, false.	True.
fileProvisioning.nfsSetting.nfsShowSnapshots	Specifies one of the following options for the setting that controls the access of snapshots by NFS shares: - Show and Allow Access - Hide and Allow Access - Hide and Disable Access.	In	List	Show and Allow Access Hide and Allow Access Hide and Disable Access.	Show and Allow Access.
fileProvisioning.nfsSetting.localReadCache	Specifies one of the following options for the files or the cache control of cross-filesystem link in the file system corresponding to the export: - Cache all files - Cache cross-file system links - Do not cache files.	In	List	Cache all files Cache cross-file system links Do not cache files.	Do not cache files.

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.nfsSetting.nfsTransferReplicationTarget	Specifies one of the following options for the behavior of the file system when it is recovered from a snapshot: - Enable - Disable - Use FS Default.	In	List	Enable Disable Use FS Default.	Use FS Default.
fileProvisioning.nfsSetting.nfsAccessConfigurationList	Specifies the IP addresses of clients that can access a share. See [Service Details] in the Overview pane for further information.	In	File	Maximum: 5957 characters.	

Properties list required to specify in Edit service

- `fileProvisioning.storageSetting.storagePoolTypeList`
- `fileProvisioning.storageSetting.commonPartOfPath`
- `fileProvisioning.cifsSetting.cifsEnable`
- `fileProvisioning.nfsSetting.nfsEnable`

File type property list

*1: Repeatable items must be repeated and include all lower layer tags.

Table 203 fileProvisioning.resourceCriteria.fileServer.value

Data nesting information		Explanation	Range
values		FileServer information.	-
	deviceManagerName	Device Manager name.	-
	name	FileServer name.	-

Data nesting information		Explanation	Range
	clusterID	ClusterID.	-

Table 204 fileProvisioning.resourceCriteria.fileServer.restriction

Data nesting information		Explanation	Range
type		FileServer restriction information.	-
hidden			-
properties			-
	deviceManagerName	Device Manager name restriction.	-
		type	-
		visibility	-
		defaultvalue	-
		hidden	-
	name	FileServer name restriction.	-
		type	-
		visibility	-
		defaultvalue	-
		hidden	-
	clusterID	ClusterID restriction.	-
		type	-
		visibility	-
		defaultvalue	-
		hidden	-

Table 205 fileProvisioning.resourceCriteria.evs.value

Data nesting information		Explanation	Range
values		EVS information	-

Data nesting information		Explanation	Range
	deviceManagerName	Device Manager name.	-
	name	EVS name.	-
	clusterID	ClusterID.	-
	virtualServerID	EVSID.	-

Table 206 fileProvisioning.resourceCriteria.evs.restriction

Data nesting information		Explanation	Range
type		EVS restriction information.	-
hidden			-
properties			-
	deviceManagerName	Device Manager name restriction.	-
	type		-
	visibility		-
	defaultvalue		-
	hidden		-
	name	EVS name restriction.	-
	type		-
	visibility		-
	defaultvalue		-
	hidden		-
	clusterID	ClusterID restriction.	-
	type		-
	visibility		-
	defaultvalue		-
	hidden		-
	virtualServerID	EVSID restriction.	-

Data nesting information			Explanation	Range
		type		-
		visibility		-
		defaultvalue		-
		hidden		-

Table 207 fileProvisioning.resourceCriteria.fileSystem.value

Data nesting information		Explanation	Range
values		FileSystem information	-
	deviceManagerName	Device Manager name.	-
	name	FileSystem name.	-
	clusterID	ClusterID.	-
	virtualServerID	EVSID.	-
	virtualServerName	EVS name.	-

Table 208 fileProvisioning.resourceCriteria.fileSystem.restriction

Data nesting information			Explanation	Range
type			FileSystem restriction information.	-
hidden				-
properties				-
	deviceManagerName		Device Manager name restriction.	-
		type		-
		visibility		-
		defaultvalue		-
		hidden		-
	name		FileSystem name restriction.	-
		type		-

Data nesting information			Explanation	Range
		visibility		-
		defaultvalue		-
		hidden		-
	clusterID		ClusterID restriction.	-
		type		-
		visibility		-
		defaultvalue		-
		hidden		-
	virtualServerID		EVSID restriction.	-
		type		-
		visibility		-
		defaultvalue		-
		hidden		-
	virtualsServerName		EVS name restriction.	
		type		
		visibility		
		defaultvalue		
		hidden		

Table 209 fileProvisioning.cifsSetting.permissionList.value

Data nesting information		Explanation	Range
values ^{1, 2}		Permission information.	-
	userOrGroup	User/Group name.	-
	type	Type.	Well Known Group, Unknown.
	fullControl	FullControl privilege information.	ALLOW, DENY, NONE.
	change	Change privilege information.	ALLOW, DENY, NONE.

Data nesting information		Explanation	Range
	read	Read privilege information.	ALLOW, DENY, NONE.
<ol style="list-style-type: none"> 1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item. 2. Specifies the users who can access a CIFS share and their permissions. 			

Table 210 fileProvisioning.cifsSetting.permissionList.restriction

Data nesting information		Explanation	Range
type		Permission restriction information.	-
visibility			-
itemInstances ¹			-
	type		-
	properties		-
	userOrGroup		-
		type	-
		defaultValue	-
		type	-
		type	Well Known Group, Unknown.
		defaultValue	-
		fullControl	-
		type	ALLOW, DENY, NONE.
		defaultValue	-
		read	-
		type	ALLOW, DENY, NONE.

Data nesting information				Explanation	Range
			defaultVal ue		-
		change			-
			type		ALLOW, DENY, NONE.
			defaultVal ue		-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.					

Create file share (submit)

keyName	Explanati on	Input/ Output	Type	Range	Default value
fileProvisioning.resourceCriteria.fileServer.value	Specifies information about the cluster or server for which file shares are being created.	In	File	See the "File type property list" section following this table.	
fileProvisioning.resourceCriteria.evs.value	Specifies information about the EVS for which file shares are being created.	In	File	See the "File type property list" section following this table.	

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.resourceCriteria.fileSystem.value	Specifies information about the file system for which file shares are to be created.	In	File	See the "File type property list" section following this table.	
fileProvisioning.storageSetting.storagePoolTypeList	Specifies one of the following options for the storage pool type to use when creating file shares. - Tiered - Untiered	In	List	Untiered, Tiered.	Untiered.
fileProvisioning.storageSetting.storageProfile	Specifies the storage profile of the storage pools to select when the storage pool type is "Untiered".	In	String	Valid only when [Server/Cluster] is not specified.	Gold Read.

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.storageSetting.storageProfileForTier0	Specifies the storage profile of the storage pools for Tier 0 that are to be selected, when the storage pool type is "Tiered".	In	String	Valid only when [Server/Cluster] is not specified.	Ultimate.
fileProvisioning.storageSetting.storageProfileForTier1	Specifies the storage profile of the storage pools for Tier 1 that are to be selected, when the storage pool type is "Tiered".	In	String	Valid only when [Server/Cluster] is not specified.	Gold Read.

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.storageSetting.commonPartOfPath	Specifies the common part of the path where file shares are to be created.	In	String	[Maximum string length] Connected string of Common Part of Path and Path is maximum 255 characters. *Connected string includes the separator character [Prohibited characters] CIFS plug-in : Conform to ShareName NFS plug-in : Conform to ExportName * But the file separator (/, \) can be entered. [Format] Start from the separator. The separator character is not	\

keyName	Explanation	Input/Output	Type	Range	Default value
				continuous in the status where Common Part of Path and Path are connected.	

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.storageSetting.path	Specifies the additional path when you create a shared directory in a subdirectory of the [Common Part of Path] value in the Edit window.	In	String	[Maximum string length] Connected string of Common Part of Path and Path is maximum 255 characters. *Connected string includes the separator character [Prohibited characters] CIFS plug-in : Conform to ShareName NFS plug-in : Conform to ExportName * But the file separator (/, \) can be entered. [Format] Refer to Common Part of Path.	

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.storageSetting.shareName	Specifies the name of the CIFS share.	In	String	Maximum: 80 characters Prohibited characters : 0x0000~0x001F " * / : < > ? \ 0xFFFE~0xFFFF	
fileProvisioning.storageSetting.exportName	Specifies the name of the NFS export.	In	String	Maximum: 79 characters Prohibited characters : 0x0001~0x001F / \	
fileProvisioning.cifsSetting.permissionList.value	Specifies the users who can access a CIFS share and their permissions.	In	File	See the "File type property list" section following this table.	
fileProvisioning.cifsSetting.cifsAccessConfigurationList	Specifies the IP addresses of clients that can access a share. See [Service Details] in the Overview pane for further information.	In	File	Maximum: 5957 characters .	

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.nfsSetting.nfsAccessConfigurationList	Specifies the IP addresses of clients that can access a share. See [Service Details] in the Overview pane for further information.	In	File	Maximum: 5957 characters	

Properties list required to specify in Submit service

fileProvisioning.storageSetting.path

fileProvisioning.storageSetting.shareName

fileProvisioning.storageSetting.exportName

File type property list

Table 211 fileProvisioning.resourceCriteria.fileServer.value

Data nesting information	Explanation	Range	Remarks	Repeatable
values	FileServer information.	-	-	-
deviceManagerName	Device Manager name.	-	-	-
Name	FileServer name.	-	-	-
clusterID	ClusterID.	-	-	-

Table 212 fileProvisioning.resourceCriteria.evs.value

Data nesting information		Explanation	Range	Remarks	Repeatable
values		EVS information.	-	-	-
	deviceManagerName	Device Manager name.	-	-	-
	Name	FileServer name.	-	-	-
	clusterID	ClusterID.	-	-	-
	virtualServerID	EVSID.	-	-	-

Table 213 fileProvisioning.resource.fileSystem.value

Data nesting information		Explanation	Range	Remarks	Repeatable
values		EVS information.	-	-	-
	deviceManagerName	Device Manager name.	-	-	-
	Name	FileServer name.	-	-	-
	clusterID	ClusterID.	-	-	-
	virtualServerID	EVSID.	-	-	-
	virtualServerName	EVS name.	-	-	-

Table 214 fileProvisioning.cifsSetting.permissionList.value

Data nesting information		Explanation	Range	Remarks	Repeatable
values		Permission information.	-	-	-
	userOrGroup	User/Group name.	-	-	-
	type	Type.	-	-	-
	fullControl	FullControl privilege information.	-	-	-
	change	Change privilege information.	-	-	-

Data nesting information		Explanation	Range	Remarks	Repeatable
	read	Read privilege information.			

Create file share (task detail)

keyName	Explanation	Input/Output	Type	Range	Default value
fileProvisioning.taskResult.accessPathInformation	Stores information about the access paths of created shares.	out	File	See the "File type property list" section following this table.	-
fileProvisioning.taskResult.permissionList	Stores information about the access permissions of the created CIFS share.	out	File	See the "File type property list" section following this table.	-
fileProvisioning.taskResult.provisioningResults	Stores detailed information about created shares.	out	File	See the "File type property list" section following this table.	-

File type property list

Table 215 fileProvisioning.taskResult.accessPathInformation

Data nesting information	Explanation	Range
values	Information about the access paths of created shares.	-

Data nesting information		Explanation	Range
	cifsShare	Information about the access paths of the created CIFS shares.	-
	nfsExport	Information about the access paths of the created NFS shares.	-

Table 216 fileProvisioning.taskResult.permissionList

Data nesting information		Explanation	Range
values ¹		Information about the access permissions of the created CIFS share.	-
	userOrGroup	User/Group name.	-
	type	Type.	-
	fullControl	FullControl privilege information.	-
	change	Change privilege information.	-
	read	Read privilege information.	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Table 217 fileProvisioning.taskResult.provisioningResults

Data nesting information		Explanation	Range
values		Information about the access paths of created shares.	-
	serverOrCluster	FileServer name.	-
	evs	EVS name.	-
	fileSystem	FileSystem name.	-
	path	Path of created shares.	-
	storagePool	StoragePool name.	-
	hdvmName	Device Manager name.	-

Data nesting information		Explanation	Range
	hdvmTaskNameCifs	Device Manager task name of creating CIFS.	-
	hdvmTaskNameNfs	Device Manager task name of creating NFS.	-

Allocate like replicated volumes on existing copy topology service properties

Use the following properties to modify or create values for the allocate like replicated volumes on existing copy topology service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate like replicated volumes on existing copy topology (edit)

key Name	Explanation	Type	Range
allocateLikeRemoteCopy.volumeSetting.volumeSettings.value	Volume Settings (Number of volumes, Volume capacity).	File	See the "File type property list" section following this table.
allocateLikeRemoteCopy.topologySetting.volumeSettings.value	Volume Settings (Volume Label/Start number of LDEV ID/ Start number of LUN).	File	See the "File type property list" section following this table.
allocateLikeRemoteCopy.topologySetting.copyPairSetting.value	Copy Pair Settings.	File	See the "File type property list" section following this table.

key Name	Explanation	Type	Range
allocateLikeRemoteCopy.volumeSetting.volumeSettings.restriction	Restriction of Volume Settings (Number of volumes, Volume capacity).	File	Same as AllocateLikeVolumes (allocateLikeVolumes.volumeSettings.restriction).
allocateLikeRemoteCopy.topologySetting.volumeSettings.restriction	Restriction of Volume Settings (Volume Label/Start number of LDEV ID/Start number of LUN).	File	See the "File type property list" section following this table.
allocateLikeRemoteCopy.topologySetting.copyPairSetting.restriction	Restriction of Copy Pair Settings.	File	See the "File type property list" section following this table.

File type property list

Table 218 allocateLikeRemoteCopy.volumeSetting.volumeSettings.value

Data nesting information	Explanation	Range
values		-
capacity	Volume capacity	Specify the capacity of volumes to allocate. The following storage systems will be used when the specified capacity is in the range. Refer to the "capacity" row in the "AddVirtualVolume command parameters" table in <i>Hitachi Command Suite CLI Reference Guide</i> . VSP G1000, VSP G1000, VSP F1500 (microcode 80-03-0X-XX/XX or later) : 48000~274877906944KB(=256TB) VSP G1000, VSP G1000, VSP F1500 (microcode earlier than 80-03-0X-XX/XX) : 48000~64424505600 KB(=60TB)

Data nesting information		Explanation	Range
			VSP Gx00 models (microcode 83-02-0X-XX/XX or later) : 48000~274877906944KB(=256TB) VSP Gx00 models (microcode earlier than 83-02-0X-XX/XX) : 48000~64424505600 KB VSP Fx00 models : 48000~274877906944KB(=256TB) VSP : 48000~64424505600 KB USP V (microcode earlier than 06-03) : 48000~3221159680 KB USP V (microcode 06-03 or later) : 48000~4294967296 KB HUS VM : 48000 ~ 64424505600 KB HUS : 32768 ~ 137438953472 KB(=128TB) AMS : 32768 ~ 6442450944 KB
	numberOfVolumes	Number of volumes	1-500

Table 219 allocateLikeRemoteCopy.topologySetting.volumeSettings.value

Data nesting information		Explanation	Range
values		-	-
	primaryVolume	Primary Site/Primary Volume	
	ldevLabel	Volume Label	
	ldevIdStartsFrom	Start number of LDEV ID	
	lunStartsFrom	Start number of LUN	
	primarySIVolume	'Primary Site/Primary SI Volume	
	ldevLabel	Volume Label	
	ldevIdStartsFrom	Start number of LDEV ID	
	lunStartsFrom	Start number of LUN	

Data nesting information		Explanation	Range
	primaryTIVolume	Primary Site/Primary TI Volume	
	IdevLabel	Volume Label	
	IdevIdStartsFrom	Start number of LDEV ID	
	lunStartsFrom	Start number of LUN	
	secondaryVolume	Secondary Site/Secondary SI Volume	
	IdevLabel	Volume Label	
	IdevIdStartsFrom	Start number of LDEV ID	
	lunStartsFrom	Start number of LUN	
	secondarySIVolume	Secondary Site/Secondary SI Volume	
	IdevLabel	Volume Label	
	IdevIdStartsFrom	Start number of LDEV ID	
	lunStartsFrom	Start number of LUN	
	secondaryTIVolume	Secondary Site/Secondary TI Volume	
	IdevLabel	Volume Label	
	IdevIdStartsFrom	Start number of LDEV ID	
	lunStartsFrom	Start number of LUN	
	tertiaryVolumeVolume	Tertiary Site/Tertiary Volume	
	IdevLabel	Volume Label	
	IdevIdStartsFrom	Start number of LDEV ID	
	lunStartsFrom	Start number of LUN	
	tertiaryVolumeSIVolume		
	IdevLabel	Volume Label	
	IdevIdStartsFrom	Start number of LDEV ID	
	lunStartsFrom	Start number of LUN	
	tertiaryVolumeTIVolume		

Data nesting information		Explanation	Range
	ldevLabel	Volume Label	
	ldevIdStartsFrom	Start number of LDEV ID	
	lunStartsFrom	Start number of LUN	

Table 220 allocateLikeRemoteCopy.topologySetting.copyPairSetting.value

Data nesting information		Explanation	Range
values		-	-
	primarySecondaryRemote	Primary-Secondary Remote Copy Pair Setting	
	copyGroupId	Copy Group ID	
	copyGroupName	Copy Group name	
	copyGroupType	Copy Type	"TCS" or "UR" or "GAD"
	noCopy	No Copy option	"true" or "false"
	copyPace	Copy Pace	1~15
	primaryTertiaryRemote	Primary-Tertiary Remote Copy Pair Setting	
	copyGroupId	Copy Group ID	
	copyGroupName	Copy Group name	
	copyGroupType	Copy Type	"UR"
	noCopy	No Copy option	"true" or "false"
	secondaryTertiaryRemote	Secondary-Tertiary Remote Copy Pair Setting	
	copyGroupId	Copy Group ID	
	copyGroupName	Copy Group name	
	copyGroupType	Copy Type	"UR"
	primaryTI	Primary Site : TI Copy Pair Setting	

Data nesting information			Explanation	Range
		copyGroupId	Copy Group ID	
		copyGroupName	Copy Group name	
		copyGroupType	Copy Type	"TI"
	primarySI		Primary Site : SI Copy Pair Setting	
		copyGroupId	Copy Group ID	
		copyGroupName	Copy Group name	
		copyGroupType	Copy Type	"SI"
		split	Split option	"None", "Steady Split" or "Quick Split"
		copyPace	Copy Pace	1~15
	secondaryTI		Secondary Site : TI Copy Pair Setting	
		*Same as primaryTI		
	secondarySI		Secondary Site : SI Copy Pair Setting	
		*Same as primarySI		
	tertiaryTI		Tertiary Site : TI Copy Pair Setting	
		*Same as primaryTI		
	tertiarySI		Tertiary Site : SI Copy Pair Setting	
		*Same as primarySI		

Table 221 allocateLikeRemoteCopy.topologySetting.volumeSettings.restriction

Data nesting information					Explanation	Range
type						-

Data nesting information					Explanation	Range
properties						-
	primaryVolume				Primary Site/ Primary Volume	-
		type			-	-
		visibility			-	-
		properties			-	-
			ldevLabel		LDEV label	-
				type	-	-
				visibility	-	-
				defaultValue	Default values of LDEV label	-
			ldevIdStartsFrom		LDEV ID Starts From	-
				type	-	-
				visibility	-	-
				readOnly		
				hidden		
				defaultValue	Default values of LDEV ID Starts From	-
			lunStartsFrom		LUN Starts From	-
				type	-	-
				visibility	-	-

Data nesting information					Explanation	Range
				readOnly		
				hidden		
				defaultValue	Default values of LUN Starts From	-
	primarySIVolume				Primary Site/ Primary SI Volume	-
		*Same as primaryVolume				-
	primaryTIVolume				Primary Site/ Primary TI Volume	-
		*Same as primaryVolume				-
	secondaryVolume				Secondary Site/ Secondary Volume	-
		*Same as primaryVolume				-
	secondarySIVolume				Secondary Site/ Secondary SI Volume	-
		*Same as primaryVolume				-
	secondaryTIVolume				Secondary Site/ Secondary TI Volume	-
		*Same as primaryVolume				-

Data nesting information				Explanation	Range
	tertiaryVolume			Tertiary Site/ Tertiary Volume	
		*Same as primaryVolume			
	secondarySIVolume			Tertiary Site/ Tertiary SI Volume	
		*Same as primaryVolume			
	secondaryTIVolume			Tertiary Site/ Tertiary TI Volume	
		*Same as primaryVolume			

Table 222 allocateLikeRemoteCopy.topologySetting.copyPairSettings.restriction

Data nesting information				Explanation	Range
type					
properties					
	primarySecondaryRemote			Primary-Secondary Remote Copy Pair Setting	
		type		-	
		visibility		-	
		itemInstances		-	

Data nesting information						Explanation	Range
			type			-	
			visibility			-	
			properties			-	
				copyGroupId		-	
					type	-	
					visibility	-	
					readOnly	-	
					defaultValue	Default values of Copy Group Id	
				copyGroupName		-	
					type	-	
					visibility	-	
					defaultValue	Default values of Copy Group Name	
				copyGroupType			
					type		
					visibility		
					defaultValue	Default values of Copy Group Type	
				noCopy		-	

Data nesting information						Explanation	Range
					type	-	
					visibility	-	
					readOnly		
					hidden		
					defaultValue	Default values of No Copy option	
				copyPace		-	
					type	-	
					visibility	-	
					valueList	-	
					readOnly		
					hidden		
					defaultValue	Default values of Copy Pace	
	primaryTertiaryRemote					Primary-Tertiary Remote Copy Pair Setting	
		type				-	
		itemInstances				-	
			type			-	
			properties			-	

Data nesting information						Explanation	Range
				copyGroupId		-	
					type	-	
					visibility	-	
					readOnly	-	
					defaultValue	Default values of Copy Group Id	
				copyGroupName		-	
					type	-	
					visibility	-	
					readOnly	-	
					defaultValue	Default values of Copy Group Name	
				CopyGroupType		-	
					type	-	
					visibility	-	
					defaultValue	Default values of Copy Group Type	
				split		-	
					type	-	
					visibility	-	

Data nesting information						Explanation	Range
					valueList	-	
					readOnly		
					hidden		
					defaultValue	Default values of split option	
				copyPace		-	
					type	-	
					visibility	-	
					valueList	-	
					readOnly		
					hidden		
					defaultValue	Default values of Copy Pace	
	secondaryTI					Secondary Site : TI Copy Pair Setting	
		*Same as primaryTI				-	
	secondarySI					Secondary Site : SI Copy Pair Setting	
		*Same as primarySI				-	

Data nesting information						Explanation	Range
	tertiaryTl					Tertiary Site : Tl Copy Pair Setting	
		*Same as primaryTl				-	
	tertiarySl					Tertiary Site : Sl Copy Pair Setting	
		*Same as primarySl				-	

Allocate like replicated volumes on existing copy topology (submit)

key Name	Explanation	Type	Default value
allocateLikeRemoteCopy.volumeSource.volumeSource.value	Referenced P-VOL information.	file	See the "File type property list" section following this table.
allocateLikeRemoteCopy.volumeSetting.volumeSettings.value	Volume Settings (Number of volumes, Volume capacity).	file	Same as Edit property.
allocateLikeRemoteCopy.topologySetting.volumeSettings.value	Volume Settings (Number of volumes, Volume capacity).	file	Same as Edit property.
allocateLikeRemoteCopy.topologySetting.copyPairSetting.value	Copy Pair Settings.	file	Same as Edit property.

File type property list

Table 223 allocateLikeRemoteCopy.volumeSource.volumeSource.value

Data nesting information		Explanation	Range
values		-	-
	deviceManagerName	The name of the Device Manager instance that manages the storage system of the referenced volume. The name specified in Device Manager Connections	-
	lunPath ¹		-
	hostPort	Host port WWN Example: 00.00.00.00.00.00.BB	-
	storagePort	Storage port WWN Example: 50.06.0E.80.06.CF.2E.24	-
	lun	LU Number (The logical unit number assigned to the volume for a host)	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Allocate like replicated volumes on existing copy topology (task details)

keyName	Explanation	Input/Output	Type	Range
allocateLikeRemoteCopy.taskResult.primarySecondaryRemote.copyGroupInformation	Primary-Secondary Copy Group Configuration Information	Output	File	Same as allocateLikeRemoteCopy.taskResult.primarySI.copyGroupInformation.

keyName	Explanation	Input/Output	Type	Range
allocateLikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation	Primary Site/ Primary Volume LUN Path Configuration Information	Output	File	See the "File type property list" section following this table.
allocateLikeRemoteCopy.taskResult.primary.numberOfLdev	Primary Site/ Number of Volumes for Primary Volumes	Output	String	The number of the allocated volumes.
allocateLikeRemoteCopy.taskResult.primary.numberOfLunPath	Primary Site/ Number of LUN Paths for Primary Volumes	Output	String	The number of paths.
allocateLikeRemoteCopy.taskResult.primary.SI.copyGroupInformation	Primary Site/ Primary SI Copy Group Configuration Information	Output	File	See the "File type property list" section following this table.
allocateLikeRemoteCopy.taskResult.primary.SI.lunPathConfigurationInformation	Primary Site/ Primary SI Volume LUN Path Configuration Information	Output	File	Same as allocateLikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation.
allocateLikeRemoteCopy.taskResult.primary.SI.numberOfLdev	Primary Site/ Number of Volumes for Primary SI Volumes	Output	String	The number of the allocated volumes.
allocateLikeRemoteCopy.taskResult.primary.SI.numberOfLunPath	Primary Site/ Number of LUN Paths for Primary SI Volumes	Output	String	The number of paths.

keyName	Explanation	Input/Output	Type	Range
allocateLikeRemoteCopy.taskResult.primaryTI.copyGroupInformation	Primary Site/primary TI Copy Group Configuration Information	Output	File	Same as allocateLikeRemoteCopy.taskResult.primarySI.copyGroupInformation.
allocateLikeRemoteCopy.taskResult.primaryTILunPathConfigurationInformation	Primary Site/Primary TI Volume LUN Path Configuration Information	Output	File	Same as allocateLikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation.
allocateLikeRemoteCopy.taskResult.primaryTI.numberOfLdev	Primary Site/Number of Volumes for Primary TI Volumes	Output	String	The number of the allocated volumes.
allocateLikeRemoteCopy.taskResult.primaryTI.numberOfLunPath	Primary Site/Number of LUN Paths for Primary TI Volumes	Output	String	The number of paths.
allocateLikeRemoteCopy.taskResult.primaryTertiaryRemote.copyGroupInformation	Primary-Tertiary Copy Group Configuration Information	Output	File	Same as allocateLikeRemoteCopy.taskResult.primarySI.copyGroupInformation.
allocateLikeRemoteCopy.taskResult.secondary.lunPathConfigurationInformation	Secondary Site/Primary Volume LUN Path Configuration Information	Output	File	Same as allocateLikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation.
allocateLikeRemoteCopy.taskResult.secondary.numberOfLdev	Secondary Site/Number of Volumes for Secondary Volumes	Output	String	The number of the allocated volumes.

keyName	Explanation	Input/Output	Type	Range
allocateLikeRemoteCopy.taskResult.secondary.numberOfLunPath	Secondary Site/Number of LUN Paths for Secondary Volumes	Output	String	The number of paths.
allocateLikeRemoteCopy.taskResult.secondary.SI.copyGroupInformation	Secondary Site/ Secondary SI Copy Group Configuration Information	Output	File	Same as allocateLikeRemoteCopy.taskResult.primary.SI.copyGroupInformation.
allocateLikeRemoteCopy.taskResult.secondary.SI.lunPathConfigurationInformation	Secondary Site/ Secondary SI Volume LUN Path Configuration Information	Output	File	Same as allocateLikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation.
allocateLikeRemoteCopy.taskResult.secondary.SI.numberOfLdev	Secondary Site/Number of Volumes for Secondary SI Volumes	Output	String	The number of the allocated volumes.
allocateLikeRemoteCopy.taskResult.secondary.SI.numberOfLunPath	Secondary Site/Number of LUN Paths for Secondary SI Volumes	Output	String	The number of paths.
allocateLikeRemoteCopy.taskResult.secondary.TI.copyGroupInformation	Secondary Site/ Secondary TI Copy Group Configuration Information	Output	File	Same as allocateLikeRemoteCopy.taskResult.primary.SI.copyGroupInformation.
allocateLikeRemoteCopy.taskResult.secondary.TI.lunPathConfigurationInformation	Secondary Site/ Secondary TI Volume LUN Path Configuration Information	Output	File	Same as allocateLikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation.

keyName	Explanation	Input/Output	Type	Range
allocateLikeRemoteCopy.taskResult.secondaryTI.numberOfLdev	Secondary Site/Number of Volumes for Secondary TI Volumes	Output	String	The number of the allocated volumes.
allocateLikeRemoteCopy.taskResult.secondaryTI.numberOfLunPath	Secondary Site/Number of LUN Paths for Secondary TI Volumes	Output	String	The number of paths.
allocateLikeRemoteCopy.taskResult.secondaryTertiaryRemote.copyGroupInformation	Secondary-Tertiary Copy Group Configuration Information	Output	File	Same as allocateLikeRemoteCopy.taskResult.primarySI.copyGroupInformation.
allocateLikeRemoteCopy.taskResult.tertiary.lunPathConfigurationInformation	Tertiary Site/Tertiary Volume LUN Path Configuration Information	Output	File	Same as allocateLikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation.
allocateLikeRemoteCopy.taskResult.tertiary.numberOfLdev	Tertiary Site/Number of Volumes for Tertiary Volumes	Output	String	The number of the allocated volumes.
allocateLikeRemoteCopy.taskResult.tertiary.numberOfLunPath	Tertiary Site/Number of LUN Paths for Tertiary Volumes	Output	String	The number of paths.
allocateLikeRemoteCopy.taskResult.tertiarySI.copyGroupInformation	Tertiary Site/Tertiary SI Copy Group Configuration Information	Output	File	Same as allocateLikeRemoteCopy.taskResult.primarySI.copyGroupInformation.

keyName	Explanation	Input/Output	Type	Range
allocateLikeRemoteCopy.taskResult.tertiarySILunPathConfigurationInformation	Tertiary Site/ Tertiary SI Volume LUN Path Configuration Information	Output	File	Same as allocateLikeRemote Copy.taskResult.pri mary.lunPathConfig urationInformation.
allocateLikeRemoteCopy.taskResult.tertiarySInumberOfLdev	Tertiary Site/ Number of Volumes for Tertiary SI Volumes	Output	String	The number of the allocated volumes.
allocateLikeRemoteCopy.taskResult.tertiarySInumberOfLunPath	Tertiary Site/ Number of LUN Paths for Tertiary SI Volumes	Output	String	The number of paths.
allocateLikeRemoteCopy.taskResult.tertiaryTICopyGroupInformation	Tertiary Site/ Tertiary TI Copy Group Configuration Information	Output	File	Same as allocateLikeRemote Copy.taskResult.pri marySI.copyGroupI nformation.
allocateLikeRemoteCopy.taskResult.tertiaryTILunPathConfigurationInformation	Tertiary Site/ Tertiary TI Volume LUN Path Configuration Information	Output	File	Same as allocateLikeRemote Copy.taskResult.pri mary.lunPathConfig urationInformation.
allocateLikeRemoteCopy.taskResult.tertiaryTInumberOfLdev	Tertiary Site/ Number of Volumes for Tertiary TI Volumes	Output	String	The number of the allocated volumes.
allocateLikeRemoteCopy.taskResult.tertiaryTInumberOfLunPath	Tertiary Site/ Number of LUN Paths for Tertiary TI Volumes	Output	String	The number of paths.
service.errorMessage	Error message	Output	String	Summary information of error messages.

Table 224
allocateLikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation

Data nesting information		Explanation	Range
values ¹		LUN path Configuration information.	-
	usage	Volume Usage name (fixed value "-" in AP).	-
	host	Host name.	-
	hostPort	Host Port WWN/iSCSI Name.	-
	lun	LU Number.	-
	storagePort	Storage Port WWN.	-
	portType	Storage Port type (FC or iSCSI).	-
	volume	LDEV ID.	-
	dpPool	Pool ID.	-
	storageSystem	Storage System name.	-
	provisionedCapacity	The size of the allocated volumes (Blocks).	-
	capacity	The size of the allocated volumes that specified when submit.	-
	hostGroup	Host Group name/ iSCSI Target iSCSI Name.	-
	deviceManagerTaskName	Task name of Device Manager.	-
	deviceManagerName	The name of Device Manager that ran the task.	-
	virtualStorageSystemName	The name of the virtual storage system.	-
	virtualStorageSystemType	The display array type of the virtual storage system.	-
	virtualSerialNumber	The serial number of the virtual storage system.	-
	virtualLdevId	Virtual LDEV ID.	-
	resourceGroupName	Resource Group Name.	-
	infrastructureGroupName	Infrastructure Group Name.	-

Data nesting information		Explanation	Range
	copyGroupId	Copy Group ID.	-
	copyGroupName	Copy Group Name.	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

Table 225 allocateLikeRemoteCopy.taskResult.primarySI.copyGroupInformation

Data nesting information		Explanation	Range
values ¹			-
	copyGroupId	Copy Group ID	-
	copyGroupName	Copy Group Name	-
	copyType	Copy Type	-
	ctgId	CTG ID	-
	muNumber	MU Number	-
	copyPairs ¹	Copy Pair Information	-
		copyPairName	Copy Pair Name
		copyPace	Copy Pace
		fenceLevel	Fence Level
		primaryHostName	Host name (P-VOL)
		secondaryHostName	Host name (S-VOL)
		primaryLdevId	LDEV ID (P-VOL)
		secondaryLdevId	LDEV ID (S-VOL)
		primaryStorageSystemName	Storage System name (P-VOL)
		secondaryStorageSystemName	Storage System name (S-VOL)
		primaryStorageSystemModel	Storage System model (P-VOL)
		secondaryStorageSystemModel	Storage System model (S-VOL)

Data nesting information		Explanation	Range
	primaryStorageSystemSerialNumber	Storage System serial number (P-VOL)	-
	secondaryStorageSystemSerialNumber	Storage System serial number (S-VOL)	-
	primaryVirtualStorageMachineName	Virtual Storage System name (P-VOL)	-
	secondaryVirtualStorageMachineName	Virtual Storage System name (S-VOL)	-
	primaryVirtualStorageMachineModel	Virtual Storage System model (P-VOL)	-
	secondaryVirtualStorageMachineModel	Virtual Storage System model (S-VOL)	-
	primaryVirtualStorageMachineSerialNumber	Virtual Storage System serial number (P-VOL)	-
	secondaryVirtualStorageMachineSerialNumber	Virtual Storage System serial number (S-VOL)	-
	primaryDeviceManagerName	Device Manager name (P-VOL)	-
	secondaryDeviceManagerName	Device Manager name (S-VOL)	-
sites ¹		Site Information	-
	role	Site	-
	pairManagementServerName	Pair Management Server Name	-
	instanceNumber	Instance Number	-
	storageSystemName	Storage System name	-
	storageSystemModel	Storage System model	-
	storageSystemSerialNumber	Storage System serial number	-
	journalGroup	Journal Group	-
	pathGroup	Path Group	-

Data nesting information		Explanation	Range
	deviceManagerName	Device Manager name	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

Allocate replicated volumes on existing copy topology service properties

Use the following properties to modify or create values for the allocate replicated volumes on existing copy topology service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate replicated volumes on existing copy topology (edit)

key Name	Explanation	Type	Range
provRemoteCopy.topologySetting.primary.volumeSettings.value	Primary Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.primarySI.volumeSettings.value	Primary SI Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.primaryTI.volumeSettings.value	Primary TI Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).

key Name	Explanation	Type	Range
provRemoteCopy.topologySetting.secondary.volumeSettings.value	Secondary Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.secondarySI.volumeSettings.value	Secondary SI Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.secondaryTI.volumeSettings.value	Secondary TI Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.tertiary.volumeSettings.value	Tertiary Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.tertiarySI.volumeSettings.value	Tertiary SI Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.tertiaryTI.volumeSettings.value	Tertiary TI Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.copyPairSettings.value	Copy Pair Settings	File	See the File property list that follows this table.
provRemoteCopy.topologySetting.primary.volumeSettings.restriction	Restriction of Primary Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).

key Name	Explanation	Type	Range
provRemoteCopy.topologySetting.primarySI.restriction	Restriction of Primary Volume SI Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.primaryTI.volumeSettings.restriction	Restriction of Primary Volume TI Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.secondary.volumeSettings.restriction	Restriction of Secondary Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.secondarySI.volumeSettings.restriction	Restriction of Secondary SI Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.secondaryTI.volumeSettings.restriction	Restriction of Secondary TI Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.tertiary.volumeSettings.restriction	Restriction of Tertiary Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.tertiarySI.volumeSettings.restriction	Restriction of Tertiary SI Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.tertiaryTI.volumeSettings.restriction	Restriction of Tertiary TI Volume Settings	File	Same as Allocate replicated volumes on new copy topology (Edit).

key Name	Explanation	Type	Range
provRemoteCopy.topologySetting.copyPairSettings.restriction	Restriction of Copy Pair Settings	File	See the File property list that follows this table.

File type property list

Table 226 provRemoteCopy.topologySetting.copyPairSettings.value

Data nesting information		Explanation	Range
values			
	primarySecondaryRemote	Primary-Secondary Remote Copy Pair Setting	
	copyGroupId	Copy Group ID	
	copyGroupName	Copy Group name	
	copyGroupType	Copy Type	"TCS" or "UR" or "GAD"
	noCopy	No Copy option	"true" or "false"
	copyPace	Copy Pace	1~15
	fenceLevelTC	Fence Level for TCS	"never", "status" or "data"
	fenceLevelUR	Fence Level for UR	"async"
	fenceLevelGAD	Fence Level for GAD	"never"
	primaryTertiaryRemote	Primary-Tertiary Remote Copy Pair Setting	
	copyGroupId	Copy Group ID	
	copyGroupName	Copy Group name	
	copyGroupType	Copy Type	"UR"
	noCopy	No Copy option	"true" or "false"
	fenceLevelUR	Fence Level for UR	"async"

Data nesting information		Explanation	Range
	secondaryTertiaryRemote	Secondary-Tertiary Remote Copy Pair Setting	
	copyGroupId	Copy Group ID	
	copyGroupName	Copy Group name	
	copyGroupType	Copy Type	"UR"
	fenceLevelUR	Fence Level for UR	"async"
	primaryTI	Primary Site : TI Copy Pair Setting	
	copyGroupId	Copy Group ID	
	copyGroupName	Copy Group name	
	primarySI	Primary Site : SI Copy Pair Setting	
	copyGroupId	Copy Group ID	
	copyGroupName	Copy Group name	
	split	Split option	"None", "Steady Split" or "Quick Split"
	copyPace	Copy Pace	1~15
	secondaryTI	Secondary Site : TI Copy Pair Setting	
	*Same as primaryTI		
	secondarySI	Secondary Site : SI Copy Pair Setting	
	*Same as primarySI		
	tertiaryTI	Tertiary Site : TI Copy Pair Setting	
	*Same as primaryTI		

Data nesting information		Explanation	Range
	tertiarySI	Tertiary Site : SI Copy Pair Setting	
	*Same as primarySI		

Table 227 provRemoteCopy.topologySetting.copyPairSettings.restriction

Data nesting information				Explanation	Range
type					
properties					
	primarySecondary Remote			Primary-Secondary Remote Copy Pair Setting	
		type			
		visibility			
		itemInstances			
			type		
			visibility		
			properties		
			copyGroupID	-	
				type	-
				visibility	-
				defaultValue	Default values of Copy Group ID
			copyGroupName	-	
				type	-
				visibility	-

Data nesting information					Explanation	Range
				defaultV alue	Default values of Copy Group Name	
			copyType		-	
				type	-	
				visibility	-	
				defaultV alue	Default values of Copy Group Type	
			noCopy		-	
				type	-	
				visibility	-	
				readOnly	-	
				hidden	-	
				defaultV alue	Default values of No Copy option	
			copyPace		-	
				type	-	
				visibility	-	
				valueList	-	
				readOnly	-	
				hidden	-	
				defaultV alue	Default values of Copy Pace	
			fenceLevel TC		-	
				type	-	
				visibility	-	
				valueList	-	
				readOnly	-	
				hidden	-	

Data nesting information					Explanation	Range
				defaultV alue	Default values of Fence Level for TCS	
			fenceLevel UR			
				type	-	
				visibility	-	
				valueList	-	
				readOnly	-	
				hidden	-	
				defaultV alue	Default values of Fence Level for UR	
			fenceLevelGAD			
				type	-	
				visibility	-	
				valueList	-	
				readOnly	-	
				hidden	-	
				defaultV alue	Default values of Fence Level for GAD	
	primaryTertiaryRe mote				Primary-Tertiary Remote Copy Pair Setting	
		type			-	
		itemInstances			-	
			type		-	
			properties		-	
			copyGrou pld		-	
				type	-	

Data nesting information					Explanation	Range
				visibility	-	
				defaultV alue	Default values of Copy Group Id	
			copyGroupName		-	
				type	-	
				visibility	-	
				defaultV alue	Default values of Copy Group Name	
			copyType		-	
				type	-	
				visibility	-	
				defaultV alue	Default values of Copy Group Type	
			noCopy		-	
				type	-	
				visibility	-	
				readOnly	-	
				hidden	-	
				defaultV alue	Default values of No Copy option	
			fenceLevel UR			
				type	-	
				visibility	-	
				valueList	-	
				readOnly		
				hidden		
				defaultV alue	Default values of Fence Level for UR	

Data nesting information					Explanation	Range
	secondaryTertiaryRemote				Secondary-Tertiary Remote Copy Pair Setting	
		*Same as primaryTertiaryRemote				
	primary TI				Primary Site : TI Copy Pair Setting	
		type			-	
		visibility			-	
		itemInstances			-	
	primary SI				Primary Site : SI Copy Pair Setting	
		type			-	
		visibility			-	
		itemInstances			-	
			type		-	
			properties		-	
				copyGroupId	-	
				type	-	
				visibility	-	
				defaultValue	Default values of Copy Group ID	
			copyGroupName		-	
				type	-	
				visibility	-	
				defaultValue	Default values of Copy Group Name	
				split	-	

Data nesting information					Explanation	Range
				type	-	
				visibility	-	
				valueList	-	
				readOnly	-	
				hidden	-	
				defaultV alue	Default values of split option	
			copyPace		-	
				type	-	
				visibility	-	
				valueList	-	
				readOnly		
				hidden		
				defaultV alue	Default values of Copy Pace	
	seconda ryTI				Secondary Site : TI Copy Pair Setting	
		*Same as primary TI			-	
	seconda rySI				Secondary Site : SI Copy Pair Setting	
		*Same as primary SI			-	
	tertiaryT I				Tertiary Site : TI Copy Pair Setting	

Data nesting information					Explanation	Range
		*Same as primary TI			-	
	tertiarySI				Tertiary Site : SI Copy Pair Setting	
		*Same as primary SI			-	

Allocate replicated volumes on existing copy topology (submit)

keyName	Type	Explanation	Range
provRemoteCopy.topologySetting.primary.volumeSettings.value	file	Primary Volume Settings	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.primarySI.volumeSettings.value	file	Primary SI Volume Settings	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.primaryTI.volumeSettings.value	file	Primary TI Volume Settings	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.secondary.volumeSettings.value	file	Secondary Volume Settings	Same as Allocate replicated volumes on new copy topology (Edit).

keyName	Type	Explanation	Range
provRemoteCopy.topologySetting.secondarySI.volumeSettings.value	file	Secondary SI Volume Settings	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.secondaryTI.volumeSettings.value	file	Secondary TI Volume Settings	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.tertiary.volumeSettings.value	file	Tertiary Volume Settings	Same as Allocate replicated volumes on new copy topology (Edit).
rovRemoteCopy.topologySetting.tertiarySI.volumeSettings.value	file	Tertiary SI Volume Settings	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.tertiaryTI.volumeSettings.value	file	Tertiary TI Volume Settings	Same as Allocate replicated volumes on new copy topology (Edit).
provRemoteCopy.topologySetting.copyPairSettings.value	file	Copy Pair Settings	See the File property list that follows this table.

Allocate replicated volumes on existing copy topology (task detail)

keyName	Explanation	Input/Output	Type	Range
provRemoteCopy.taskResult.primarySecondaryRemote.copyGroupInformation	Primary-Secondary Copy Group Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primarySecondaryRemote.copyGroupInformation.
provRemoteCopy.taskResult.primary.lunPathConfigurationInformation	Primary Site/ Primary Volume LUN Path Configuration Information	Output	File	See the File property list that follows this table.
provRemoteCopy.taskResult.primary.numberOfLdev	Primary Site/ Number of Volumes for Primary Volumes	Output	String	The number of the allocated volumes.
provRemoteCopy.taskResult.primary.numberOfLunPath	Primary Site/ Number of LUN Paths for Primary Volumes	Output	String	The number of paths.

keyName	Explanation	Input/Output	Type	Range
provRemoteCopy.taskResult.primarySI.copyGroupInformation	Primary Site/ Primary SI Copy Group Configuration Information	Output	File	See the File property list that follows this table.
provRemoteCopy.taskResult.primarySI.lunPathConfigurationInformation	Primary Site/ Primary SI Volume LUN Path Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation
provRemoteCopy.taskResult.primarySI.numberOfLdev	Primary Site/ Number of Volumes for Primary SI Volumes	Output	String	The number of the allocated volumes.
provRemoteCopy.taskResult.primarySI.numberOfLunPath	Primary Site/ Number of LUN Paths for Primary SI Volumes	Output	String	The number of paths.

keyName	Explanation	Input/Output	Type	Range
provRemoteCopy.taskResult.primaryTI.copyGroupInformation	Primary Site/ primary TI Copy Group Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primarySI.copyGroupInformation
provRemoteCopy.taskResult.primaryTI.lunPathConfigurationInformation	Primary Site/ Primary TI Volume LUN Path Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation
provRemoteCopy.taskResult.primaryTI.numberOfLdev	Primary Site/ Number of Volumes for Primary TI Volumes	Output	String	The number of the allocated volumes.
provRemoteCopy.taskResult.primaryTI.numberOfLunPath	Primary Site/ Number of LUN Paths for Primary TI Volumes	Output	String	The number of paths.

keyName	Explanation	Input/Output	Type	Range
provRemoteCopy.taskResult.primaryTertiaryRemote.copyGroupInformation	Primary-Tertiary Copy Group Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primarySl.copyGroupInformation
provRemoteCopy.taskResult.secondary.lunPathConfigurationInformation	Secondary Site/ Primary Volume LUN Path Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation
provRemoteCopy.taskResult.secondary.numberOfLdev	Secondary Site/ Number of Volumes for Secondary Volumes	Output	String	The number of the allocated volumes.
provRemoteCopy.taskResult.secondary.numberOfLunPath	Secondary Site/ Number of LUN Paths for Secondary Volumes	Output	String	The number of paths.

keyName	Explanation	Input/Output	Type	Range
provRemoteCopy.taskResult.secondarySiteCopyGroupInformation	Secondary Site/ Secondary Site Copy Group Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primarySiteCopyGroupInformation
provRemoteCopy.taskResult.secondarySiteLunPathConfigurationInformation	Secondary Site/ Secondary Site Volume LUN Path Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primaryLunPathConfigurationInformation
provRemoteCopy.taskResult.secondarySiteNumberOfLdev	Secondary Site/ Number of Volumes for Secondary Site Volumes	Output	String	The number of the allocated volumes.
provRemoteCopy.taskResult.secondarySiteNumberOfLunPath	Secondary Site/ Number of LUN Paths for Secondary Site Volumes	Output	String	The number of paths.

keyName	Explanation	Input/Output	Type	Range
provRemoteCopy.taskResult.secondaryTI.copyGroupInformation	Secondary Site/ Secondary TI Copy Group Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primarySI.copyGroupInformation
provRemoteCopy.taskResult.secondaryTI.lunPathConfigurationInformation	Secondary Site/ Secondary TI Volume LUN Path Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation
provRemoteCopy.taskResult.secondaryTI.numberOfLdev	Secondary Site/ Number of Volumes for Secondary TI Volumes	Output	String	The number of the allocated volumes.
provRemoteCopy.taskResult.secondaryTI.numberOfLunPath	Secondary Site/ Number of LUN Paths for Secondary TI Volumes	Output	String	The number of paths.

keyName	Explanation	Input/Output	Type	Range
provRemoteCopy.taskResult.secondaryTertiaryRemote.copyGroupInformation	Secondary-Tertiary Copy Group Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primarySite.copyGroupInformation
provRemoteCopy.taskResult.tertiary.lunPathConfigurationInformation	Tertiary Site/ Tertiary Volume LUN Path Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation
provRemoteCopy.taskResult.tertiary.numberOfLdev	Tertiary Site/ Number of Volumes for Tertiary Volumes	Output	String	The number of the allocated volumes.
provRemoteCopy.taskResult.tertiary.numberOfLunPath	Tertiary Site/ Number of LUN Paths for Tertiary Volumes	Output	String	The number of paths.

keyName	Explanation	Input/Output	Type	Range
provRemoteCopy.taskResult.tertiarySI.copyGroupInformation	Tertiary Site/ Tertiary SI Copy Group Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primarySI.copyGroupInformation
provRemoteCopy.taskResult.tertiarySI.lunPathConfigurationInformation	Tertiary Site/ Tertiary SI Volume LUN Path Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation
provRemoteCopy.taskResult.tertiarySI.numberOfLdev	Tertiary Site/ Number of Volumes for Tertiary SI Volumes	Output	String	The number of the allocated volumes.
provRemoteCopy.taskResult.tertiarySI.numberOfLunPath	Tertiary Site/ Number of LUN Paths for Tertiary SI Volumes	Output	String	The number of paths.

keyName	Explanation	Input/Output	Type	Range
provRemoteCopy.taskResult.tertiaryTI.copyGroupInformation	Tertiary Site/ Tertiary TI Copy Group Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primarySI.copyGroupInformation
provRemoteCopy.taskResult.tertiaryTI.lunPathConfigurationInformation	Tertiary Site/ Tertiary TI Volume LUN Path Configuration Information	Output	File	Same as allocate LikeRemoteCopy.taskResult.primary.lunPathConfigurationInformation
provRemoteCopy.taskResult.tertiaryTI.numberOfLdev	Tertiary Site/ Number of Volumes for Tertiary TI Volumes	Output	String	The number of the allocated volumes.
provRemoteCopy.taskResult.tertiaryTI.numberOfLunPath	Tertiary Site/ Number of LUN Paths for Tertiary TI Volumes	Output	String	The number of paths.

keyName	Explanation	Input/Output	Type	Range
service.errorMessage	Error Message	Output	String	Summary information of error messages.

Allocate replicated volumes on new copy topology service properties

Use the following properties to modify or create values for the allocate replicated volumes on new copy topology service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate replicated volumes on new copy topology (edit)

keyName	Explanation	Type	Range
createRemoteCopy.topologySetting.primary.storageSettings.value	Storage Settings on Primary site (Model, Serial number).	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.secondary.storageSettings.value	Storage Settings on Secondary site (Model, Serial number).	file	See the "File type property list" section following this table.

keyName	Explanation	Type	Range
createRemoteCopy.topologySetting.tertiary.storageSettings.value	Storage Settings on Tertiary site (Model, Serial number).	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.primary.volumeSettings.value	Primary Volume Settings.	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.primarySI.volumeSettings.value	Primary SI Volume Settings.	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.primaryTI.volumeSettings.value	Primary TI Volume Settings.	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.secondary.volumeSettings.value	Secondary Volume Settings.	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.secondarySI.volumeSettings.value	Secondary SI Volume Settings.	file	Same as #5.
createRemoteCopy.topologySetting.secondaryTI.volumeSettings.value	Secondary TI Volume Settings.	file	Same as #6.

keyName	Explanation	Type	Range
createRemoteCopy.topologySetting.tertiary.volumeSettings.value	Tertiary Volume Settings.	file	Same as #7.
createRemoteCopy.topologySetting.tertiary.volumeSettings.value	Tertiary SI Volume Settings.	file	Same as #5.
createRemoteCopy.topologySetting.tertiaryTI.volumeSettings.value	Tertiary TI Volume Settings.	file	Same as #6.
createRemoteCopy.topologySetting.copyPairSettings.value	Copy Pair Settings.	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.primary.storageSettings.restriction	Restriction of Storage Settings on Primary site (Model, Serial number).	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.secondary.storageSettings.restriction	Restriction of Storage Settings on Secondary site (Model, Serial number).	file	Same as #14.
createRemoteCopy.topologySetting.tertiary.storageSettings.restriction	Restriction of Storage Settings on Tertiary site (Model, Serial number).	file	Same as #14.

keyName	Explanation	Type	Range
createRemoteCopy.topologySetting.primary.volumeSettings.restriction	Restriction of Primary Volume Settings.	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.primarySI.volumeSettings.restriction	Restriction of Primary SI Volume Settings.	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.primaryTI.volumeSettings.restriction	Restriction of Primary TI Volume Settings.	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.secondary.volumeSettings.restriction	Restriction of Secondary Volume Settings.	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.secondarySI.volumeSettings.restriction	Restriction of Secondary SI Volume Settings.	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.secondaryTI.volumeSettings.restriction	Restriction of Secondary TI Volume Settings.	file	See the "File type property list" section following this table.

keyName	Explanation	Type	Range
createRemoteCopy.topologySetting.tertiary.volumeSettings.restriction	Restriction of Tertiary Volume Settings.	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.tertiarySI.volumeSettings.restriction	Restriction of Tertiary SI Volume Settings.	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.tertiaryTI.volumeSettings.restriction	Restriction of Tertiary TI Volume Settings.	file	See the "File type property list" section following this table.
createRemoteCopy.topologySetting.copyPairSettings.restriction	Restriction of Copy Pair Settings.	file	See the "File type property list" section following this table.

Table 228 createRemoteCopy.topologySetting.primary.storageSettings.value

Data nesting information						Explanation	Range	Remarks	Repeatable
values						-	-	-	-
	storageSystem					Storage System Name		-	-

Data nesting information						Explanation	Range	Remarks	Repeatable
	model					Storage System Model		-	-
	serial Number					Storage System Serial Number		-	-
	objectId							Do not need specify the value when use the API.	-
	vsm								
		vsmName				Virtual Storage Machine Name			
		vsmModel				Virtual Storage Machine Model			
		vsmSerialNumber				Virtual Storage Machine Serial Number			

Data nesting information						Explanation	Range	Remarks	Repeatable
		vsmObjectid				Virtual Storage Machine Object ID		Do not need specify the value when use the API.	
	prefilter								
			condition						
				join		Join	"and" or "or"		
				expressions			Identifier		yes

Data nesting information						Explanation	Range	Remarks	Repeatable
					op	Operator	Operator	Value defined at ValueList Common for all the resources: eq, ne, starts, end	
					name	Name	Name		
					value	Value	Value		

Table 229 createRemoteCopy.topologySetting.primary.storageSettings.restriction

Data nesting information					Explanation	Range	Remarks	Repeatable
type							-	-
properties							-	-
	storageSystem						-	-
		type						

Data nesting information						Explanati on	Range	Remark s	Rep eata ble
		visibil ity						-	-
		defau ltValu e				Default values of storageSy stem		-	-
	model							-	-
		visibil ity						-	-
		read Only						-	-
		isReq uired						-	-
		defau ltValu e				Default values of model		-	-
	serialNum ber							-	-
		visibil ity						-	-
		defau ltValu e				Default values of serialNu mber	-	-	-
	objectId							-	-
		visibil ity						-	-
		defau ltValu e				Default values of objectId		Not necess ary to specify the value when using the API.	-

Data nesting information						Explanati on	Range	Remark s	Rep eata ble
	vsm								
		type							
		prop erties							
			vsmNa me						
				type					
				visibili ty					
				defau ltValu e		Default values of Virtual Storage Machine Name			
			vsmMo del						
				type					
				visibili ty					
				defau ltValu e		Default values of Virtual Storage Machine Model			
			vsmSer ial Numb er						
				type					
				visibili ty					

Data nesting information							Explanation	Range	Remarks	Repeatable
				defaultValue			Default values of Virtual Storage Machine Object ID			
			vsmObjectId							
				type						
				visibility						
				defaultValue						
	prefilter									
		type								
	readOnly									
		hidden								
	properties									
			condition							
				type						
			properties							
					join				Join	
						type				
						visibility				
						valueList				
						defaultValue				
		expressions								

Data nesting information							Explanation	Range	Remarks	Repeatable
				type						
				iteminstances						
					type					
					properties					
						op			Operator	
							type			
							visibility			
							valueList			
							defaultValue			
						name			Name	
							type			
							visibility			
							valueList			
							defaultValue			
						value			Value	
							type			
							visibility			
							defaultValue			

Table 230 createRemoteCopy.topologySetting.secondary.storageSettings.value

Data nesting information					Explanation	Range	Remarks	Repeatable
values								-
	storageSystem				Storage System Name			-
	model				Storage System Model			-
	serialNumber				Storage System Serial Number			-
	objectid				Storage System		Not necessary to specify the value when using the API	-
	preFilter							
		condition						
			join		Join	"and" or "or"		
			expressions			Identifier		
				op	Operator	Operator	Value defined at ValueList Common for all	

							the resource: eq, ne, starts, ends	
				name	Name	Name		
				value	Value	Value		

Table 231
createRemoteCopy.topologySetting.secondary.storageSettings.restriction

Data nesting information							Explanation	Range	Remarks	Repeatable
type									-	-
properties									-	-
	storageSystem								-	-
		type								
		visibility							-	-
		defaultValue					Default values of storageSystem		-	-
	model								-	-
		type							-	-
		visibility							-	-
		readOnly							-	-

Data nesting information								Expla - natio n	Rang e	Remar ks	Rep eat abl e
		defa ultVa lue						Defau lt value s of mode l		-	-
		serialNu mber								-	-
		type								-	-
		visibi lity								-	-
		defa ultVa lue						Defau lt value s of serial Num ber		-	-
		objectId								-	-
		type								-	-
		visibi lity								-	-
		defaultValue						Defau lt value s of object Id		Not necess ary to specify the value when using the API	-
		prefilter									
		type									
		readOnly									

Data nesting information								Expla- natio n	Rang e	Remar ks	Rep eat abl e
		hidd en									
		properties									
			condit ion								
				type							
				properties							
					join		Join				
						type					
						visibil ity					
						value List					
						defaultValue					
			expressions								
				type							
				iteminstanc es							
					type						
				properties							
						op	Oper ator				
							type				
							visibility				
							valueLis t				
							defaultV alue				
						name	Name				

Data nesting information								Expla- natio n	Rang e	Remar ks	Rep eat abl e
							type				
							visibility				
							valueLis t				
							defaultV alue				
						value		Value			
							type				
							visibility				
							defaultV alue				

Table 232 createRemoteCopy.topologySetting.primary.volumeSettings.value

Data nesting information					Explanation	Rang e	Remarks	Repeat able
values					-	-	-	-
	volumeSet tings						Same as Allocate Volumes (provisioning .volumeSetti ng.volumeSe ttings.value)	-
	advanced Option						Same as Allocate Volumes (provisioning .advancedO ption.advanc edOptions.v alue)	-

Data nesting information					Explanation	Range	Remarks	Repeatable
	resourceCriteria						Same as Allocate volumes for a symmetric cluster server from two storage systems (provisioning .resourceCriteria.resourceSelectionCriteria.bootVolumeUsageSpecific.value)	-
	hostSetting						-	-
		hostsfilter			Hosts Filter			
			condition					
				join	Join	"and" or "or"		
				expression		Identifier		
					op	Operator	Operator	Value defined at ValueList Common for all the resources: eq, ne, starts, ends
					name	Name	Name	
					value	Value	Value	

Data nesting information				Explanation	Range	Remarks	Repeatable
		targetHosts				Same as Allocate Volumes (provisioning .hostSetting.targetHosts.value)	
		crossPathSettings					
			crossPathEnabled			Configure cross-path in the case of "true".	
			aluaSettingOnPreferredPath			ALUA setting on preferred path. If you want to suppress I/O of the cross-path by ALUA setting, specify the setting value to true.	"true" or "false"
			hmoSettingOnNonPreferredPath			Host Mode Option setting on nonpreferred path. If you want to suppress I/O of the cross-path by HDLM, specify the setting value to true.	"true" or "false"

Table 233 createRemoteCopy.topologySetting.secondary.volumeSettings.value

Data nesting information				Explanation	Range	Remarks	Repeatable
values				-	-	-	-
	volumeSettings					Same as Allocate Volumes (provisioning .volumeSetting.volumeSettings.value)	-
	advancedOption					Same as Allocate Volumes (provisioning .advancedOption.advancedOptions.value)	-
	resourceCriteria					Same as Allocate volumes for a symmetric cluster server from two storage systems (provisioning .resourceCriteria.resourceSelectionCriteria.bootVolumeUsageSpecific.value) Note: Do not specify "IG".	-
	hostSetting					-	-
		hostsfilter			Hosts Filter		
			condition				

Data nesting information						Explanation	Range	Remarks	Repeatable
				join		Join	"and" or "or"		
				expression			Identifier		
					op	Operator	Operator	Value defined at ValueList Common for all the resources: eq, ne, starts, ends	
					name	Name	Name		
					value	Value	Value		
		targetHosts						Same as Allocate Volumes (provisioning .hostSetting.targetHosts.value)	

Table 234 createRemoteCopy.topologySetting.primarySI.volumeSettings.value

Data nesting information						Explanation	Range	Remarks	Repeatable
values						-	-	-	-
	volumeSettings							Same as Allocate Volumes (provisioning .volumeSetting.volumeSettings.value)	-

Data nesting information					Explanation	Range	Remarks	Repeatable
	advancedOption						Same as Allocate Volumes (provisioning .advancedOption.advancedOptions.value)	-
	resourceCriteria						Same as Allocate volumes for a symmetric cluster server from two storage systems (provisioning .resourceCriteria.resourceSelectionCriteria.bootVolumeUsageSpecific.value) Note: Do not specify "IG" and "RG".	-
	hostSetting						-	-
		hostsfilter			Hosts Filter			
			condition					
				join	Join	"and" or "or"		
				expression		Identifier		

Data nesting information						Explanation	Range	Remarks	Repeatable
					op	Operator	Operator	Value defined at ValueList Common for all the resources: eq, ne, starts, ends	
					name	Name	Name		
					value	Value	Value		
		targetHosts						Same as Allocate Volumes (provisioning .hostSetting.targetHosts.value)	

Table 235 createRemoteCopy.topologySetting.primaryTI.volumeSettings.value

Data nesting information						Explanation	Range	Remarks	Repeatable
values						-	-	-	-
	volumeSettings							Same as Allocate Volumes (provisioning .volumeSetting.volumeSettings.value)	-
	advancedOption							Same as Allocate Volumes (provisioning .advancedOption.advancedOptions.value)	-

Data nesting information					Explanation	Range	Remarks	Repeatable
	resourceCriteria						Empty list	-
	hostSetting						-	-
		hostsfilter			Hosts Filter			
			condition					
				join	Join	"and" or "or"		
				expression		Identifier		
				op	Operator	Operator	Value defined at ValueList Common for all the resources: eq, ne, starts, ends	
				name	Name	Name		
				value	Value	Value		
		targetHosts					Same as Allocate Volumes (provisioning .hostSetting.targetHosts.value)	

Table 236 createRemoteCopy.topologySetting.primary.volumeSettings.restriction

Data nesting information					Explanation	Range	Remarks	Repeatable
	type						-	-
	visibility							

Data nesting information					Explanation	Range	Remarks	Repeatable
properties								
volumeSettings							Same as Allocate Volumes (provisioning.volumeSettings.volumeSettings.restriction)	-
advancedOption							Same as Allocate Volumes (provisioning.advancedOption.advancedOptions.restriction)	-
resourceCriteria							Same as Allocate volumes for a symmetric cluster server from two storage systems (provisioning.resourceCriteria.resourceSelectionCriteria.bootVolumeUsageSpecific.restriction)	-
hostSetting							-	-
type								
properties								

Data nesting information										Explanation	Range	Remarks	Repeatable	
					hostsfilter							Filtering criteria of Host		
					type									
					readOnly									
					hidden									
					properties									
					condition									
					type									
					properties									
					join							Join		
					type									
					visibility									
					valueList									
					defaultValue									
					expressions							Identifier		
					type									
					itemInstances									
					type									
					properties									
					op							Operator		
					type									

Data nesting information										Explanati on	Rang e	Remarks	Repeat able	
										visibility				
										valueLis t				
										default Value				
								na me		Name				
								type						
								visibility						
								default Value						
								val ue		Value				
								type						
								visibility						
								valueLis t						
								default Value						
				targetH osts								Same as Allocate Volumes (provisionin g.hostSettin g.targetHos ts.restrictio n)		
				crossPathSetti ngs										
				typ e										
				properti es										

Data nesting information				Explanation	Range	Remarks	Repeatable
			crossPathEnabled		Cross path setting		
			type				
			visibility				
			defaultValue				
			aluaSettingOnPreferredPath		ALUA setting on preferred path		
			type				
			visibility				
			defaultValue				
			hmoSettingOnNonPreferredPath		HMO setting on non-preferred path		
			type				
			visibility				
			defaultValue				

Table 237
createRemoteCopy.topologySetting.secondary.volumeSettings.restriction

Data nesting information						Explanati on	Rang e	Remarks	Repeat able
type								-	-
properties									
volumeSe ttings								Same as Allocate Volumes (provisionin g.volumeSe tting.volum eSettings.re striction)	-
advanced Option								Same as Allocate Volumes (provisionin g.advanced Option.adv ancedOptio ns.restrictio n)	-
resourceC riteria								Same as Allocate volumes for a symmetric cluster server from two storage systems (provisionin g.resourceC riteria.reso urceSelecti onCriteria.b ootVolume UsageSpecif ic.restrictio n) Note: Do not specify "IG".	-

Data nesting information										Explanation	Range	Remarks	Repeatable
								hostSetting				-	-
								type					
								properties					
								hostsfilter				Filtering criteria of Host	
								type					
								readOnly					
								hidden					
								properties					
								condition					
								type					
								properties					
								join				Join	
								type					
								visibility					
								valueList					
								defaultValue					
								expressions				Identifier	
								type					
								itemInstances					
								type					

Data nesting information											Explanati on	Rang e	Remarks	Repeat able	
											proper ties				
											op	Operator			
											type				
											visibility				
											valueLis t				
											default Value				
											na me	Name			
											type				
											visibility				
											valueLis t				
											default Value				
											val ue	Value			
											type				
											visibility				
											default Value				
		targetH osts												Same as Allocate Volumes (provisionin g.hostSetti ng.targetH osts.restrict ion)	

Table 238 createRemoteCopy.topologySetting.primarySI.volumeSettings.restriction

Data nesting information							Explanati on	Rang e	Remarks	Repeat able
type									-	-
visibility										
properties										
volumeSe ttings									Same as Allocate Volumes (provisionin g.volumeSe tting.volum eSettings.re striction)	-
advanced Option									Same as Allocate Volumes (provisionin g.advanced Option.adv ancedOptio ns.restrictio n)	-

Data nesting information						Explanation	Range	Remarks	Repeatable
resourceCriteria								'Same as Allocate volumes for a symmetric cluster server from two storage systems (provisioning.resourceCriteria.resourceSelectionCriteria.bootVolumeUsageSpecific.restriction). Note: Do not specify "IG" and "RG".	-
hostSetting								-	-
type									
properties									
hostsfilter						Filtering criteria of Host			
type									
readOnly									
hidden									
properties									
condition									

Data nesting information										Explanation	Range	Remarks	Repeatable
								type					
								properties					
								join		Join			
								type					
								visibility					
								valueList					
								defaultValue					
								expressions		Identifier			
								type					
								itemInstances					
								type					
								properties					
								op		Operator			
									type				
									visibility				
									valueList				
									default Value				
								name		Name			
									type				
									visibility				
									valueList				

Data nesting information												Explanation	Range	Remarks	Repeatable
												default Value			
											value	Value			
											type				
											visibility				
											default Value				
										targetHosts			Same as Allocate Volumes (provisioning.hostSetting.targetHosts.restriction)		

Table 239 createRemoteCopy.topologySetting.primaryTI.volumeSettings.restriction

Data nesting information												Explanation	Range	Remarks	Repeatable
											type			-	-
											visibility				
											properties				
										volumeSettings			Same as Allocate Volumes (provisioning.volumeSetting.volumeSettings.restriction)	-	

Data nesting information										Explanation	Range	Remarks	Repeatable
									advanced Option			Same as Allocate Volumes (provisioning.advanced Option.advancedOptions.restriction)	-
									resourceCriteria			Empty list	-
									hostSetting			-	-
									type				
									properties				
									hostsfilter			Filtering criteria of Host	
									type				
									readOnly				
									hidden				
									properties				
									condition				
									type				
									properties				
									join			Join	
									type				
									visibility				
									valueList				

Data nesting information										Explanati on	Rang e	Remarks	Repeat able
									defaultVa lue				
									expressions	Identifier			
									type				
									itemInsta nces				
									ty p e				
									proper ties				
									op	Operator			
									type				
									visibility				
									valueLis t				
									default Value				
									na me	Name			
									type				
									visibility				
									valueLis t				
									default Value				
									val ue	Value			
									type				
									visibility				
									default Value				

Data nesting information							Explanation	Range	Remarks	Repeatable
		targetHosts							Same as Allocate Volumes (provisioning.targetHosts.restriction)	

Table 240 createRemoteCopy.topologySetting.copyPairSettings.value

Data nesting information			Explanation	Range	Remarks	Repeatable
values			-			
	copyTopologyForm		CopyTopology Form	"2DC Remote Copy (TCS)", "2DC Remote Copy (UR)", "3DC Cascade", "3DC Multi Target", "3DC Multi Target with Delta Resync", "global-active device", "global-active device and Universal Replicator with Delta Resync"		
	primarySecondaryRemote		Primary - Secondary Remote Pair Setting			

Data nesting information				Explanation	Range	Remarks	Repeatable
		copyType		Copy Type of TCS/UR/GAD	"TCS" or "UR" or "GAD"		
		copyGroup Name		Copy Group name of TCS/UR/GAD			
		noCopy		No Copy of TCS/UR/GAD			
		copyPace		CopyPace of TCS	1 - 15		
		fenceLevelT C		Fence Level Of TCS			
		fenceLevel UR		Fence Level Of UR			
		fenceLevel GAD		Fence Level Of GAD			
		assignCtg		Assign CTG ID or Not of TCS/UR/GAD			
		ctgId		CTG ID of TCS/UR/GAD			
		muNumber		MU Number of UR/GAD			
		quorumDiskId		Quorum Disk ID of GAD			
		primaryConfigFile		Primary Config File			
			management Server				
			name	Primary Pair Management Server Name			

Data nesting information					Explanation	Range	Remarks	Repeatable
				objectId	Primary Pair Management Server ID		Not necessarily to specify the value when using the API.	
			instanceNumber	Instance Number	0 - 2047			
			portNumber	PortNumber Note: Specify a value only if the selected instance number is not used by the existing instance.	0 - 65535			
			ipType	IPType	"HostName" or "IPV6" or "IPV4"			
		secondaryConfigFile						
			managementServer					
				name	Secondary Pair Management Server Name			
				objectId	Secondary Pair Management Server ID		Not necessarily to specify the value when using the API.	
			instanceNumber	Instance Number	0 - 2047			

Data nesting information				Explanation	Range	Remarks	Repeatable
			portNumber	PortNumber Note: Specify a value only if the selected instance number is not used by the existing instance.	0 - 65535		
			ipType	IPType	"HostName" or "IPV6" or "IPV4"		
			primaryPathGroupID	Primary Path Group ID of TCS/UR			
			secondaryPathGroupID	Secondary Path Group ID of TCS/UR			
			primaryJnlGId	Primary JNLG ID of UR			
			secondaryJnlGId	Secondary JNLG ID of UR			
		primaryTertiaryRemote		Primary - Tertiary Remote Pair Setting			
			*Same as primarySecondaryRemote				
		secondaryTertiaryRemote		Secondary - Tertiary Remote Pair Setting			
			*Same as primarySecondaryRemote				
		primaryTI		Primary TI Pair Setting			

Data nesting information				Explanation	Range	Remarks	Repeatable
		copyGroup	Name	Copy Group Name of TI			
		isSnapshot	Group	SnapshotGroup or not of TI			
		assignCtgForAtTimeSplit		Assign CTG ID or Not of TI			
		ctgId		CTG ID of TI			
		muNumber		MU Number of TI			
		primaryConfigFile					
			management Server				
			name	Primary Pair Management Server Name			
			objectId	Primary Pair Management Server ID		Not necessary to specify the value when using the API.	
			instanceNumber	Instance Number	0 - 2047		
			portNumber	PortNumber Note: Specify a value only if the selected instance number is not used by the existing instance.	0 - 65535		
			ipType	IPType	"HostName" or "IPV6" or "IPV4"		

Data nesting information				Explanation	Range	Remarks	Repeatable
		secondaryConfigFile					
			managementServer				
			name	Secondary Pair Management Server Name			
			objectId	Secondary Pair Management Server ID		Not necessarily to specify the value when using the API.	
			instanceNumber	Instance Number	0 - 2047		
			portNumber	PortNumber Note: Specify a value only if the selected instance number is not used by the existing instance.	0 - 65535		
			ipType	IPType	"HostName" or "IPV6" or "IPV4"		
		toPoolId		TI Pool ID	"		
	primarySI			Primary SI Pair Setting			
		copyGroupName		Copy Group name of SI			
		copyPace		CopyPace of SI	1 - 15		
		assignCtgForAtTimeSplit		Assign CTG ID or Not of SI			

Data nesting information				Explanation	Range	Remarks	Repeatable
		ctgid		CTG ID of SI			
		muNumber		MU Number of SI			
		primaryConfigFile					
			managementServer				
			name	Primary Pair Management Server Name			
			objectId	Primary Pair Management Server ID		Not necessarily to specify the value when using the API.	
			instanceNumber	Instance Number	0 - 2047		
			portNumber	PortNumber Note: Specify a value only if the selected instance number is not used by the existing instance.	0 - 65535		
			ipType	IPType	"HostName" or "IPV6" or "IPV4"		
		secondaryConfigFile					
			secondaryConfigFile				

Data nesting information				Explanation	Range	Remarks	Repeatable
			name	Secondary Pair Management Server Name			
			objectId	Secondary Pair Management Server ID		Not necessary to specify the value when using the API.	
		instanceNumber		Instance Number	0 - 2047		
		portNumber		PortNumber Note: Specify a value only if the selected instance number is not used by the existing instance.	0 - 65535		
		ipType		IPType	"HostName" or "IPV6" or "IPV4"		
		split		Split	"None", "Steady Split" or "Quick Split"		
	secondaryTI			Secondary TI Pair Setting			
		*Same as primaryTI					
	secondarySI			Secondary SI Pair Setting			
		*Same as primarySI					

Data nesting information				Explanation	Range	Remarks	Repeatable
	tertiaryTI			Tertiary TI Pair Setting			
		*Same as primaryTI					
	tertiarySI			Tertiary SI Pair Setting			
		*Same as primarySI					

Table 241 createRemoteCopy.topologySetting.copyPairSettings.restriction

Data nesting information										Explanation	Range	Remarks	Repeat..
values													
properties													
	copyTopologyForm									'Copy Topology Form			
	type												
	visibility												
	readOnly												

Data nesting information								Explanation	Range	Remarks	Repeat..
		valueList							"2DC Remote Copy (TCS)", "2DC Remote Copy (UR)", "3DC Cascade", "3DC Multi Target", "3DC Multi Target with Delta Resync", "global-active device", "global-active device and Universal Replicator with Delta Resync"		
		defaultValue									

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
		primarySecondary Remote								Primary - Seconda ry Remote Pair Setting			
		type											
		visi bilit y											
		itemInsta nces											
			type										
			visi bilit y										
			pro per ties										
				copyTy pe									-
					ty pe								
					visibilit y								
					valueLi st								
					default Value					Default values of Copy Type			
					copyGroup Name								-

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
					ty pe								
					visibilit y								
					default Value					Default values of Copy Group Name			
					noCop y								-
					ty pe								
					visibilit y								
					readOn ly								
					hidden								
					default Value					Default values of No Copy			
					copyP ace								-
					ty pe								
					visibilit y								
					readOn ly								
					hidden								
					default Value					Default values of Copy Pace			

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
				fenceLevelT C									-
				ty pe									
				vis ibi lit y									
				readOn ly									
				hidden									
				valueLi st									
				default Value						Default values of Fence Level TCS			
				fenceLevel UR									-
				ty pe									
				visibilit y									
				readOn ly									
				hidden									
				valueLi st									
				default Value						Default values of Fence Level UR			
				fenceLevel GAD									

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
					type								
					visibilit y								
					readOn ly								
					hidden								
					default Value								
					assignCtg								-
					ty pe								
					visibilit y								
					default Value					Default values of Assign CTG or Not			
					ct gl d								-
					ty pe								
					visibilit y								
					optionValue s								
							metho d						
							values						
					default Value					Default values of CTG ID			
					muNumber								-

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
					ty pe								
					visibilit y								
					optionV alues								
						metho d							
						values							
					default Value					Default values of MU Number			
					quorumDis kId								
					type								
					visibilit y								
					optionValue s								
						metho d							
						values							
					default Value								
					primaryConf igFile								-
					type								
					propert ies								
						managementSer ver							-
						type							

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
								proper ties					
								na me					-
								typ e					
								visi bili ty					
								readO nly					
								default Value	'Default values of Primary Pair Manage ment Server Name				
								objectId				Not necessa ry to specify the value when using the API.	
								type					
								visibilit y					
								readO nly					
								hidden					

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
									default Value	Default values of Primary Pair Manage ment Server ID			
									instanceNu mber				-
									type				
									visibilit y				
									optionValue s				
									method				
									values				
									default tValue	Default values of Instance Number			
									portNu mber				-
									type				
									visibilit y				
									optionValue s				
									method				
									values				
									defaultValue	Default values of Port Number			
									ipType				-

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
							type						
							visibilit y						
							valueLi st						
							defaul tValue			Default values of IP Type			
					secondaryConfi gFile								-
						type							
						propert ies							
					managemen tServer								-
						type							
						propert ies							
							name						-
							type						
							visibilit y						
							readO nly						
							hidden						
							default Value	'Default values of Seconda ry Pair Manage ment Server Name					

Data nesting information								Explanat ion	Range	Remark s	Rep eat..
							objectId			Not necessa ry to specify the value when using the API.	
							type				
							visibilit y				
							ready Only				
							hidden				
							default Value	Default values of Seconda ry Pair Manage ment Server ID			
						instanceNu mber					-
						type					
						visibilit y					
						optionValue s					
						method					
						values	Default values of Instance Number				
						default tValue					

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
						portNu mber							-
							type						
							visibilit y						
							optionValue s						
								method					
								values	Default values of Port Type				
								default tValue					
						ipT yp e							-
							type						
							visibilit y						
							valueLi st						
								default tValue	Default values of IP Type				
						primaryPathGro upId							-
							ty pe						
							visibilit y						
							readOn ly						
							optionValue s						

Data nesting information							Explanat ion	Range	Remark s	Rep eat..
						metho d				
						values				
					default Value			Default values of Primary Path Group ID		
				secondaryPath GroupId						-
					ty pe					
					visibilit y					
					readOn ly					
					optionValue s					
						metho d				
						values				
					default Value			Default values of Seconda ry Path Group ID		
				primaryJnl Id						-
					ty pe					
					visibilit y					
					readOn ly					

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
					optionValue s								
						metho d							
						values							
					default Value					Default values of Primary JNLG ID			
					secondaryj nlgld								-
					ty pe								
					visibilit y								
					readOn ly								
					optionValue s								
						metho d							
						values							
					default Value					Default values of Seconda ry JNLG ID			
					primaryTertiaryRe mote					Primary - Tertiary Remote Pair Setting			-
					*Same as primarySecondary Remote								-

Data nesting information										Explanat ion	Range	Remark s	Rep eat..	
	secondaryTertiaryRem ote										Seconda ry - Tertiary Remote Pair Setting			-
	*Same as primarySecondary Remote													-
	primary TI										Primary TI Pair Setting			-
	typ e													
	visi bilit y													
	itemInsta nces													
		typ e												
		properti es												
			copyGroup Name											-
				ty pe										
				visibilit y										
				default Value							Default values of Copy Group Name			
			isSnapshot Group											-

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
					ty pe								
					visibilit y								
					readOn ly								
					default Value					Default values of Snapsho t group or not			
					assignCtgForAtT imeSplit								-
					ty pe								
					visibilit y								
					default Value					Default values of Assign CTG or Not			
					ct gl d								-
					ty pe								
					visibilit y								
					optionValue s								
						metho d							
						values							

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
					default Value					Default values of CTG ID			
					muNu mber								-
					ty pe								
					visibilit y								
					optionValue s								
							method						
							values						
					default Value					Default values of MU Number			
					primaryConf igFile								-
					type								
					propert ies								
							managementSer ver						-
							type						
							propert ies						
							na me						-
								type					
								visibilit y					

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
									readOnly				
									default Value	'Default values of Primary Pair Management Server Name			
									objectId			Not necessary to specify the value when using the API.	
									type				
									visibility				
									readOnly				
									hidden				
									default Value	Default values of Secondary Pair Management Server ID			
									instanceNumber				-
									type				
									visibility				

Data nesting information								Explanat ion	Range	Remark s	Rep eat..
							optionValue s				
							method				
							values				
							default tValue		Default values of Instance Number		
							portNu mber				-
							type				
							visibilit y				
							option Values				
							method				
							values				
							default tValue		Default values of Port Number		
							ipT yp e				-
							type				
							visibilit y				
							valueLi st				
							default tValue		Default values of IP Type		
							secondaryConfi gFile				-

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
					type								
					propert ies								
						managementSer ver							-
						propert ies							
							na me						-
								type					
								visibilit y					
								readO nly					
								default Value	Default values of Seconda ry Pair Manage ment Server Name				
								objectId				Not necessa ry to specify the value when using the API.	
								type					
								visibilit y					
								readO nly					

Data nesting information								Explanat ion	Range	Remark s	Rep eat..
							hidden				
							default Value	Default values of Seconda ry Pair Manage ment Server ID			
						instanceNu mber					-
						type					
						visibilit y					
						optionValue s					
						method					
						values		Default values of Instance Number			
						default tValue					
						portNu mber					-
						type					
						visibilit y					
						optionValue s					
						method					
						values		Default values of Port Type			

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
							default tValue						
						ipT yp e							-
						type							
						visibilit y							
						readO nly							
						default tValue				Default values of IP Type			
					tiPoolI d								-
					ty pe								
					visibilit y								
					optionValue s								
						metho d							
						values							
					default Value					Default values of TI Pool ID			
	primary SI									'Primary SI Pair Setting			-
		typ e											
		itemInsta nces											

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
			typ e										
			visibility										
			properti es										
			copyGroup Name										-
				ty pe									
				visibilit y									
				default Value						Default values of Copy Group Name			
				copyP ace									-
				ty pe									
				visibilit y									
				readOn ly									
				hidden									
				valueLi st									
				default Value						Default values of Copy Pace			
				assignCtgForAtT imeSplit									-
				ty pe									

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
					visibilit y								
					default Value					Default values of Assign CTG or Not			
				ct gl d									-
					ty pe								
					visibilit y								
					readOn ly								
					hidden								
					default Value					Default values of CTG ID			
					muNu mber								-
					ty pe								
					visibilit y								
					optionValue s								
						metho d							
						values							
					default Value					Default values of MU Number			

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
				primaryConf									-
				igFile									
					type								
					propert								
					ies								
						managemen							-
						tServer							
							type						
							propert						
							ies						
							na						-
							m						
							e						
								type					
								visibilit					
								y					
								readO					
								nly					
								hidden					
								default	'Default				
								Value	values of				
									Primary				
									Pair				
									Manage				
									ment				
									Server				
									Name				
								objectId				Not	
												necessa	
												ry to	
												specify	
												the	
												value	
												when	
												using	
												the API.	
								type					

Data nesting information								Explanat ion	Range	Remark s	Rep eat..
							visibilit y				
							readO nly				
							default Value	Default values of Seconda ry Pair Manage ment Server ID			
						instanceNu mber					-
						type					
						visibilit y					
						optionValue s					
						method					
						values					
						default tValue		Default values of Instance Number			
						portNu mber					-
						type					
						visibilit y					
						optionValue s					
						method					
						values					

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
							default tValue			Default values of Port Number			
						ipT yp e							-
							type						
							visibilit y						
							default tValue			Default values of IP Type			
						secondaryConfi gFile							-
						type							
						propert ies							
						managementSer ver							-
						type							
						proper ties							
							name						-
							type						
							visibilit y						
							readO nly						

Data nesting information										Explanation	Range	Remarks	Repeat..
									default Value	'Default values of Secondary Pair Management Server Name			
									objectId			Not necessary to specify the value when using the API.	
									type				
									visibility				
									readOnly				
									hidden				
									default Value	Default values of Secondary Pair Management Server ID			
									instanceNumber				-
									type				
									visibility				
									options				

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
								method					
								values		Default values of Instance Number			
								default tValue					
								portNu mber					-
								type					
								visibilit y					
								optionValue s					
								method					
								values		Default values of Port Type			
								default tValue					
								ipT yp e					-
								type					
								visibilit y					
								valueLi st					
								default tValue		Default values of IP Type			
				s pl it									-

Data nesting information										Explanat ion	Range	Remark s	Rep eat..
					ty pe								
					visibilit y								
					readOn ly								
					hidden								
					valueLi st								
					default Value					Default values of Split Option			
		seconda ryTI								Seconda ry TI Pair Setting			-
		*Same as primaryTI											-
		seconda rySI								Seconda ry SI Pair Setting			-
		*Same as primarySI											-
		tertiaryT I								Tertiary TI Pair Setting			-
		*Same as primaryTI											-
		tertiaryS I								Tertiary SI Pair Setting			-
		*Same as primarySI											-

Allocate replicated volumes on new copy topology (submit)

keyName	Type	Explanation	Range
createRemoteCopy.topologySetting.cop yPairSettings.value	file	Storage Settings on Primary site (Model, Serial number)	Same as Edit property
createRemoteCopy.topologySetting.sec ondary.storageSettings.value	file	Storage Settings on Secondary site (Model, Serial number)	Same as Edit property
createRemoteCopy.topologySetting.tert iary.storageSettings.value	file	Storage Settings on Tertiary site (Model, Serial number)	Same as Edit property
createRemoteCopy.topologySetting.pri mary.volumeSettings.value	file	Primary Volume Settings	Same as Edit property
createRemoteCopy.topologySetting.pri marySI.volumeSettings.value	file	Primary SI Volume Settings	Same as Edit property
createRemoteCopy.topologySetting.pri maryTI.volumeSettings.value	file	Primary TI Volume Settings	Same as Edit property
createRemoteCopy.topologySetting.sec ondary.volumeSettings.value	file	Secondary Volume Settings	Same as Edit property
createRemoteCopy.topologySetting.sec ondarySI.volumeSettings.value	file	Secondary SI Volume Settings	Same as Edit property
createRemoteCopy.topologySetting.sec ondaryTI.volumeSettings.value	file	Secondary TI Volume Settings	Same as Edit property
createRemoteCopy.topologySetting.tert iary.volumeSettings.value	file	Tertiary Volume Settings	Same as Edit property
createRemoteCopy.topologySetting.tert iarySI.volumeSettings.value	file	Tertiary SI Volume Settings	Same as Edit property

keyName	Type	Explanation	Range
createRemoteCopy.topologySetting.tertiaryTI.volumeSettings.value	file	Tertiary TI Volume Settings	Same as Edit property
createRemoteCopy.topologySetting.copyPairSettings.value	file	Copy Pair Settings	Same as Edit property

Allocate replicated volumes on new copy topology (task details)

keyName	Explanation	Input/Output	Type	Range
createRemoteCopy.taskResult.primarySecondaryRemote.copyGroupInformation	Primary-Secondary Copy Group Configuration Information	Output	File	Same as Allocate like replicated volumes on existing copy topology (task details).
createRemoteCopy.taskResult.primary.lunPathConfigurationInformation	Primary Site/Primary Volume LUN Path Configuration Information	Output	File	Same as Allocate like replicated volumes on existing copy topology (task details).
createRemoteCopy.taskResult.primary.numberOfLdev	Primary Site/Number of Volumes for Primary Volumes	Output	String	The number of the allocated volumes
createRemoteCopy.taskResult.primary.numberOfLunPath	Primary Site/Number of LUN Paths for Primary Volumes	Output	String	The number of paths

keyName	Explanation	Input/Output	Type	Range
createRemoteCopy.taskResult.primarySI.copyGroupInformation	Primary Site/Primary SI Copy Group Configuration Information	Output	File	Same as Allocate like replicated volumes on existing copy topology (task details).
createRemoteCopy.taskResult.primarySI.lunPathConfigurationInformation	Primary Site/Primary SI Volume LUN Path Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primary.lunPathConfigurationInformation
createRemoteCopy.taskResult.primarySI.numberOfLdev	Primary Site/Number of Volumes for Primary SI Volumes	Output	String	The number of the allocated volumes
createRemoteCopy.taskResult.primarySI.numberOfLunPath	Primary Site/Number of LUN Paths for Primary SI Volumes	Output	String	The number of paths
createRemoteCopy.taskResult.primaryTI.copyGroupInformation	Primary Site/primary TI Copy Group Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primarySI.copyGroupInformation
createRemoteCopy.taskResult.primaryTI.lunPathConfigurationInformation	Primary Site/Primary TI Volume LUN Path Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primary.lunPathConfigurationInformation
createRemoteCopy.taskResult.primaryTI.numberOfLdev	Primary Site/Number of Volumes for Primary TI Volumes	Output	String	The number of the allocated volumes

keyName	Explanation	Input/Output	Type	Range
createRemoteCopy.taskResult.primaryTI.numberOfLunPath	Primary Site/Number of LUN Paths for Primary TI Volumes	Output	String	The number of paths
createRemoteCopy.taskResult.primaryTertiaryRemote.copyGroupInformation	Primary-Tertiary Copy Group Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primarySl.copyGroupInformation
createRemoteCopy.taskResult.secondary.lunPathConfigurationInformation	Secondary Site/Primary Volume LUN Path Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primary.lunPathConfigurationInformation
createRemoteCopy.taskResult.secondary.numberOfLdev	Secondary Site/Number of Volumes for Secondary Volumes	Output	String	The number of the allocated volumes
createRemoteCopy.taskResult.secondary.numberOfLunPath	Secondary Site/Number of LUN Paths for Secondary Volumes	Output	String	The number of paths
createRemoteCopy.taskResult.secondarySl.copyGroupInformation	Secondary Site/Secondary Sl Copy Group Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primarySl.copyGroupInformation
createRemoteCopy.taskResult.secondarySl.lunPathConfigurationInformation	Secondary Site/Secondary Sl Volume LUN Path Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primary.lunPathConfigurationInformation

keyName	Explanation	Input/Output	Type	Range
createRemoteCopy.taskResult.secondarySl.numberOfLdev	Secondary Site/Number of Volumes for Secondary SI Volumes	Output	String	The number of the allocated volumes
createRemoteCopy.taskResult.secondarySl.numberOfLunPath	Secondary Site/Number of LUN Paths for Secondary SI Volumes	Output	String	The number of paths
createRemoteCopy.taskResult.secondaryTi.copyGroupInformation	Secondary Site/Secondary TI Copy Group Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primarySl.copyGroupInformation
createRemoteCopy.taskResult.secondaryTi.lunPathConfigurationInformation	Secondary Site/Secondary TI Volume LUN Path Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primary.lunPathConfigurationInformation
createRemoteCopy.taskResult.secondaryTi.numberOfLdev	Secondary Site/Number of Volumes for Secondary TI Volumes	Output	String	The number of the allocated volumes
createRemoteCopy.taskResult.secondaryTi.numberOfLunPath	Secondary Site/Number of LUN Paths for Secondary TI Volumes	Output	String	The number of paths
createRemoteCopy.taskResult.secondaryTertiaryRemote.copyGroupInformation	Secondary-Tertiary Copy Group Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primarySl.copyGroupInformation

keyName	Explanation	Input/Output	Type	Range
createRemoteCopy.taskResult.tertiary.lunPathConfigurationInformation	Tertiary Site/Tertiary Volume LUN Path Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primary.lunPathConfigurationInformation
createRemoteCopy.taskResult.tertiary.numberOfLdev	Tertiary Site/Number of Volumes for Tertiary Volumes	Output	String	The number of the allocated volumes
createRemoteCopy.taskResult.tertiary.numberOfLunPath	Tertiary Site/Number of LUN Paths for Tertiary Volumes	Output	String	The number of paths
createRemoteCopy.taskResult.tertiarySI.copyGroupInformation	Tertiary Site/Tertiary SI Copy Group Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primarySI.copyGroupInformation
createRemoteCopy.taskResult.tertiarySI.lunPathConfigurationInformation	Tertiary Site/Tertiary SI Volume LUN Path Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primary.lunPathConfigurationInformation
createRemoteCopy.taskResult.tertiarySI.numberOfLdev	Tertiary Site/Number of Volumes for Tertiary SI Volumes	Output	String	The number of the allocated volumes
createRemoteCopy.taskResult.tertiarySI.numberOfLunPath	Tertiary Site/Number of LUN Paths for Tertiary SI Volumes	Output	String	The number of paths

keyName	Explanation	Input/Output	Type	Range
createRemoteCopy.taskResult.tertiaryTI.copyGroupInformation	Tertiary Site/Tertiary TI Copy Group Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primarySl.copyGroupInformation
createRemoteCopy.taskResult.tertiaryTI.lunPathConfigurationInformation	Tertiary Site/Tertiary TI Volume LUN Path Configuration Information	Output	File	Same as createRemoteCopy.taskResult.primary.lunPathConfigurationInformation
createRemoteCopy.taskResult.tertiaryTI.numberOfLdev	Tertiary Site/Number of Volumes for Tertiary TI Volumes	Output	String	The number of the allocated volumes
createRemoteCopy.taskResult.tertiaryTI.numberOfLunPath	Tertiary Site/Number of LUN Paths for Tertiary TI Volumes	Output	String	The number of paths
service.errorMessage	Error message	Output	String	Summary information of error messages

Allocate fabric aware volumes service properties

Use the following properties to modify or create values for the allocate fabric aware volumes service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate fabric aware volumes (edit)

key Name	Explanation	Type	Range
provisioning.advancedOption.advancedOptions.value	Advanced Option information.	File	-
provisioning.volumeSetting.volumeSettings.value	Volume Setting information in Edit service.	File	-
provisioning.advancedOption.advancedOptions.value	Advanced Option information.	File	-
provisioning.resourceCriteria.resourceSelectionCriteria.volumeUsageSpecific.value	Criteria information in Edit service.	File	-
provisioning.hostSetting.hostsFilter.value	The target host name to allocate volume.	File	-
provisioning.hostSetting.targetHosts.value		File	-
provisioning.fabricSetting.enabled	Specifying 'true' enables fabric information collection functionality.	boolean	-
provisioning.fabricSetting.connection.type (hidden)	This property defines connection type information. Caution: Do not change this property. If you change it, the service might fail.	list	BNA only
provisioning.fabricSetting.connection.productName (hidden)	Specifies the product name defined in the General Connections on the Administration Tab.	string	-

key Name	Explanation	Type	Range
provisioning.fabricSetting.connection.names	Specifies the connection name defined in the General Connections on the Administration Tab. Separate multiple values by commas. If this value is omitted, the system uses all connections that are defined for the product name listed in the General Connections.	string	-
provisioning.fabricSetting.resourcegroups	Specifies the switch management server resource group. Separate multiple values by commas.	string	-
provisioning.fabricSetting.fabrics	Specifies the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	string	-
provisioning.fabricSetting.usingExistingZone	Specifies the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	boolean	-
provisioning.fabricSetting.usingActiveZonesOnly (hidden)	Specifying 'true' selects paths with an active Zone setting only. Specifying False selects connectable paths including those with an inactive Zone setting.	boolean	-
provisioning.fabricSetting.hops.restriction	Specify 'true' if you want to add a Zone to the active Zone Configuration.	boolean	-

key Name	Explanation	Type	Range
provisioning.fabricSetting.hops.range	When using the Host Restriction option, specify the collection range by the number of hops.	integer	0 only
provisioning.zoneSetting.enabled	Specify 'true' to enable modify zone settings functionality.	boolean	-
provisioning.zoneSetting.useExistingZoneAliases	<p>Specify 'true' to use predefined Zone Aliases regardless of the naming conventions the user specifies.</p> <p>If you specify False, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions. When selecting the existing Zone Alias, Zone naming is fixed as <HostZoneAliasName>_<StorageZoneAliasName>.</p> <p>Note: If the service finds more than one alias candidate which have the same WWN, the alias is chosen based on the following priorities:</p>	boolean	-

key Name	Explanation	Type	Range
	<ol style="list-style-type: none"> 1. Search existing aliases which only have that WWN. If more than one alias is found, the system selects the first alias in the list of existing aliases. 2. If no alias is found using the first priority, search existing aliases which have multiple WWNs including that WWN. If more than one alias is found, the system selects the first alias in the list of existing aliases. 		
provisioning.zoneSetting.updateActiveZoneConfiguration	Specify 'true' if you want to add a Zone to the active Zone Configuration.	boolean	-
provisioning.zoneSetting.zoneConfigurationName	Specify the name of Zone Configuration to add if you want to add a Zone other than the active Zone Configuration.	string	-
provisioning.zoneSetting.namingScript.zone (hidden)	Specifies the script of the naming convention which determines the Zone name to the path.	file	Refer to the Script example below
provisioning.zoneSetting.namingScript.hostZoneAlias (hidden)	Specifies the script of the naming convention which determines the Zone name to the host port.	file	Refer to the Script example below

key Name	Explanation	Type	Range
provisioning.zoneSetting.namingScript.storageZoneAlias (hidden)	Specifies the script of the naming convention which determines the Zone name to the host port.	file	Refer to the Script example below

Table 242 provisioning.zoneSetting.expression.zone / provisioning.zoneSetting.namingExpression.hostZoneAlias/ provisioning.zoneSetting.naming.Expression.storageZoneAlias

Specifications of the script	Explanation
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	arguments[0]: The object with the following properties is passed as an argument. hostname: Host name hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. storageSystemFamily: Display model name of the physical storage system storageSystemName: Name of physical storage system on Device Manager storageSystemSerialNumber: Serial number of physical storage system storagePortName: Display port name of the storage system virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-") virtualStorageSystemName: Name of virtual storage on Device Manager (if non-virtual, "-") virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-") serviceProperties: List of the service properties passed to the plug-in

Specifications of the script	Explanation
return	<p>Script must return the string that satisfies the following conditions.</p> <ol style="list-style-type: none"> 1. Only alphanumeric characters and "_" are allowed. 2. The first character must be alphabetic. 3. Zone may be up to 60 characters, Zone Alias may be up to 64 characters 4. A string starting with LSAN_", "TI_", "QOSHn+_ ", "QOSMn+_ ", "QOSLn_" is not allowed for the Zone (where n is a number).
example	<pre>(function(args) { var name; if(! args.virtualSerialNumber args.virtualSerialNumber == "-"){ name = args.hostName + "_" + args.storageSystemName + "_" + args.storagePortName; }else{ name = args.hostName + "_" + args.virtualStorageSystemName + "_" + args.storagePortName; } if (!(name === null typeof(name) == "string" name instanceof String)) { throw new Error("Zone name must be a string: "+ name); } name = name.replace(/^[A-Za-z0-9_]/g, '_'); if(name.length > 60){ throw new Error("Zone name must be within 60 characters: "+ name); } if (/^[A-Z]/i.test(name) == false) { throw new Error("Zone name must start with a alphabet: "+ name); } if (/^LSAN_/i.test(name) /^TI_/i.test(name) / ^QOS[HML][0-9]+_/i.test(name)) { throw new Error("Zone name has the prefix LSAN_, TI_ or QOSxx_ cannot be for normal zone: "+name); } return name; })</pre>

Allocate fabric aware volumes (submit)

key Name	Explanation	Type
provisioning.volumeSetting.volumeSettings.value	Volume setting information.	File
provisioning.resourceCriteria.resourceSelectionCriteria.volumeUsageSpecific.value	Criteria information in Edit service.	File
provisioning.hostSetting.targetHosts.value	The target host name to allocate volume.	File

Allocate fabric aware volumes (task details)

Use the following information to show the task details of allocated fabric aware volumes.

keyName	Explanation	Input/Output	Type	Range
provisioning.taskResult.lunPathConfigurationInformation	The task result.	Output	File	See the "File type property list" section following this table.
provisioning.taskResult.NumberOfLunPath	The task result.	Output	File	Number of paths that allocated.
provisioning.taskResultRawData.lunPaths	The task result.	Output	String	See the "File type property list" section following this table.
provisioning.taskResultRawData.ldevs	The task result.	Output	File	See the "File type property list" section following this table.
provisioning.taskResult.storageArrayInfo	The task result.	Output	File	See the "File type property list" section following this table.
addhost.hostSetting.targetHostsOut.value	See Allocate volumes (task details) (on page 483)	Output	File	See Allocate volumes (task details) (on page 483)
provisioning.taskResult.fabricNames	A list of fabric names used when the path was selected (fabric names are separated by commas).	Output	string	-
provisioning.taskResult.zoneNames	A list of zone names used	Output	string	-

keyName	Explanation	Input/Output	Type	Range
	when the path was selected (zone names are separated by commas).			
provisioning.taskResult.createdZoneConfigurations	List of newly created Zone Configurations.	Output	File	See the "File type property list" section following this table.
provisioning.taskResult.createdZones	List of newly created Zones.	Output	File	See the "File type property list" section following this table.
provisioning.taskResult.createdZoneAliases	List of newly created Zone Aliases.	Output	File	See the "File type property list" section following this table.
provisioning.taskResult.updatedZoneConfigurations	List of Zone Configurations where the settings were updated.	Output	File	See the "File type property list" section following this table.
provisioning.taskResult.updatedZones	List of Zones where the settings were updated.	Output	File	See the "File type property list" section following this table.
provisioning.taskResult.updatedZoneAliases	List of Zone Aliases where the settings were updated.	Output	File	See the "File type property list" section following this table.

File type property list

Table 243 provisioning.taskResult.lunPathConfigurationInformation

Data nesting information		Explanation	Range
values ¹		Run result.	-
	usage	Volume Usage name.	-
	host	Host name.	-
	hostPort	Host port name.	-
	lun	LUN.	-
	storagePort	Port ID.	-
	portName	Storage port name.	-
	portType	Port type (FC or iSCSI).	-
	volume	LDEV ID.	-
	dpPool	Pool ID.	-
	dpPoolName	Pool Name.	-
	storageSystem	Storage System name.	-
	provisionedCapacity	Create volume capacity.	-
	capacity	Volume capacity when you submit.	-
	hostGroup	Host Group name.	-
	deviceManagerTaskName	Task Name of Device Manager.	-
	deviceManagerName	Device Manager that ran the task.	-
	virtualStorageSystemName	Virtual storage system name.	-
	virtualStorageSystemType	Type of virtual storage system.	-
	virtualSerialNumber	Serial number of virtual storage system.	-
	virtualLdevId	Virtual LDEV ID.	-
	resourceGroupName	Resource Group name.	-

Data nesting information		Explanation	Range
	infrastructureGroupName	Infrastructure Group name.	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 244 provisioning.taskResultRawData.ldevs

Data nesting information		Explanation	Range
values ¹		Result of allocated volume	-
	usage	Created DP/DT volume's LDEV ID	-
	deviceId	Created DP/DT volume's LDEV ID	-
	storageSystemType	Display Array Type of the target storage which volume has been allocated.	-
	storageSystemSerial Number	Serial Number of the target storage which volume has been allocated.	-
	deviceManagerName	Device Manager name which manages the storage system that has the created volume.	-
	displayUnit	Unit name string for displaying volume capacity size.	block/KB/MB/GB/TB
	virtualSerialNumber	Virtual serial Number of the selected virtual storage system.	-
	virtualLdevId	Created virtual DP/DT volume's LDEV ID	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 245 provisioning.taskResultRawData.lunPaths

Data nesting information		Explanation	Range
values ¹			-
	usage	Volume usage	-
	hostName	Host Name	-
	hostPortName	Host port name	-
	hostStorageDomainName	Host Storage Domain name	-
	hostStorageDomainId	Host Storage Domain ID	-
	lun	LUN Number	-
	portWorldWideName	Storage Port WWN	-
	targetIscsiName	iSCSI name	-
	portName	Storage system's port name	-
	portType	Port Type of storage system (FC or iSCSI)	-
	portObjectId	Port Object ID of Storage system	-
	portId	Port ID of storage system	-
	ldevNumber	LDEV number	-
	ldevLabel	LDEV Label	-
	dpPoolId	Pool ID	-
	storageSystemName	Storage System name	-
	storageSystemModel	Model name of Storage system	-
	family	Array Family of Storage system	-
	storageSystemSerialNumber	Serial Number of storage system	-
	capacity	Volume Capacity	-
	unit	Unit of volume capacity for display	-
	provisionedCapacityInBlock	Created volume capacity(in number of Block)	-
	pairVolumeType	Volume's pair type (P or S)	-
	volLdevId	LDEV ID	-

Data nesting information		Explanation	Range
	volLuNumber	LU number	-
	deviceManagerTaskName	Device Manager task name	-
	deviceManagerName	Device Manager name	-
	virtualStorageSystemName	Virtual storage system name	-
	virtualStorageSystemType	Display name of virtual storage system virtual model (Array Type)	-
	virtualSerialNumber	Serial Number of virtual storage system	-
	virtualLdevId	Virtual LDEV ID	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Table 246 provisioning.taskResult.zoneConfiguration

Data nesting information		Explanation	Range
values ^{1,2}		List of newly created Zone Configuration	-
	name ²	Name of newly created Zone Configuration name	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	zoneNames ^{1,2}	Zone to add to the created Zone Configuration	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 247 provisioning.taskResult.createdZones

Data nesting information		Explanation	Range
values ^{1,2}		List of newly created zone	
	name ²	Name of newly created zone	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	Zone Alias to add to the created Zone ^{1,2}	Zone to add to the created Zone Configuration	-
	memberNames ^{1,2}	WWN of the port added to the created Zone	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 248 provisioning.taskResult.createdZoneAliases

Data nesting information		Explanation	Range
values ^{1,2}		List of newly created Zone alias	
	name ²	Name of newly created zone alias	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	memberNames ^{1,2}	WWN of the port added to the created Zone	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 249 provisioning.taskResult.updatedZoneConfigurations

Data nesting information		Explanation	Range
values ^{1,2}		Zone to add to the created Zone Configuration	

Data nesting information		Explanation	Range
	name ²	Name of updated zone configuration	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	zoneNames ^{1,2}	Name of added zone	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 250 provisioning.taskResult.updatedZones

Data nesting information		Explanation	Range
values ^{1,2}		List of zones where the settings were updated	
	name ²	Name of zone where settings were updated	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	aliasNames ^{1,2}	Name of added Zone alias	-
	memberNames ^{1,2}	WWN of the added port	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 251 provisioning.taskResult.updatedZoneAliases

Data nesting information		Explanation	Range
values ^{1,2}		List of Zone alias where settings were updated	
	name ²	Name of Zone alias where settings were updated	-

Data nesting information		Explanation	Range
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	memberNames ^{1,2}	WWN of added port	-
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. 8.5.0 or later 			

Allocate fabric aware volumes with Configuration Manager service properties

Use the following properties to modify or create values for the allocate fabric aware volumes with Configuration Manager service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate fabric aware volumes with Configuration Manager (edit)

keyName	Type	Description	Range	Default value
ConfigurationManagerCo nnection	File	Specify the Configuration Manager Connection.	See the "File type property list" section following this table.	-
StorageSystem	File	Specify the Storage System.	See the "File type property list" section following this table.	-

keyName	Type	Description	Range	Default value
ResourceGroup	File	Specify the Resource Group.	See the "File type property list" section following this table.	-
Pool	File	Specify the pool.	See the "File type property list" section following this table.	-
CapacityFormat	String	Specify the volume capacity format as Byte or Block	"Byte" or "Block"	"Byte"
VolumeSettings	File	Specify the parameters required to create new volumes.	See the "File type property list" section following this table.	-
ResourceCriteria	File	Specify the resource criteria.	See the "File type property list" section following this table.	-
PortType	String	Specify the port type as Fibre or iSCSI.	"Fibre" or "iSCSI"	"Fibre"
HostGroupSettings	File	Specify the parameters that are needed in order to create a new Host Group/iSCSI Target.	See the "File type property list" section following this table.	-
provisioning.fabricSetting.enabled	Boolean	Specifying True enables fabric information collection functionality.	-	"True"

keyName	Type	Description	Range	Default value
provisioning.fabricSetting.connection.names	String	Specify the connection name defined in the Web Service Connections on the Administration Tab. Separate multiple values by commas. If this value is omitted, the system uses all connections that are defined for the product name listed in the Web Service Connections.	-	-
provisioning.fabricSetting.resourcegroups	String	Specify the switch management server resource group. Separate multiple values by commas.	-	-
provisioning.fabricSetting.fabrics	String	Specify the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	-	-

keyName	Type	Description	Range	Default value
provisioning.fabricSetting. .usingExistingZone	Boolean	Specifies whether to select a predefined zone or any connectable path. If you specify True, the system selects paths within the range of the existing Zone setting. If you specify False, the system selects connectable paths regardless of the existing Zone setting.	-	"True"
provisioning.fabricSetting. .hops.restriction	Boolean	Determines whether the service will fail if there is no path that matches the specified collection range.	-	"False"
provisioning.fabricSetting. .hops.range	Integer	When using the Host Restriction option, specify the collection range by the number of hops.	0	0
provisioning.zoneSetting. enabled	Boolean	Specify True to enable the modify zone settings functionality.	-	"True"

keyName	Type	Description	Range	Default value
provisioning.zoneSetting.useExistingZoneAliases	Boolean	Specify True to use predefined Zone Aliases regardless of the naming conventions the user specifies. If you specify False, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions.	-	"False"
provisioning.zoneSetting.updateActiveZoneConfiguration	Boolean	Specify True to add a Zone to the active Zone Configuration.	-	"True"
provisioning.zoneSetting.zoneConfigurationName	String	To add a zone to a Zone Configuration other than the active configuration, specify the name of the Zone Configuration in which to add the zone.	-	-

keyName	Type	Description	Range	Default value
provisioning.zoneSetting.namingScript.zone	File	Specify the naming convention script that determines the Zone name for the path.	-	Refer to the Script example below.
provisioning.zoneSetting.namingScript.hostZoneAlias	File	Specify the naming convention script that determines the Zone Alias name for the host port.	-	Refer to the Script example below.
provisioning.zoneSetting.namingScript.storageZoneAlias	File	Specify the naming convention script that determines the Zone Alias name for the storage port.	-	Refer to the Script example below.

**Table 252 provisioning.zoneSetting.expression.zone/
provisioning.zoneSetting.namingExpression.hostZoneAlias/
provisioning.zoneSetting.naming.Expression.storageZoneAlias**

Specifications of the script	Explanation
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	arguments[0]: The object with the following properties is passed as an argument. hostname: Host name hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA.

Specifications of the script	Explanation
	<p>storageSystemFamily: Display model name of the physical storage system</p> <p>storageSystemName: Name of physical storage system on Device Manager</p> <p>storageSystemSerialNumber: Serial number of physical storage system</p> <p>storagePortName: Display port name of the storage system</p> <p>virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-")</p> <p>virtualStorageSystemName: Name of virtual storage on Device Manager (if non-virtual, "-")</p> <p>virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-")</p> <p>serviceProperties: List of the service properties passed to the plug-in</p>
return	<p>Script must return the string that satisfies the following conditions.</p> <ol style="list-style-type: none"> 1. Only alphanumeric characters and "_" are allowed. 2. The first character must be alphabetic. 3. Zone may be up to 60 characters, Zone Alias may be up to 64 characters 4. A string starting with LSAN_", "TI_", "QOSHn+_ ", "QOSMn+_ ", "QOSLn_" is not allowed for the Zone (where <i>n</i> is a number).
example	<pre>(function(args) { var name; if(! args.virtualSerialNumber args.virtualSerialNumber == "-"){ name = args.hostName + "_" + args.storageSystemName + "_" + args.storagePortName; }else{ name = args.hostName + "_" + args.virtualStorageSystemName + "_" + args.storagePortName; } }</pre>

Specifications of the script	Explanation
	<pre> if (!(name === null typeof(name) == "string" name instanceof String)) { throw new Error("Zone name must be a string: "+ name); } name = name.replace(/[^A-Za-z0-9_]/g, '_'); if(name.length > 60){ throw new Error("Zone name must be within 60 characters: "+ name); } if (/^[A-Z]/i.test(name) == false) { throw new Error("Zone name must start with a alphabet: "+ name); } if (/^LSAN_/i.test(name) /^TI_/i.test(name) / ^QOS[HML][0-9]+_i.test(name)) { throw new Error("Zone name has the prefix LSAN_, TI_ or QOSxx_ cannot be for normal zone: "+name); } return name; }) </pre>

File type property list

Table 253 ConfigurationManagerConnection

Data nesting information	Description	Range
values		
productName	Product name of registering to Web Service Connection.	"ConfigurationManager"
name	Name.	-
ipAddress	IP address.	-
port	Port.	-
protocol	Protocol.	-
userID	User ID.	-

Data nesting information		Description	Range
	status	Status of connection.	-
	connectedTime	Connected time.	-

Table 254 StorageSystem

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID.	-
	model	Model.	-
	serialNumber	Serial Number.	-
	svplp	SVP IP Address.	-

Table 255 ResourceGroup

Data nesting information		Description	Range
values			
	resourceGroupId	Resource Group ID.	-
	resourceGroupName	Resource Group Name.	-
	virtualStorageId	Virtual Storage System ID.	-

Table 256 Pool

Data nesting information		Description	Range
values			
	poolId	Pool ID.	-
	poolName	Pool name.	-
	poolType	Pool Type.	-
	usedCapacityRate	Used capacity rate.	-
	availableVolumeCapacity	Available Volume capacity.	-
	totalPoolCapacity	Total Pool capacity.	-

Data nesting information		Description	Range
	numOfLdevs	Number of LDEVs.	-

Table 257 Volume Settings

Data nesting information		Description	Range
values ¹			
	volumeUsage	Volume usage	A maximum of 64 characters can be entered.
	numberOfVolumes	Number of volumes	1-500
	ldevIdStartsFrom	LDEV ID starts from	0-FFFFFF
	volumeCapacityInMiB ²	Volume capacity	1-
	blockCapacity ³	Volume capacity	96000-
	volumeLabel	Volume label	A maximum of 64 characters can be entered.
	lunStartsFrom	LUN starts from	0-07FF
	virtualLdevIdStartsFrom	Virtual LDEV ID starts from	0-FEFF
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "CapacityFormat" is "Byte", volumeCapacityInMiB can be specified. 3. When "CapacityFormat" is "Block", blockCapacity can be specified. 			

Table 258 ResourceCriteria

Data nesting information		Description	Range
values ¹			
	storagePortCriteria	Storage Port Criteria	-
	expressions	Expressions	-
	name	Name	"Name"

Data nesting information				Description	Range
			op	Operation	"Equals", "Not Equals", "Starts With", "Ends With"
			value	Value	-
		join		Join condition of the Expressions	"All", "Any"
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.					

Table 259 HostGroupSettings

Data nesting information		Description	Range
values ¹			
	hostGroupName ²	Host Group name.	A maximum of 64 characters can be entered.
	iScsiTargetName ³	iSCSI target name.	A maximum of 32 characters can be entered.
	wwnSettings ^{1, 4}	WWN settings.	
	wwn	WWN.	A maximum of 16 characters is allowed in hexadecimal.
	wwnNickname	WWN nickname.	A maximum of 64 characters can be entered.
	iScsiSettings ^{1, 5}	iSCSI settings.	
	iScsiName	iSCSI name.	"Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-,: -eui format: Specify 20 characters in hexadecimal."
	iScsiNickName	iSCSI nickname.	A maximum of 32 characters can be entered.
	hostMode ⁶	Host Mode.	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"

Data nesting information		Description	Range
hostModeOptions		Host Mode options.	Refer to "Values that can be specified in the hostmodeoptions parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> .
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "PortType" is "Fibre", hostGroupName can be specified. 3. When "PortType" is "iSCSI", iScsiTargetName can be specified. 4. When "PortType" is "Fibre", wwnSettings can be specified. 5. When "PortType" is "iSCSI", iScsiSettings can be specified. 6. Refer to "Values that can be specified in the hostmode parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i>. 			

Allocate fabric aware volumes with Configuration Manager (submit)

keyName	Type	Description	Range	Default value
ConfigurationManagerConnection	File	Specify the Configuration Manager Connection.	See the "File type property list" section following this table.	-
StorageSystem	File	Specify the Storage System.	See the "File type property list" section following this table.	-
ResourceGroup	File	Specify the Resource Group.	See the "File type property list" section following this table.	-
Pool	File	Specify the pool.	See the "File type property list" section following this table.	-

keyName	Type	Description	Range	Default value
CapacityFormat	String	Specify the volume capacity format as Byte or Block	"Byte" or "Block"	"Byte"
VolumeSettings	File	Specify the parameters required to create new volumes.	See the "File type property list" section following this table.	-
ResourceCriteria	File	Specify the resource criteria.	See the "File type property list" section following this table.	-
PortType	String	Specify the port type as Fibre or iSCSI.	"Fibre" or "iSCSI"	"Fibre"
HostGroupSettings	File	Specify the parameters that are needed in order to create a new Host Group/iSCIS Target.	See the "File type property list" section following this table.	-
provisioning.fabricSetting.enabled	Boolean	Specifying True enables fabric information collection functionality.	-	"True"

keyName	Type	Description	Range	Default value
provisioning.fabricSetting.connection.names	String	Specify the connection name defined in the Web Service Connections on the Administration Tab. Separate multiple values by commas. If this value is omitted, the system uses all connections that are defined for the product name listed in the Web Service Connections.	-	-
provisioning.fabricSetting.resourcegroups	String	Specify the switch management server resource group. Separate multiple values by commas.	-	-
provisioning.fabricSetting.fabrics	String	Specify the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	-	-

keyName	Type	Description	Range	Default value
provisioning.fabricSetting. .usingExistingZone	Boolean	Specifies whether to select a predefined zone or any connectable path. If you specify True, the system selects paths within the range of the existing Zone setting. If you specify False, the system selects connectable paths regardless of the existing Zone setting.	-	"True"
provisioning.fabricSetting. .hops.restriction	Boolean	Determines whether the service will fail if there is no path that matches the specified collection range.	-	"False"
provisioning.fabricSetting. .hops.range	Integer	When using the Host Restriction option, specify the collection range by the number of hops.	0	0
provisioning.zoneSetting. enabled	Boolean	Specify True to enable the modify zone settings functionality.	-	"True"

keyName	Type	Description	Range	Default value
provisioning.zoneSetting.useExistingZoneAliases	Boolean	Specify True to use predefined Zone Aliases regardless of the naming conventions the user specifies. If you specify False, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions.	-	"False"
provisioning.zoneSetting.updateActiveZoneConfiguration	Boolean	Specify True to add a Zone to the active Zone Configuration.	-	"True"
provisioning.zoneSetting.zoneConfigurationName	String	To add a zone to a Zone Configuration other than the active configuration, specify the name of the Zone Configuration in which to add the zone.	-	-

keyName	Type	Description	Range	Default value
provisioning.zoneSetting.namingScript.zone	File	Specify the naming convention script that determines the Zone name for the path.	-	Refer to the Script example below.
provisioning.zoneSetting.namingScript.hostZoneAlias	File	Specify the naming convention script that determines the Zone Alias name for the host port.	-	Refer to the Script example below.
provisioning.zoneSetting.namingScript.storageZoneAlias	File	Specify the naming convention script that determines the Zone Alias name for the storage port.	-	Refer to the Script example below.

File type property list

Table 260 ConfigurationManagerConnection

Data nesting information		Description	Range
values			
	productName	Product name of registering to Web Service Connection.	"ConfigurationManager"
	name	Name.	-
	ipAddress	IP address.	-
	port	Port.	-
	protocol	Protocol.	-
	userID	User ID.	-
	status	Status of connection.	-

Data nesting information		Description	Range
	connectedTime	Connected time.	-

Table 261 StorageSystem

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID.	-
	model	Model.	-
	serialNumber	Serial Number.	-
	svplp	SVP IP Address.	-

Table 262 ResourceGroup

Data nesting information		Description	Range
values			
	resourceGroupId	Resource Group ID.	-
	resourceGroupName	Resource Group Name.	-
	virtualStorageId	Virtual Storage System ID.	-

Table 263 Pool

Data nesting information		Description	Range
values			
	poolId	Pool ID.	-
	poolName	Pool name.	-
	poolType	Pool Type.	-
	usedCapacityRate	Used capacity rate.	-
	availableVolumeCapacity	Available Volume capacity.	-
	totalPoolCapacity	Total Pool capacity.	-
	numOfLdevs	Number of LDEVs.	-

Table 264 Volume Settings

Data nesting information		Description	Range
values ¹			
	volumeUsage	Volume usage	A maximum of 64 characters can be entered.
	numberOfVolumes	Number of volumes	1-500
	ldevIdStartsFrom	LDEV ID starts from	0-FFFFFF
	volumeCapacityInMiB ²	Volume capacity	1-
	blockCapacity ³	Volume capacity	96000-
	volumeLabel	Volume label	A maximum of 64 characters can be entered.
	lunStartsFrom	LUN starts from	0-07FF
	virtualLdevIdStartsFrom	Virtual LDEV ID starts from	0-FEFF
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "CapacityFormat" is "Byte", volumeCapacityInMiB can be specified. 3. When "CapacityFormat" is "Block", blockCapacity can be specified. 			

Table 265 ResourceCriteria

Data nesting information		Description	Range
values ¹			
	storagePortCriteria	Storage Port Criteria	-
	expressions	Expressions	-
	name	Name	"Name"
	op	Operation	"Equals", "Not Equals", "Starts With", "Ends With"
	value	Value	-

Data nesting information			Description	Range
	join		Join condition of the Expressions	"All", "Any"
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>				

Table 266 HostGroupSettings

Data nesting information		Description	Range
values ¹			
	hostGroupName ²	Host Group name.	A maximum of 64 characters can be entered.
	iScsiTargetName ³	iSCSI target name.	A maximum of 32 characters can be entered.
	wwnSettings ^{1, 4}	WWN settings.	
	wwn	WWN.	A maximum of 16 characters is allowed in hexadecimal.
	wwnNickname	WWN nickname.	A maximum of 64 characters can be entered.
	iScsiSettings ^{1, 5}	iSCSI settings.	
	iScsiName	iSCSI name.	"Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-, : -eui format: Specify 20 characters in hexadecimal."
	iScsiNickName	iSCSI nickname.	A maximum of 32 characters can be entered.
	hostMode ⁶	Host Mode.	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"
	hostModeOptions	Host Mode options.	Refer to "Values that can be specified in the hostmodeoptions parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> .

Data nesting information	Description	Range
	<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "PortType" is "Fibre", hostGroupName can be specified. 3. When "PortType" is "iSCSI", iScsiTargetName can be specified. 4. When "PortType" is "Fibre", wwnSettings can be specified. 5. When "PortType" is "iSCSI", iScsiSettings can be specified. 6. Refer to "Values that can be specified in the hostmode parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i>. 	

Allocate fabric aware volumes with Configuration Manager (task details)

Use the following information to show the task details of allocated fabric aware volumes with Configuration Manager.

keyName	Type	Description	Range
LUNPathConfigurationInformation	File	Stores the allocated LUN path information from the volume allocation results.	See the "File type property list" section following this table.
provisioning.taskResult.createdZoneConfigurations	File	List of newly created Zone.	-
provisioning.taskResult.createdZones	File	List of newly created Zones.	-
provisioning.taskResult.createdZoneAliases	File	Stores the newly created zone aliases.	-
provisioning.taskResult.updatedZoneConfigurations	File	Stores the newly created zone aliases.	-
provisioning.taskResult.updatedZones	File	Stores the newly created zone aliases.	-
provisioning.taskResult.updatedZoneAliases	File	Stores the newly created zone aliases.	-

File type property list

Table 267 LUNPathConfigurationInformation

Data nesting information		Description	Range
value ¹			
	storageDeviceId	Storage device ID	-
	volumeUsage	Volume Usage	-
	hostPort	WWN/iSCSI name	-
	storagePort	Storage port	-
	lun	LUN	-
	portType	Port type	-
	capacity	Capacity	-
	provisionedCapacity	Provisioned capacity	-
	ldevId	LDEV ID	-
	hostGroupNameOrIscsiTarget	Host Group name/iSCSI target name	-
	hostGroupNumber	Host Group number	-
	hostMode	Host Mode	-
	hostModeOptions	Host Mode options	-
	model	Model	-
	serialNumber	Serial number	-
	ldevLabel	LDEV label	-
	virtualStorageMachineResourceGroupName	Resource Group in Virtual Storage System	-
	virtualModel	Model in Virtual Storage System	-
	virtualSerialNumber	Serial number in Virtual Storage System	-
	resourceGroupName	Virtual Storage Machine Resource Group name	-
	virtualLdevId	Virtual LDEV ID	-
	configurationManager	Configuration Manager	-
	poolId	Pool ID	-

Data nesting information		Description	Range
	poolName	Pool name	-
	asymmetricAccessStatus	ALUA settings	-
1. Repeatable Repeatable items must be repeated and must include all lower layer tags.			

Table 268 provisioning.taskResult.zoneConfiguration

Data nesting information		Explanation	Range
values ^{1,2}		List of newly created Zone Configuration	-
	name ²	Name of newly created Zone Configuration name	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	zoneNames ^{1,2}	Zone to add to the created Zone Configuration	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. 8.5.0 or later			

Table 269 provisioning.taskResult.createdZones

Data nesting information		Explanation	Range
values ^{1,2}		List of newly created zone	
	name ²	Name of newly created zone	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	Zone Alias to add to the created Zone ^{1,2}	Zone to add to the created Zone Configuration	-

Data nesting information		Explanation	Range
	memberNames ^{1,2}	WWN of the port added to the created Zone	-
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. 8.5.0 or later 			

Table 270 provisioning.taskResult.createdZoneAliases

Data nesting information		Explanation	Range
values ^{1,2}		List of newly created Zone alias	
	name ²	Name of newly created zone alias	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	memberNames ^{1,2}	WWN of the port added to the created Zone	-
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. 8.5.0 or later 			

Table 271 provisioning.taskResult.updatedZoneConfigurations

Data nesting information		Explanation	Range
values ^{1,2}		Zone to add to the created Zone Configuration	
	name ²	Name of updated zone configuration	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	zoneNames ^{1,2}	Name of added zone	-
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 			

Data nesting information	Explanation	Range
2.	8.5.0 or later	

Table 272 provisioning.taskResult.updatedZones

Data nesting information	Explanation	Range
values ^{1,2}	List of zones where the settings were updated	
name ²	Name of zone where settings were updated	-
bnaname ²	Name of BNA that manages the settings	-
fabricName ²	Name of Fabric where the settings exist	-
aliasNames ^{1,2}	Name of added Zone alias	-
memberNames ^{1,2}	WWN of the added port	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>		

Table 273 provisioning.taskResult.updatedZoneAliases

Data nesting information	Explanation	Range
values ^{1,2}	List of Zone alias where settings were updated	
name ²	Name of Zone alias where settings were updated	-
bnaname ²	Name of BNA that manages the settings	-
fabricName ²	Name of Fabric where the settings exist	-
memberNames ^{1,2}	WWN of added port	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>		

Allocate Volumes, Fabric, and Datastore for ESXi Host service properties

Use the following properties to modify or create values for the Allocate Volumes, Fabric, and Datastore for ESXi Host service.

Allocate Volumes, Fabric, and Datastore for ESXi Host (edit)

KeyName	Type	Description	Range	Default Value
ConfigurationManagerConnection	file	Specify the Configuration Manager Connection.	See the following file type property list	-
StorageSelection	string	Specify whether to select storage system at volume allocation. If you specify 'Automatic', then a storage system will be selected automatically.	Automatic, Manual	Automatic
StorageSystem	file	Specify the Storage System.	See the following file type property list	-
ResourceGroupSelection	string	Specify whether to select resource group at volume allocation. If you select 'Meta resource', then the meta resource group will be selected.	Meta resource, Manual	Meta resource

KeyName	Type	Description	Range	Default Value
ResourceGroup	file	Specify the Resource Group.	See the following file type property list	-
PoolSelection	string	Specify whether to select pool at volume allocation. If you select 'Automatic', then a pool will be selected automatically.	Automatic, Manual	Automatic
Pool	file	Specify the pool.	See the following file type property list	-
CapacityFormat	string	Select the volume capacity format.	Byte,Block	Byte
VolumeSettings	file	Specify the parameters for creating new volumes.	See the following file type property list	-
ResourceCriteria	file	Specify the resource criteria.	See the following file type property list	-
vCenterConnection	file	Specify the vCenter connection.	See the following file type property list	-
ESXiHost	file	Specify the ESXi Host.	See the following file type property list	-

KeyName	Type	Description	Range	Default Value
PerformLIPReset	boolean	Select true to perform LIP reset on the ESXi host when the created volumes are not visible on the ESXi host. Note: If the ESXi host has specific paths, the specific paths might also reset. If you enable LIP Reset, you must also register agentless remote connection settings for each ESXi server.	-	false
HostMode	file	Specify the parameters for creating a new host group.	See the following file type property list	-
FabricSettingEnabled	boolean	Select this option to enable fabric information collection.	-	false
FabricConnectionType	string	This property defines connection type information.	BNA,DCNM	BNA

KeyName	Type	Description	Range	Default Value
FabricConnections	file	Specify the connection defined in the Web Service Connections on the Administration Tab. If this value is omitted, the system uses all connections that are defined for the product name listed in the Web Service Connections.	See the following file type property list	-
FabricResourcegroups	string	Specify the switch management server resource group. Separate multiple values by commas.	-	All
TargetFabrics	string	Specify the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	-	-

KeyName	Type	Description	Range	Default Value
UsingExistingZone	boolean	Specifies whether to select a predefined zone or any connectable path. If you select this option, the system selects paths within the range of the existing Zone setting. If you do not select this option, the system selects connectable paths regardless of the existing Zone setting.	-	true
FabricHopsRestriction	boolean	Determines whether the service will fail if there is no path that matches the specified collection range.	-	false
FabricHopsRange	integer	When using the Host Restriction option, specify the collection range by the number of hops.	0-0	0

KeyName	Type	Description	Range	Default Value
ZoneSettingEnabled	boolean	Select this option to enable the modification of zone settings.	-	false
UseExistingZoneAliases	boolean	Select this option to use predefined Zone Aliases regardless of the naming conventions the user specifies. If you do not select this option, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions.	-	false
UpdateActiveZoneConfiguration	boolean	Select this option to add a Zone to the active Zone Configuration.	-	true

KeyName	Type	Description	Range	Default Value
ZoneConfigurationNameToUpdate	string	To add a zone to a Zone Configuration other than the active configuration, specify the name of the Zone Configuration in which to add the zone.	-	-
NamingScriptZone	file	Specify the naming convention script that determines the Zone name for the path.	-	-
NamingScriptHostZoneAlias	file	Specify the naming convention script that determines the Zone Alias name for the host port.	-	-
NamingScriptStorageZoneAlias	file	Specify the zone information.	-	-
DatastoreCluster	string	Specify the Datastore Cluster to which add created DataStores.	-	-
DatastoreNamePrefix	string	Specify the prefix for Datastores.	Maximum 76 characters	-

KeyName	Type	Description	Range	Default Value
VMFSVersion	string	Specify the VMFS version for the datastore that is to be created.	5, 6	6
BlockSize	string	Specify the block size for the datastore that is to be created.	1	1
StorageIOControl	boolean	Specify whether to enable storage I/O control for the datastore that is to be created.	true or false	false
ThresholdType	string	Specify type of threshold; Latency Threshold or Throughput Threshold.	Latency Threshold, Throughput Threshold	Latency Threshold
ThresholdValue	integer	If you enable storage I/O control, specify the value of latency threshold.	5-100	30
toAddress	string	Specify the To email addresses. Use a comma to separate multiple addresses.	-	-

KeyName	Type	Description	Range	Default Value
ccAddress	string	Specify the Cc email addresses. Use a comma to separate multiple addresses.	-	-
bccAddress	string	Specify the Bcc email addresses. Use a comma to separate multiple addresses.	-	-
encodeType	string	Specify us-ascii, iso-2022-jp, shift_jis, euc-jp, or utf-8 for the email encoding.	-	utf-8
mailSubject	string	Specify the email subject.	-	ESXi host needs to recognize newly added volumes

KeyName	Type	Description	Range	Default Value
mailBody	string	Specify the email body.	-	ESXi host doesn't recognize the newly added volumes. Make sure to let ESXi host to recognize them by resetting HBA or rebooting server, then click Proceed button.
dialogText	file	Specify HTML or text in the Response Entry dialog box. To change a service property value in the Response Entry dialog box, specify the property key for the 'name' attribute of an input tag (<input>) or a select tag (<select>).	-	The ESXi host does not recognize the newly added volumes. Make sure that the ESXi host recognizes them by resetting HBA or rebooting the server, and then clicking Proceed.

KeyName	Type	Description	Range	Default Value
responseTimeOut	string	Specify a timeout (in minutes) for the Response Entry dialog box.	-	1440

File type property list

Table 274 ConfigurationManagerConnection

Data nesting information		Description	Range
value			
	productName	Category	"ConfigurationManager"
	name	Name	-
	ipAddress	IP Address/Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-
	connectedTime	Connected Time	-

Table 275 StorageSystem

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 276 ResourceGroup

Data nesting information		Description	Range
value			
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-
	virtualStorageMachine	Virtual Storage System	-

Table 277 Pool

Data nesting information		Description	Range
value			
	poolId	Pool ID	-
	poolName	Pool Name	-
	poolType	Pool Type	-
	usedCapacityRate	Used Capacity Rate(%)	-
	availableVolumeCapacity	Available Capacity	-
	totalPoolCapacity	Total Capacity	-
	numOfLdevs	Number of Volumes	-

Table 278 VolumeSettings

Data nesting information		Description	Range
value ¹			
	volumeUsage	Volume Usage	1-64 characters. ^[A-Za-z0-9 ~!@#\\\$%\\ ^&()_\\+\\ =\\{\\}\\ \\ \\]\\. `]*\$
	numberOfVolumes	Number of Volumes	1-200
	volumeCapacityInMiB	Volume Capacity	47-268435456

Data nesting information			Description	Range
	blockCapacity		Volume Capacity	96000-549755813888
	volumeLabel		Volume Label	max 32 characters. ^[A-Za-z0-9 ~!@#\\$\% \\^&()_\\+\\ =\\{\\}\\ \\]\\. `\\,\\:\\\\ \\ \\]*\$
	ldevSetting		LDEV Setting	-
		ldevIdStartsFrom	LDEV ID Starts From	0-16777215
		virtualLdevIdStartsFrom	Virtual LDEV ID Starts From	0-65279
	lunSetting		LUN Setting	-
		lunStartsFrom	LUN Starts From	0-2047
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>				

Table 279 ResourceCriteria

Data nesting information			Description	Range
value ¹				
	volumeUsage		Volume Usage	-
	storagePortCriteria		Storage Port	-
		expressions ¹	Expressions	-
		name	Attribute	["Name"]
		op	Operator	["Equals", "Not Equals", "Starts With", "Ends With"]
		value	Value	-
		join	Conditions Above	["All", "Any"]

Data nesting information	Description	Range
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>		

Table 280 vCenterConnection

Data nesting information	Description	Range
value		
	productName	Category
	name	Name
	ipAddress	IP Address/Host Name
	port	Port
	protocol	Protocol
	userID	User ID
	status	Status
	connectedTime	Connected Time

Table 281 ESXiHost

Data nesting information	Description	Range
value		
	mold	Managed Object ID
	name	Name
	ipAddresses	IP Addresses
	wwns	WWNs

Table 282 HostMode

Data nesting information	Description	Range
value		
	hostMode	["VMWARE_EX"]

Data nesting information		Description	Range
	hostModeOption ¹	Host Mode Options	[2, 6, 7, 12, 13, 14, 15, 22, 23, 25, 33, 39, 40, 41, 42, 43, 48, 49, 50, 51, 52, 54, 57, 60, 61, 63, 65, 67, 68, 69, 71, 72, 73, 78, 80, 81, 82, 83, 88, 96, 97, 100, 102, 105, 110, 113, 114]
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Table 283 FabricConnections

Data nesting information		Description	Range
value			-
	productName	Category	-
	name	Name	-
	ipAddress	IP Address/Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-
	connectedTime	Connected Time	-

Table 284 ScriptForHostGroupNaming

Specificati ons of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument:</p> <ul style="list-style-type: none"> ▪ mold: The ID of the host (Managed Object ID in vCenter) ▪ name: The name of the host. ▪ clusterName: The name of the cluster to which the host belongs.

Specifications of the script	Description
	<ul style="list-style-type: none"> ▪ clusterMold: The ID of the cluster to which the host belongs.(Managed Object ID in vCenter) ▪ ipAddresses: The IP addresses for management of the host. ▪ wwns: The WWNs of the host (: separated hex value)
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic. 3. Host Group Name is up to 64 characters.
example	<pre>function(host) { /** * Following attributes are available. * * - host.moId: string * The ID of the host (Managed Object ID in vCenter) * * - host.name: string * The name of the host. * * - host.clusterName: string * The name of the cluster to which the host belongs. * * - host.clusterMoId: string * The ID of the cluster to which the host belongs. * (Managed Object ID in vCenter) * * - host.ipAddresses: string * The IP addresses for management of the host. * * - host.wwns: [string] * The WWNs of the host (: separated hex value) */ var hostGroupName = host.name; if (!hostGroupName) { hostGroupName = "HostGroupForDataStore"; } return hostGroupName; }</pre>

**Table 285 ScriptForZoneNaming/ScriptForHostZoneAliasNaming/
ScriptForStorageZoneAliasNaming**

Specifications of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument:</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage system ▪ storageSystemName: Name of physical storage system on Configuration Manager ▪ storageSystemSerialNumber: Serial number of physical storage system ▪ storagePortName: Display port name of the storage system ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-") ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-") ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-") ▪ serviceProperties: List of the service properties passed to the plug-in
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic. 3. Zone is up to 60 characters, Zone Alias is up to 64 characters. 4. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+_", "QOSMn+_", "QOSLn_" is not allowed (case ignored. "n" is number.)
example	<pre>(function(args) { var name; if(! args.virtualSerialNumber args.virtualSerialNumber == "-"){ name = args.hostName + "_" + args.storageSystemName + "_" } })</pre>

Specifications of the script	Description
	<pre> + args.storagePortName; }else{ name = args.hostName + "_" + args.virtualStorageSystemName + "_" + args.storagePortName; } if (!(name === null typeof(name) == "string" name instanceof String)) { throw new Error("Zone name must be a string: "+ name); } name = name.replace(/^[A-Za-z0-9_]/g, '_'); if(name.length > 60){ throw new Error("Zone name must be within 60 characters: "+ name); } if (/^[A-Z]/i.test(name) == false) { throw new Error("Zone name must start with a alphabet: "+ name); } if (/^LSAN_/i.test(name) /^TI_/i.test(name) / ^QOS[HML][0-9]+_/i.test(name)) { throw new Error("Zone name has the prefix LSAN_, TI_ or QOSxx_ cannot be for normal zone: "+name); } return name; }) } </pre>

Allocate Volumes, Fabric, and Datastore for ESXi Host (submit)

KeyName	Type	Description	Range	Default Value
ConfigurationManagerConnection	file	Specify the Configuration Manager Connection.	See the following file type property list	-

KeyName	Type	Description	Range	Default Value
StorageSelection	string	Specify whether to select storage system at volume allocation. If you specify 'Automatic', then a storage system will be selected automatically.	Automatic, Manual	Automatic
StorageSystem	file	Specify the Storage System.	See the following file type property list	-
ResourceGroupSelection	string	Specify whether to select resource group at volume allocation. If you select 'Meta resource', then the meta resource group will be selected.	Meta resource, Manual	Meta resource
ResourceGroup	file	Specify the Resource Group.	See the following file type property list	-

KeyName	Type	Description	Range	Default Value
PoolSelection	string	Specify whether to select pool at volume allocation. If you select 'Automatic', then a pool will be selected automatically.	Automatic, Manual	Automatic
Pool	file	Specify the pool.	See the following file type property list	-
CapacityFormat	string	Select the volume capacity format.	Byte,Block	Byte
VolumeSettings	file	Specify the parameters for creating new volumes.	See the following file type property list	-
ResourceCriteria	file	Specify the resource criteria.	See the following file type property list	-
vCenterConnection	file	Specify the vCenter connection.	See the following file type property list	-
ESXiHost	file	Specify the ESXi Host.	See the following file type property list	-

KeyName	Type	Description	Range	Default Value
PerformLIPReset	boolean	Select true to perform LIP reset on the ESXi host when the created volumes are not visible on the ESXi host. Note: If the ESXi host has specific paths, the specific paths might also reset. If you enable LIP Reset, you must also register agentless remote connection settings for each ESXi server.	-	false
HostMode	file	Specify the parameters for creating a new host group.	See the following file type property list	-
FabricSettingEnabled	boolean	Select this option to enable fabric information collection.	-	false
FabricConnectionType	string	This property defines connection type information.	BNA,DCNM	BNA

KeyName	Type	Description	Range	Default Value
FabricConnections	file	Specify the connection defined in the Web Service Connections on the Administration Tab. If this value is omitted, the system uses all connections that are defined for the product name listed in the Web Service Connections.	See the following file type property list	-
FabricResourcegroups	string	Specify the switch management server resource group. Separate multiple values by commas.	-	All
TargetFabrics	string	Specify the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	-	-

KeyName	Type	Description	Range	Default Value
UsingExistingZone	boolean	Specifies whether to select a predefined zone or any connectable path. If you select this option, the system selects paths within the range of the existing Zone setting. If you do not select this option, the system selects connectable paths regardless of the existing Zone setting.	-	true
FabricHopsRestriction	boolean	Determines whether the service will fail if there is no path that matches the specified collection range.	-	false
FabricHopsRange	integer	When using the Host Restriction option, specify the collection range by the number of hops.	0-0	0

KeyName	Type	Description	Range	Default Value
ZoneSettingEnabled	boolean	Select this option to enable the modification of zone settings.	-	false
UseExistingZoneAliases	boolean	Select this option to use predefined Zone Aliases regardless of the naming conventions the user specifies. If you do not select this option, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions.	-	false
UpdateActiveZoneConfiguration	boolean	Select this option to add a Zone to the active Zone Configuration.	-	true

KeyName	Type	Description	Range	Default Value
ZoneConfigurationNameToUpdate	string	To add a zone to a Zone Configuration other than the active configuration, specify the name of the Zone Configuration in which to add the zone.	-	-
NamingScriptZone	file	Specify the naming convention script that determines the Zone name for the path.	-	-
NamingScriptHostZoneAlias	file	Specify the naming convention script that determines the Zone Alias name for the host port.	-	-
NamingScriptStorageZoneAlias	file	Specify the zone information.	-	-
DatastoreCluster	string	Specify the Datastore Cluster to which add created DataStores.	-	-
DatastoreNamePrefix	string	Specify the prefix for Datastores.	Maximum 76 characters	-

KeyName	Type	Description	Range	Default Value
VMFSVersion	string	Specify the VMFS version for the datastore that is to be created.	5, 6	6
BlockSize	string	Specify the block size for the datastore that is to be created.	1	1
StorageIOControl	boolean	Specify whether to enable storage I/O control for the datastore that is to be created.	true or false	false
ThresholdType	string	Specify type of threshold; Latency Threshold or Throughput Threshold.	Latency Threshold, Throughput Threshold	Latency Threshold
ThresholdValue	integer	If you enable storage I/O control, specify the value of latency threshold.	5-100	30
toAddress	string	Specify the To email addresses. Use a comma to separate multiple addresses.	-	-

KeyName	Type	Description	Range	Default Value
ccAddress	string	Specify the Cc email addresses. Use a comma to separate multiple addresses.	-	-
bccAddress	string	Specify the Bcc email addresses. Use a comma to separate multiple addresses.	-	-
encodeType	string	Specify us-ascii, iso-2022-jp, shift_jis, euc-jp, or utf-8 for the email encoding.	-	utf-8
mailSubject	string	Specify the email subject.	-	ESXi host needs to recognize newly added volumes

KeyName	Type	Description	Range	Default Value
mailBody	string	Specify the email body.	-	ESXi host doesn't recognize the newly added volumes. Make sure to let ESXi host to recognize them by resetting HBA or rebooting server, then click Proceed button.
dialogText	file	Specify HTML or text in the Response Entry dialog box. To change a service property value in the Response Entry dialog box, specify the property key for the 'name' attribute of an input tag (<input>) or a select tag (<select>).	-	The ESXi host does not recognize the newly added volumes. Make sure that the ESXi host recognizes them by resetting HBA or rebooting the server, and then clicking Proceed.

KeyName	Type	Description	Range	Default Value
responseTimeOut	string	Specify a timeout (in minutes) for the Response Entry dialog box.	-	1440

File type property list

Table 286 ConfigurationManagerConnection

Data nesting information		Description	Range
value			
	productName	Category	"ConfigurationManager"
	name	Name	-
	ipAddress	IP Address/Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-
	connectedTime	Connected Time	-

Table 287 StorageSystem

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 288 ResourceGroup

Data nesting information		Description	Range
value			
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-
	virtualStorageMachine	Virtual Storage System	-

Table 289 Pool

Data nesting information		Description	Range
value			
	poolId	Pool ID	-
	poolName	Pool Name	-
	poolType	Pool Type	-
	usedCapacityRate	Used Capacity Rate(%)	-
	availableVolumeCapacity	Available Capacity	-
	totalPoolCapacity	Total Capacity	-
	numOfLdevs	Number of Volumes	-

Table 290 VolumeSettings

Data nesting information		Description	Range
value ¹			
	volumeUsage	Volume Usage	1-64 characters. ^[A-Za-z0-9 ~!@#\\\$%\\ ^&()_\\+\\ =\\ {}\\ \\ \\ '\\. `]*\$
	numberOfVolumes	Number of Volumes	1-200
	volumeCapacityInMiB	Volume Capacity	47-268435456

Data nesting information			Description	Range
	blockCapacity		Volume Capacity	96000-549755813888
	volumeLabel		Volume Label	max 32 characters. ^[A-Za-z0-9 ~!@#\\\$% \\^&()_\\+\\ =\\{\\}\\ \\[\\]\\. `\\,\\:\\\\\\\\]*\$
	ldevSetting		LDEV Setting	-
		ldevIdStartsFrom	LDEV ID Starts From	0-16777215
		virtualLdevIdStartsFrom	Virtual LDEV ID Starts From	0-65279
	lunSetting		LUN Setting	-
		lunStartsFrom	LUN Starts From	0-2047
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>				

Table 291 ResourceCriteria

Data nesting information			Description	Range
value ¹				
	volumeUsage		Volume Usage	-
	storagePortCriteria		Storage Port	-
		expressions ¹	Expressions	-
		name	Attribute	["Name"]
		op	Operator	["Equals", "Not Equals", "Starts With", "Ends With"]
		value	Value	-
		join	Conditions Above	["All", "Any"]

Data nesting information	Description	Range
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.		

Table 292 vCenterConnection

Data nesting information	Description	Range
value		
productName	Category	"vCenter"
name	Name	-
ipAddress	IP Address/Host Name	-
port	Port	-
protocol	Protocol	-
userID	User ID	-
status	Status	-
connectedTime	Connected Time	-

Table 293 ESXiHost

Data nesting information	Description	Range
value		
mold	Managed Object ID	-
name	Name	-
ipAddresses	IP Addresses	-
wwns	WWNs	-

Table 294 HostMode

Data nesting information	Description	Range
value		
hostMode	Host Mode	["VMWARE_EX"]

Data nesting information		Description	Range
	hostModeOption ¹	Host Mode Options	[2, 6, 7, 12, 13, 14, 15, 22, 23, 25, 33, 39, 40, 41, 42, 43, 48, 49, 50, 51, 52, 54, 57, 60, 61, 63, 65, 67, 68, 69, 71, 72, 73, 78, 80, 81, 82, 83, 88, 96, 97, 100, 102, 105, 110, 113, 114]
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Table 295 FabricConnections

Data nesting information		Description	Range
value			-
	productName	Category	-
	name	Name	-
	ipAddress	IP Address/Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-
	connectedTime	Connected Time	-

Table 296 ScriptForHostGroupNaming

Specificati ons of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument:</p> <ul style="list-style-type: none"> ▪ mold: The ID of the host (Managed Object ID in vCenter) ▪ name: The name of the host. ▪ clusterName: The name of the cluster to which the host belongs.

Specifications of the script	Description
	<ul style="list-style-type: none"> ▪ clusterMold: The ID of the cluster to which the host belongs.(Managed Object ID in vCenter) ▪ ipAddresses: The IP addresses for management of the host. ▪ wwns: The WWNs of the host (: separated hex value)
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and “_” 2. The first character is alphabetic. 3. Host Group Name is up to 64 characters.
example	<pre>function(host) { /** * Following attributes are available. * * - host.moId: string * The ID of the host (Managed Object ID in vCenter) * * - host.name: string * The name of the host. * * - host.clusterName: string * The name of the cluster to which the host belongs. * * - host.clusterMoId: string * The ID of the cluster to which the host belongs. * (Managed Object ID in vCenter) * * - host.ipAddresses: string * The IP addresses for management of the host. * * - host.wwns: [string] * The WWNs of the host (: separated hex value) */ var hostGroupName = host.name; if (!hostGroupName) { hostGroupName = "HostGroupForDataStore"; } return hostGroupName; }</pre>

**Table 297 ScriptForZoneNaming/ScriptForHostZoneAliasNaming/
ScriptForStorageZoneAliasNaming**

Specifications of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument:</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage system ▪ storageSystemName: Name of physical storage system on Configuration Manager ▪ storageSystemSerialNumber: Serial number of physical storage system ▪ storagePortName: Display port name of the storage system ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-") ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-") ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-") ▪ serviceProperties: List of the service properties passed to the plug-in
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic. 3. Zone is up to 60 characters, Zone Alias is up to 64 characters. 4. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+_", "QOSMn+_", "QOSLn_" is not allowed (case ignored. "n" is number.)
example	<pre>(function(args) { var name; if(! args.virtualSerialNumber args.virtualSerialNumber == "-"){ name = args.hostName + "_" + args.storageSystemName + "_" } })</pre>

Specifications of the script	Description
	<pre> + args.storagePortName; }else{ name = args.hostName + "_" + args.virtualStorageSystemName + "_" + args.storagePortName; } if (!(name === null typeof(name) == "string" name instanceof String)) { throw new Error("Zone name must be a string: "+ name); } name = name.replace(/^[A-Za-z0-9_]/g, '_'); if(name.length > 60){ throw new Error("Zone name must be within 60 characters: "+ name); } if (/^[A-Z]/i.test(name) == false) { throw new Error("Zone name must start with a alphabet: "+ name); } if (/^LSAN_/i.test(name) /^TI_/i.test(name) / ^QOS[HML][0-9]+_/i.test(name)) { throw new Error("Zone name has the prefix LSAN_, TI_ or QOSxx_ cannot be for normal zone: "+name); } return name; }) } </pre>

Allocate Volumes, Fabric, and Datastore for ESXi Host (task details)

KeyName	Type	Description	Range
LUNPathConfigurationInformation	file	Stores the allocated LUN path information from the volume allocation results.	See the following file type property list

KeyName	Type	Description	Range
DatastoreInformation	file	Stores the newly created Datastore information.	See the following file type property list
/ExecuteZoningConfiguration/ConfigureWwnZoning/provisioning.taskResult.createdZoneConfigurations	file	Stores the newly created zone configuration.	See the following file type property list
/ExecuteZoningConfiguration/ConfigureWwnZoning/provisioning.taskResult.createdZones	file	Stores the newly created zone information.	See the following file type property list
/ExecuteZoningConfiguration/ConfigureWwnZoning/provisioning.taskResult.createdZoneAliases	file	Stores the newly created zone aliases.	See the following file type property list
/ExecuteZoningConfiguration/ConfigureWwnZoning/provisioning.taskResult.updatedZoneConfigurations	file	Stores the updated zone configuration.	See the following file type property list
/ExecuteZoningConfiguration/ConfigureWwnZoning/provisioning.taskResult.updatedZones	file	Stores the updated zone information.	See the following file type property list
/ExecuteZoningConfiguration/ConfigureWwnZoning/provisioning.taskResult.updatedZoneAliases	file	Stores the updated zone aliases.	See the following file type property list

Table 298 LUNPathConfigurationInformation

Data nesting information		Description	Range
value ¹			
	hostName	Host Name	-
	volumeUsage	Volume Usage	-
	hostPort	Host Port	-
	storagePort	Storage Port	-

Data nesting information		Description	Range
	lun	LUN	-
	portType	Port Type	-
	capacity	Capacity	-
	provisionedCapacity	Provisioned Capacity	-
	ldevId	Volume	-
	hostGroupNameOrIscsiTarget	Host Group Name/ iSCSI Target	-
	model	Model	-
	serialNumber	Serial No.	-
	ldevLabel	LDEV Label	-
	resourceGroupName	Resource Group	-
	virtualLdevId	Virtual LDEV ID	-
	virtualSerialNumber	Virtual Serial No.	-
	virtualModel	Virtual Model	-
	configurationManager	Configuration Manager	-
	poolId	Pool	-
	poolName	Pool Name	-
<p>1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.</p>			

Table 299 DataStoreInformation

Data nesting information		Description	Range
value ¹			
	datastoreName	Datastore Name	-
	canonicalName	Canonical Name	-
	datastoreAccessMode	Access Mode	-
	storageIOControlEnabled	I/O Control Enabled	-
	vmfsVersion	VMFS Version	-

Data nesting information		Description	Range
	latencyThreshold	Latency Threshold	-
	throughputThreshold	Throughput Threshold	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

Table 300 /ExecuteZoningConfiguration/ConfigureWwnZoning/provisioning.taskResult.createdZoneConfigurations

Data nesting information		Description	Range
value ¹			
	name	Name	-
	zoneNames	Zone Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

Table 301 /ExecuteZoningConfiguration/ConfigureWwnZoning/provisioning.taskResult.createdZones

Data nesting information		Description	Range
value ¹			
	name	Name	-
	displayName	Type	-
	aliasNames	Alias Names	-
	memberNames	Member Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

**Table 302 /ExecuteZoningConfiguration/ConfigureWwnZoning/
provisioning.taskResult.createdZoneAliases**

Data nesting information		Description	Range
value ¹			
	name	Name	-
	memberNames	Member Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

**Table 303 /ExecuteZoningConfiguration/ConfigureWwnZoning/
provisioning.taskResult.updatedZoneConfigurations**

Data nesting information		Description	Range
value ¹			
	name	Name	-
	zoneNames	Zone Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

**Table 304 /ExecuteZoningConfiguration/ConfigureWwnZoning/
provisioning.taskResult.updatedZones**

Data nesting information		Description	Range
value ¹			
	name	Name	-
	type	Type	-
	aliasNames	Alias names	
	memberNames	Member names	
	bnaname	BNA Name	-

Data nesting information		Description	Range
	fabricName	Fabric Name	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

Table 305 /ExecuteZoningConfiguration/ConfigureWwnZoning/provisioning.taskResult.updatedZoneAliases

Data nesting information		Description	Range
value ¹			
	name	Name	-
	memberNames	Member names	
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. When you repeat a repeatable item, you must include all lower layer tags in each repeated item.			

Allocate fabric aware volumes and create datastore for ESX cluster

Use the following properties to modify or create values for the allocate fabric aware volumes and create datastore for ESX cluster.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate fabric aware volumes and create datastore for ESX cluster (edit)

arguments[0]: The object with the following properties is passed as an argument.

mold: The ID of the host

(Managed Object ID in vCenter) name: The name of the host.

clusterName: The name of the cluster to which the host belongs.

clusterMold: The ID of the cluster to which the host belongs.

(Managed Object ID in vCenter) ipAddresses: The IP addresses for management of the host.

wwns: The WWNs of the host (: separated hex value)

keyName	Type	Description	Range	Default value
vCenterConnection	File	Specify a vCenter connection.	See Following File type property list.	-
ESXCluster	File	Specify an ESX Cluster.	See Following File type property list.	-
performLIPReset	Boolean	Perform an LIP Reset on the ESX host. If LIP Reset is enabled, you must register agentless remote connection settings for each ESX Server.	true / false	false
esxPromptPattern	String	Specifies the command prompt pattern to use when running esxcli on the ESX server. You do not need to specify this if "Perform LIP Reset" is disabled.	-	^\[[^\]]*\]
ConfigurationManagerConnection	File	Provides a table from which you can choose the Configuration Manager connection.	See Following File type property list.	-
StorageSystem	File	Provides a table from which you can choose the storage system.	See Following File type property list.	-

keyName	Type	Description	Range	Default value
ResourceGroup	File	Specify a resource group.	See Following File type property list.	-
VirtualModel	String	Select a Virtual Model associated with VSM. This is needed when allocating volumes to VSM.	"VSP G1000/VSP G1500 and VSP F1500","VSP","VSP F900","VSP F700","VSP F370","VSP F350","VSP G900","VSP G700","VSP G370","VSP G350","VSP G150","VSP G800 and VSP F800","VSP G400/VSP G600 and VSP F400/VSP F600","VSP G200","USP VM","USP V","HUS VM","HUS110","HUS130","HUS150"	-
VirtualSerialNumber	String	Specify the Virtual Serial Number if the selected resource group is VSM.	-	-

keyName	Type	Description	Range	Default value
PortSelection	String	Select the storage port selection condition. "Smaller number of hosts": Select the port with the smallest registered WWN. (Default value) "Smaller number of volumes: Select the port with the smallest registered LUN.	"Smaller number of hosts" / "Smaller number of volumes"	"Smaller number of hosts"
ResourceCriteria	File	Specify the Storage Port Configuration Expressions (Name and Value) that meets the specified criteria (Equals, Not Equals, Starts with, and Ends with) based on the selected condition (All or Any).	See Following File type property list.	-
VolumeSettings	File	Specify the volume information to use when creating volumes.	See Following File type property list.	-
ScriptForHostGroupNaming	File	Specify a naming rule for the Host Group name as a script.	-	Refer to the Script example below

keyName	Type	Description	Range	Default value
HostMode	String	Specify the Host Mode.	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/ IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"	VMWARE_EX
HostModeOptions	String	Specify the Host Mode Options.	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/ IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"	VMWARE_EX
UseFabricSettings	Boolean	Specify whether to use fabric settings.	true / false	true
BNAConnections	File	Specify BNA connections.	See Following File type property list.	-
BNAResourceGroup	String	Specify a resource group.	-	-
TargetFabrics	String	Specify target fabrics.	-	-
UseExistingZone	Boolean	Specify whether to use an existing zone.	true / false	false
UseActiveZoneOnly	Boolean	Specify whether to use active zones only.	true / false	true
NumOfHopsRestriction	Boolean	Specify whether to enable Num. of Hops Restriction.	true / false	false

keyName	Type	Description	Range	Default value
MaximumNumOfHops	Integer	Specify the maximum number of hops.	-	0
UpdateZoneConfiguration	Boolean	Determines whether to add to an existing zone or create a new zone. If Use Existing Zone is true, this setting is ignored even if entered.	true / false	true

keyName	Type	Description	Range	Default value
UseExistingZoneAliases	Boolean	Determines whether to use existing zone aliases. Specify True to use predefined zone aliases regardless of the specified naming conventions. If you specify False, the system selects zone aliases that follow the naming conventions. In either case, if there are no existing zone aliases, the system creates new ones that follow the naming conventions. When selecting the existing Zone Alias, Zone naming is fixed as HostZoneAliasName_StorageZoneAliasName.	true / false	false
UpdateCurrentActiveZoneConfiguration	Boolean	Determines whether to use Zone Active configuration when adding or creating a zone.	true / false	true

keyName	Type	Description	Range	Default value
ZoneConfigurationsToUpdate	String	Lists the zone configuration names to add (separated by commas). If Update Zone Configuration is false, this setting is ignored.	-	-
IntervalForEachFabricSettings	Integer	Specify the wait time between configuring each fabric (min).	-	0
ScriptForZoneNaming	File	Specify the naming for the zone as script.	-	Refer to the Script example below.
ScriptForHostZoneAliasNaming	File	Specify the naming for the Zone Alias of the host WWN as script.	-	Refer to the Script example below.
ScriptForStorageZoneAliasNaming	File	Specify the naming rule for the Zone Alias of the storage port as script.	-	Refer to the Script example below.
DatastoreCluster	String	Specify a Datastore Cluster in which to add created DataStores.	-	-
DatastoreNamePrefix	String	Specify a prefix for the datastores.	-	-
VMFSVersion	String	Specify the VMFS version for the datastore.	5 / 6	6

keyName	Type	Description	Range	Default value
BlockSize	String	Specify the block size for the datastore.	1	1
StorageIOControl	Boolean	Specify whether to enable storage I/O control for the datastore.	true / false	false
ThresholdType	String	Specify the type of threshold; Latency Threshold or Throughput Threshold.	"Latency Threshold", "Throughput Threshold"	Latency Threshold
ThresholdValue	Integer	If you enable storage I/O control, specify the latency threshold.	5-100	30
toAddress	String	Specify the To email addresses. Use a comma to separate multiple addresses.	-	-
ccAddress	String	Specify the Cc email addresses. Use a comma to separate multiple addresses.	-	-
mailSubject	String	Specify the email subject.	-	-
mailBody	String	Specify the email body.	-	-

keyName	Type	Description	Range	Default value
dialogText	File	Specify HTML or text in the Response Entry dialog box. To change a service property value in the Response Entry dialog box, specify the property key for the 'name' attribute of an input tag (<input>) or a select tag (<select>).	-	ESX servers don't recognize the newly added volumes. Make sure to let ESX servers to recognize them by resetting HBA or rebooting server, then click "Proceed" button.

File type property list

Table 306 vCenterConnection

Data nesting information		Description	Range
values			
	productName	Product name to register when creating a Web Service Connection.	"vCenter"
	name	Name.	-
	ipAddress	IP address.	-
	port	Port.	-
	protocol	Protocol.	-
	userID	User ID.	-
	status	Status of the connection.	-
	connectedTime	Connected time.	-

Table 307 ESXCluster

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID.	-
	model	Model.	-
	serialNumber	Serial Number.	-
	svplp	SVP IP Address.	-

Table 308 ConfigurationManagerConnection

Data nesting information		Description	Range
values			
	productName	Product name to register when creating a Web Service Connection	"ConfigurationManager"
	name	Name.	-
	ipAddress	IP address.	-
	port	Port.	-
	protocol	Protocol.	-
	userID	User ID.	-
	status	Status of the connection.	-
	connectedTime	Connected time.	-

Table 309 StorageSystem

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID.	-
	model	Model.	-
	serialNumber	Serial Number.	-
	svplp	SVP IP Address.	-

Table 310 ResourceGroup

Data nesting information		Description	Range
values			
	resourceGroupId	Resource Group ID.	-
	resourceGroupName	Resource Group Name.	-
	virtualStorageId	Virtual Storage System ID.	-

Table 311 ResourceCriteria

Data nesting information		Description	Range
values			
	storagePortCriteria	Storage Port Criteria.	-
	condition	Condition.	-
	expressions	Expression.	-
	name	Name.	"Name".
	op	Operation.	"Equals", "Not Equals", "Starts With", "Ends With".
	value	Value.	-
	join	Join condition of the Expressions.	"All", "Any".

Table 312 VolumeSettings

Data nesting information		Description	Range
values			
	numberOfVolumes	Number of Volumes	
	ldevIdStartsFrom	LDEV ID starts from	0-16777215
	volumeCapacity	Volume Capacity	2048-
	pool		
	poolID	Pool ID	

Data nesting information		Description	Range
	poolName	Pool Name	
	poolType	Pool Type	
	usedCapacityRate	Used Capacity Rate(%)	
	availableVolumeCapacity	Available Capacity	
	totalPoolCapacity	Total Capacity	
	numOfLdevs	Number of Volumes	
	volumeLabel	Volume Label	^[A-Za-z0-9\.\:@_][A-Za-z0-9\.\:@_]*\$
	lunStartsFrom	LUN starts from	0-2048
	virtualLdevIdStartsFrom	Virtual LDEV ID starts from	0-65279

Table 313 BNAConnections

Data nesting information		Description	Range
values			
	productName	Category.	-
	name	Name.	-
	ipAddress	IP address / Host Name.	-
	port	Port.	-
	protocol	Protocol.	-
	userID	User ID.	-
	status	Status.	-
	connectedTime	Connected time.	-

Table 314 ScriptForHostGroupNaming

Specifications of the script	Description
script	Function that is written in the syntax of ECMA Script 5. The following conditions of arguments and return values must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument.</p> <p>mold: The ID of the host</p> <p>(Managed Object ID in vCenter) name: The name of the host.</p> <p>clusterName: The name of the cluster to which the host belongs.</p> <p>clusterMold: The ID of the cluster to which the host belongs.</p> <p>(Managed Object ID in vCenter) ipAddresses: The IP addresses for management of the host.</p> <p>wwns: The WWNs of the host (: separated hex value)</p>
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and “_” 2. The first character is alphabetic 3. Host Group name is up to 64 characters
example	<pre>function(host) { /** * Following attributes are available. * * - host.moId: string * The ID of the host (Managed Object ID in vCenter) * * - host.name: string * The name of the host. * * - host.clusterName: string * The name of the cluster to which the host belongs. * * - host.clusterMoId: string * The ID of the cluster to which the host belongs. * (Managed Object ID in vCenter) * * - host.ipAddresses: string * The IP addresses for management of the host. * * - host.wwns: [string] * The WWNs of the host (: separated hex value) * */ var hostGroupName = host.name; if (!hostGroupName) { hostGroupName = "HostGroupForDataStore"; } return hostGroupName; }</pre>

Table 315 ScriptForZoneNaming / ScriptForHostZoneAliasNaming / ScriptForStorageZoneAliasNaming

Specifications of the script	Description
script	Function that is written in the syntax of ECMA Script 5. The following conditions of arguments and return values must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument.</p> <p>hostname: Host name</p> <p>hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA.</p> <p>storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA.</p> <p>storageSystemFamily: Display model name of the physical storage system</p> <p>storageSystemName: Name of physical storage system on Device Manager</p> <p>storageSystemSerialNumber: Serial number of physical storage system</p> <p>storagePortName: Display port name of the storage system</p> <p>virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-")</p> <p>virtualStorageSystemName: Name of virtual storage on Device Manager (if non-virtual, "-")</p> <p>virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-")</p> <p>serviceProperties: List of the service properties passed to the plug-in</p>
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters 4. About Zone, the string starting from "LSAN_", "TI_", "QOSHn +_", "QOSMn +_", "QOSLn_" is not allowed (case ignored. "n" is number.)
example	<pre>(function(args) { var name; if(! args.virtualSerialNumber args.virtualSerialNumber == "-"){ name = args.hostName + "_" + args.storageSystemName + "_" +</pre>

Specifications of the script	Description
	<pre>args.storagePortName; }else{ name = args.hostName + "_" + args.virtualStorageSystemName + "_" + args.storagePortName; } if (!(name === null typeof(name) == "string" name instanceof String)) { throw new Error("Zone name must be a string: "+ name); } name = name.replace(/^[A-Za-z0-9_]/g, '_'); if(name.length > 60){ throw new Error("Zone name must be within 60 characters: "+ name); } if (/^[A-Z]/ i.test(name) == false) { throw new Error("Zone name must start with a alphabet: "+ name); } if (/^LSAN_/ i.test(name) /^TI_/i.test(name) /^QOS[HML][0- 9]+_/i.test(name)) { throw new Error("Zone name has the prefix LSAN_, TI_ or QOSxx_ cannot be for normal zone: "+name); } return name; })</pre>

Allocate fabric aware volumes and create datastore for ESX cluster (submit)

keyName	Type	Description	Range	Default value
vCenterConnection	File	Specify a vCenter connection.	See Following File type property list.	-
ESXCluster	File	Specify an ESX Cluster.	See Following File type property list.	-
performLIPReset	Boolean	Perform an LIP Reset on the ESX host. If LIP Reset is enabled, you must register agentless remote connection settings for each ESX Server.	true / false	false

keyName	Type	Description	Range	Default value
esxPromptPattern	String	Specifies the command prompt pattern to use when running esxcli on the ESX server. You do not need to specify this if "Perform LIP Reset" is disabled.	-	^\[[^\]]*\]
ConfigurationManagerConnection	File	Provides a table from which you can choose the Configuration Manager connection.	See Following File type property list.	-
StorageSystem	File	Provides a table from which you can choose the storage system.	See Following File type property list.	-
ResourceGroup	File	Specify a resource group.	See Following File type property list.	-

keyName	Type	Description	Range	Default value
VirtualModel	String	Select a Virtual Model associated with VSM. This is needed when allocating volumes to VSM.	"VSP G1000/VSP G1500 and VSP F1500","VSP","VSP F900","VSP F700","VSP F370","VSP F350","VSP G900","VSP G700","VSP G370","VSP G350","VSP G150","VSP G800 and VSP F800","VSP G400/VSP G600 and VSP F400/VSP F600","VSP G200","USP VM","USP V","HUS VM","HUS110","HUS130","HUS150"	-
VirtualSerialNumber	String	Specify the Virtual Serial Number if the selected resource group is VSM.	-	-

keyName	Type	Description	Range	Default value
PortSelection	String	Select the storage port selection condition. "Smaller number of hosts": Select the port with the smallest registered WWN. (Default value) "Smaller number of volumes: Select the port with the smallest registered LUN.	"Smaller number of hosts" / "Smaller number of volumes"	"Smaller number of hosts"
ResourceCriteria	File	Specify the Storage Port Configuration Expressions (Name and Value) that meets the specified criteria (Equals, Not Equals, Starts with, and Ends with) based on the selected condition (All or Any).	See Following File type property list.	-
VolumeSettings	File	Specify the volume information to use when creating volumes.	See Following File type property list.	-
ScriptForHostGroupNaming	File	Specify a naming rule for the Host Group name as a script.	-	Refer to the Script example below

keyName	Type	Description	Range	Default value
HostMode	String	Specify the Host Mode.	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"	VMWARE_EX
HostModeOptions	String	Specify the Host Mode Options.	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"	VMWARE_EX
UseFabricSettings	Boolean	Specify whether to use fabric settings.	true / false	true
BNAConnections	File	Specify BNA connections.	See Following File type property list.	
BNAResourceGroup	String	Specify a resource group.	-	-
TargetFabrics	String	Specify target fabrics.	-	-
UseExistingZone	Boolean	Specify whether to use an existing zone.	true / false	false
UseActiveZoneOnly	Boolean	Specify whether to use active zones only.	true / false	true
NumOfHopsRestriction	Boolean	Specify whether to enable Num. of Hops Restriction.	true / false	false

keyName	Type	Description	Range	Default value
MaximumNumOfHops	Integer	Specify the maximum number of hops.		0
UpdateZoneConfiguration	Boolean	Determines whether to add to an existing zone or create a new zone. If Use Existing Zone is true, this setting is ignored even if entered.	true / false	true

keyName	Type	Description	Range	Default value
UseExistingZoneAliases	Boolean	Determines whether to use existing zone aliases. Specify True to use predefined zone aliases regardless of the specified naming conventions. If you specify False, the system selects zone aliases that follow the naming conventions. In either case, if there are no existing zone aliases, the system creates new ones that follow the naming conventions. When selecting the existing Zone Alias, Zone naming is fixed as HostZoneAliasName_StorageZoneAliasName.	true / false	false
UpdateCurrentActiveZoneConfiguration	Boolean	Determines whether to use Zone Active configuration when adding or creating a zone.	true / false	true

keyName	Type	Description	Range	Default value
ZoneConfigurationsToUpdate	String	Lists the zone configuration names to add (separated by commas). If Update Zone Configuration is false, this setting is ignored.	-	-
IntervalForEachFabricSettings	Integer	Specify the wait time between configuring each fabric (min).	-	0
ScriptForZoneNaming	File	Specify the naming for the zone as script.	-	Refer to the Script example below.
ScriptForHostZoneAliasNaming	File	Specify the naming for the Zone Alias of the host WWN as script.	-	Refer to the Script example below.
ScriptForStorageZoneAliasNaming	File	Specify the naming rule for the Zone Alias of the storage port as script.	-	Refer to the Script example below.
DatastoreCluster	String	Specify a Datastore Cluster in which to add created DataStores.	-	-
DatastoreNamePrefix	String	Specify a prefix for the datastores.	-	-
VMFSVersion	String	Specify the VMFS version for the datastore that is to be created.	5 / 6	6

keyName	Type	Description	Range	Default value
BlockSize	String	Specify the block size for the datastore.	1	1
StorageIOControl	Boolean	Specify whether to enable storage I/O control for the datastore.	true / false	false
ThresholdType	String	Specify the type of threshold; Latency Threshold or Throughput Threshold.	"Latency Threshold", "Throughput Threshold"	Latency Threshold
ThresholdValue	Integer	If you enable storage I/O control, specify the latency threshold.	5-100	30
toAddress	String	Specify the To email addresses. Use a comma to separate multiple addresses.	-	-
ccAddress	String	Specify the Cc email addresses. Use a comma to separate multiple addresses.	-	-
mailSubject	String	Specify the email subject.	-	-
mailBody	String	Specify the email body.	-	-

keyName	Type	Description	Range	Default value
dialogText	File	Specify HTML or text in the Response Entry dialog box. To change a service property value in the Response Entry dialog box, specify the property key for the 'name' attribute of an input tag (<input>) or a select tag (<select>).	-	ESX servers don't recognize the newly added volumes. Make sure to let ESX servers to recognize them by resetting HBA or rebooting server, then click "Proceed" button.

File type property list

Table 316 vCenterConnection

Data nesting information		Description	Range
values			
	productName	Product name to register when creating a Web Service Connection.	"vCenter"
	name	Name.	-
	ipAddress	IP address.	-
	port	Port.	-
	protocol	Protocol.	-
	userID	User ID.	-
	status	Status of the connection.	-
	connectedTime	Connected time.	-

Table 317 ESXCluster

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID.	-
	model	Model.	-
	serialNumber	Serial Number.	-
	svplp	SVP IP Address.	-

Table 318 ConfigurationManagerConnection

Data nesting information		Description	Range
values			
	productName	Product name to register when creating a Web Service Connection	"ConfigurationManager"
	name	Name.	-
	ipAddress	IP address.	-
	port	Port.	-
	protocol	Protocol.	-
	userID	User ID.	-
	status	Status of the connection.	-
	connectedTime	Connected time.	-

Table 319 StorageSystem

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID.	-
	model	Model.	-
	serialNumber	Serial Number.	-
	svplp	SVP IP Address.	-

Table 320 ResourceGroup

Data nesting information		Description	Range
values			
	resourceGroupId	Resource Group ID.	-
	resourceGroupName	Resource Group Name.	-
	virtualStorageId	Virtual Storage System ID.	-

Table 321 ResourceCriteria

Data nesting information		Description	Range
values			
	storagePortCriteria	Storage Port Criteria.	-
	condition	Condition.	-
	expressions	Expression.	-
	name	Name.	"Name".
	op	Operation.	"Equals", "Not Equals", "Starts With", "Ends With".
	value	Value.	-
	join	Join condition of the Expressions.	"All", "Any".

Table 322 VolumeSettings

Data nesting information		Description	Range
values			
	numberOfVolumes	Number of Volumes	
	ldevIdStartsFrom	LDEV ID starts from	0-16777215
	volumeCapacity	Volume Capacity	2048-
	pool		
	poolID	Pool ID	
	poolName	Pool Name	

Data nesting information		Description	Range
	poolType	Pool Type	
	usedCapacityRate	Used Capacity Rate(%)	
	availableVolumeCapacity	Available Capacity	
	totalPoolCapacity	Total Capacity	
	numOfLdevs	Number of Volumes	
	volumeLabel	Volume Label	^[A-Za-z0-9\\.:@_][A-Za-z0-9\\.:@_]*\$
	lunStartsFrom	LUN starts from	0-2048
	virtualLdevIdStartsFrom	Virtual LDEV ID starts from	0-65279

Table 323 BNACConnections

Data nesting information		Description	Range
values			
	productName	Category.	-
	name	Name.	-
	ipAddress	IP address / Host Name.	-
	port	Port.	-
	protocol	Protocol.	-
	userID	User ID.	-
	status	Status.	-
	connectedTime	Connected time.	-

Table 324 ScriptForHostGroupNaming

Specifications of the script	Description
script	Function that is written in the syntax of ECMA Script 5. The following conditions of arguments and return values must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument.</p> <p>mold: The ID of the host (Managed Object ID in vCenter) name: The name of the host. clusterName: The name of the cluster to which the host belongs. clusterMold: The ID of the cluster to which the host belongs. (Managed Object ID in vCenter) ipAddresses: The IP addresses for management of the host. wwns: The WWNs of the host (: separated hex value)</p>
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and “_” 2. The first character is alphabetic 3. Host Group name is up to 64 characters
example	<pre>function(host) { /** * Following attributes are available. * * - host.moId: string * The ID of the host (Managed Object ID in vCenter) * * - host.name: string * The name of the host. * * - host.clusterName: string * The name of the cluster to which the host belongs. * * - host.clusterMoId: string * The ID of the cluster to which the host belongs. * (Managed Object ID in vCenter) * * - host.ipAddresses: string * The IP addresses for management of the host. * * - host.wwns: [string] * The WWNs of the host (: separated hex value) */ var hostGroupName = host.name; if (!hostGroupName) { hostGroupName = "HostGroupForDataStore"; } return hostGroupName; }</pre>

Table 325 ScriptForZoneNaming / ScriptForHostZoneAliasNaming / ScriptForStorageZoneAliasNaming

Specifications of the script	Description
script	Function that is written in the syntax of ECMA Script 5. The following conditions of arguments and return values must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument.</p> <p>hostname: Host name</p> <p>hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA.</p> <p>storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA.</p> <p>storageSystemFamily: Display model name of the physical storage system</p> <p>storageSystemName: Name of physical storage system on Device Manager</p> <p>storageSystemSerialNumber: Serial number of physical storage system</p> <p>storagePortName: Display port name of the storage system</p> <p>virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-")</p> <p>virtualStorageSystemName: Name of virtual storage on Device Manager (if non-virtual, "-")</p> <p>virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-")</p> <p>serviceProperties: List of the service properties passed to the plug-in</p>
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters 4. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+_", "QOSMn+_", "QOSLn_" is not allowed (case ignored. "n" is number.)
example	<pre>(function(args) { var name; if(! args.virtualSerialNumber </pre>

Specifications of the script	Description
	<pre>args.virtualSerialNumber == "-"){ name = args.hostName + "_" + args.storageSystemName + "_" + args.storagePortName; }else{ name = args.hostName + "_" + args.virtualStorageSystemName + "_" + args.storagePortName; } if (!(name === null typeof(name) == "string" name instanceof String)) { throw new Error("Zone name must be a string: "+ name); } name = name.replace(/^[A-Za- z0-9_]/g, '_'); if(name.length > 60){ throw new Error("Zone name must be within 60 characters: "+ name); } if (/^[A-Z]/i.test(name) == false) { throw new Error("Zone name must start with a alphabet: "+ name); } if (/^LSAN_/i.test(name) /^TI_/i.test(name) /^QOS[HML][0-9]+_/ i.test(name)) { throw new Error("Zone name has the prefix LSAN_, TI_ or QOSxx_ cannot be for normal zone: "+name); } return name; })</pre>

Allocate fabric aware volumes and create datastore for ESX cluster (task details)

Use the following information to show the task details to allocate fabric aware volumes and to create datastore for ESX cluster.

keyName	Type	Description	Range
Ldevs	File		See the "File type property list" section following this table.
LunPaths	File		See the "File type property list" section following this table.
Datastores	File		See the "File type property list" section following this table.
ZoneConfigurationCreationResult	File		See the "File type property list" section following this table.
ZoneCreationResult	File		See the "File type property list" section following this table.
ZoneAliasCreationResult	File		See the "File type property list" section following this table.

keyName	Type	Description	Range
ZoneConfigurationUpdateResult	File		See the "File type property list" section following this table.
ZoneUpdateResult	File		See the "File type property list" section following this table.
ZoneAliasUpdateResult	File		See the "File type property list" section following this table.

File type property list

Table 326 Ldevs

Data nesting information	Description	Range
value ¹		
ldevId	LDEV ID	-
virtualLdevId	Virtual LDEV ID	-
label	Label	-
byteFormatCapacity	Capacity	-
blockCapacity	Block Capacity	-
poolId	Pool ID	-
resourceGroupId	Resource Group ID	-
numOfPorts	No. of Ports	-
numOfUsedBlock	No. of Used Blocks	-
isFullAllocationEnabled	Full Allocation Enabled	-
emulationType	Emulation Type	-
clprId	CLPR ID	-
mpBladeId	MP Blade ID	-
dataReductionMode	Date Reduction Mode	-
isAluaEnabled	ALUA Enabled	-
status	Status	-
ssid	SSID	-
dataReductionStatus	Data Reduction Status	-

Data nesting information	Description	Range
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Table 327 LunPaths

Data nesting information	Description	Range
values ¹		
hostName	Host Name	-
hostPortName	Host Port WWN	-
portWorldWideName	Storage Port WWN	-
storageDeviceId	Storage Device ID	-
portName	Storage Port Name	-
lun	LUN	-
portType	Port Type	-
capacity	Capacity	-
ldevId	LDEV ID	-
hostGroupNameOrIScsiTarget	Host Group Name	-
hostGroupNumber	Host Group Number	-
hostMode	Host Mode	-
hostModeOptions	Host Mode Options	-
storageSystemModel	Storage System Model	-
storageSystemSerialNumber	Storage System Serial No.	-
ldevLabel	LDEV Label	-
virtualStorageMachineResourceGroupName	Resource Group Name	-
virtualLdevId	Virtual LDEV ID	-
poolId	Pool ID	-
asymmetricAccessStatus	Asymmetric Access State	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Table 328 Datastores

Data nesting information		Description	Range
values ¹			
	datastoreName	Datastore Name	-
	canonicalName	Canonical Name	-
	datastoreAccessMode	Access Mode	-
	storageIOControlEnabled	I/O Control Enabled	-
	vmfsVersion	VMFS Version	-
	latencyThreshold	Latency Threshold	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 329 ZoneConfigurationCreationResult

Data nesting information		Description	Range
values ¹			
	name	Name	-
	zoneNames	Zone Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 330 ZoneCreationResult

Data nesting information		Description	Range
values ¹			
	name	Name	-
	displayNames	Type	-
	aliasNames	Alias Names	-
	memberNames	Member Names	-

Data nesting information		Description	Range
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 331 ZoneAliasCreationResult

Data nesting information		Description	Range
values ¹			
	name	Name	-
	memberNames	Member Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 332 ZoneConfigurationUpdateResult

Data nesting information		Description	Range
values ¹			
	name	Name	-
	zoneNames	Zone Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 333 ZoneUpdateResult

Data nesting information		Description	Range
values ¹			
	name	Name	-

Data nesting information		Description	Range
	type	Type	-
	aliasNames	Alias Names	-
	memberNames	Member Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 334 ZoneAliasUpdateResult

Data nesting information		Description	Range
values ¹			
	name	Name	-
	memberNames	Member Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Add host to cluster in vCenter service properties

Use the following properties to modify or create values for the Add Host to Cluster in vCenter Service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Add host to cluster in vCenter service (edit)

keyName	Type	Description	Range	Default value
vCenterConnection	File	Specify a vCenter connection.	See Following File type property list.	-
ESXCluster	String	Specify a ESX Cluster.	-	-
ESXHosts	File	Specify ESX servers to which existing datastores need to be allocated.	See Following File type property list.	-
ConfigurationManagerConnection	File	Provides a table from which you can choose the Configuration Manager connection.	See Following File type property list.	-
StorageSystem	File	Provides a table from which you can choose the storage system.	See Following File type property list.	-
ResourceGroup	File	Specify a resource group.	See Following File type property list.	-
PortSelection	String	Select storage port selection condition. "Smaller number of hosts": Select the port with the smallest registered WWN. (Default value) "Smaller number of volumes: Select the port with the smallest registered LUN.	"Smaller number of hosts" / "Smaller number of volumes"	"Smaller number of hosts"

keyName	Type	Description	Range	Default value
ResourceCriteria	File	Specify the Storage Port Configuration Expressions (Name and Value) that meets the specified criteria (Equals, Not Equals, Starts with, and Ends with) based on the selected condition (All or Any).	See Following File type property list.	-
ScriptForHostGroupNaming	File	Write down a script to decide names of Host Groups.	-	Refer to the Script example below.
HostMode	String	Specify Host Mode.	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"	VMWARE_EX
HostModeOptions	String	Specify Host Mode Options.	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"	VMWARE_EX
UseFabricSettings	Boolean	Specify whether to use fabric settings or not.	true / false	true

keyName	Type	Description	Range	Default value
BNAConnections	File	Specify BNA Connections.	See Following File type property list.	-
BNAResourceGroup	String	Specify Resource Group.	-	-
TargetFabrics	String	Specify target fabrics.	-	-
UseExistingZone	Boolean	Specify whether to use existing zone.	true / false	false
UseActiveZoneOnly	Boolean	Specify whether to use only active zone.	true / false	true
NumOfHopsRestriction	Boolean	Specify whether to enable Num. of Hops Restriction.	true / false	false
MaximumNumOfHops	Integer	Specify the maximum number of hops.	-	-
UpdateZoneConfiguration	Boolean	Determines whether to add to an existing zone or create a new zone. If Use Existing Zone is true, this setting is ignored even if entered.	true / false	true

keyName	Type	Description	Range	Default value
UseExistingZoneAliases	Boolean	Determines whether to use existing zone aliases. Specify True to use predefined zone aliases regardless of the specified naming conventions. If you specify False, the system selects zone aliases that follow the naming conventions. In either case, if there are no existing zone aliases, the system creates new ones that follow the naming conventions. When selecting the existing Zone Alias, Zone naming is fixed as HostZoneAliasName_StorageZoneAliasName.	true / false	false
UpdateCurrentActiveZoneConfiguration	Boolean	Determines whether to use Zone Active configuration when adding or creating a zone.	true / false	true

keyName	Type	Description	Range	Default value
ZoneConfigurationsToUpdate	String	Lists the zone configuration names to add (separated by commas). If Update Zone Configuration is false, this setting is ignored.	-	-
IntervalForEachFabricSettings	Integer	Specify wait time between configuring each fabric (min).	-	-
ScriptForZoneNaming	File	Specify naming rule for zone as script.	-	Refer to the Script example below.
ScriptForHostZoneAliasNaming	File	Specify naming rule for Zone Alias of host WWN as script.	-	Refer to the Script example below.
ScriptForStorageZoneAliasNaming	File	Specify naming rule for Zone Alias of storage port as script.	-	Refer to the Script example below.

File type property list

Table 335 vCenterConnection

Data nesting information		Description	Range
values			
	productName	Product name of registering to Web Service Connection	"vCenter"
	name	Name	-
	ipAddress	IP address	-
	port	Port	-

Data nesting information		Description	Range
	protocol	Protocol	-
	userID	User ID	-
	status	Status of connection	-
	connectedTime	Connected time	-

Table 336 ConfigurationManagerConnection

Data nesting information		Description	Range
values			
	productName	Product name of registering to Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IP address	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status of connection	-
	connectedTime	Connected time	-

Table 337 StorageSystem

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 338 ResourceGroup

Data nesting information		Description	Range
values			
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-

Table 339 ResourceCriteria

Data nesting information		Description	Range
values			
	storagePortCriteria	Storage Port Criteria	-
	condition	Condition	-
	expressions	Expression	-
	name	Name	"Name"
	op	Operation	"Equals", "Not Equals", "Starts With", "Ends With"
	value	Value	-
	join	Join condition of the Expressions	"All", "Any"

Table 340 BNACConnections

Data nesting information		Description	Range
values			
	productName	Category	-
	name	Name	-
	ipAddress	IP address / Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-

Data nesting information		Description	Range
	connectedTime	Connected time	-

Table 341 ScriptForHostGroupNaming

Specifications of the script	Description
script	Function that is written in the syntax of ECMA Script 5. The following conditions of arguments and return must be satisfied.
arguments	arguments[0]: The object with the following properties is passed as an argument. mold: The ID of the host (Managed Object ID in vCenter) name: The name of the host. clusterName: The name of the cluster to which the host belongs. clusterMold: The ID of the cluster to which the host belongs. (Managed Object ID in vCenter) ipAddresses: The IP addresses for management of the host. wwns: The WWNs of the host (: separated hex value)
return	Script must return the string that satisfies the following conditions: <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and " _ -" 2. The first character is alphabetic 3. Host Group name is up to 64 characters
example	<pre>function(host) { /** * Following attributes are available. * * - host.moId: string * The ID of the host (Managed Object ID in vCenter) * * - host.name: string * The name of the host. * * - host.clusterName: string * The name of the cluster to which the host belongs. * * - host.clusterMoId: string * The ID of the cluster to which the host belongs. * (Managed Object ID in vCenter) * * - host.ipAddresses: string * The IP addresses for management of the host. * * - host.wwns: [string] * The WWNs of the host (: separated hex value) * */ var hostGroupName = host.name; if (! hostGroupName) { hostGroupName =</pre>

Specifications of the script	Description
	<code>"HostGroupForDataStore"; } return hostGroupName; }</code>

Table 342 ScriptForZoneNaming / ScriptForHostZoneAliasNaming / ScriptForStorageZoneAliasNaming

Specifications of the script	Description
script	Function that is written in the syntax of ECMA Script 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument.</p> <p>hostname: Host name</p> <p>hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA.</p> <p>storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA.</p> <p>storageSystemFamily: Display model name of the physical storage system</p> <p>storageSystemName: Name of physical storage system on Device Manager</p> <p>storageSystemSerialNumber: Serial number of physical storage system</p> <p>storagePortName: Display port name of the storage system</p> <p>virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-")</p> <p>virtualStorageSystemName: Name of virtual storage on Device Manager (if non-virtual, "-")</p> <p>virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-")</p> <p>serviceProperties: List of the service properties passed to the plug-in</p>
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic

Specifications of the script	Description
	<p>3. Zone is up to 60 characters, Zone Alias is up to 64 characters</p> <p>4. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+_", "QOSMn+_", "QOSLn_" is not allowed (case ignored. "n" is number.)</p>
example	<pre>(function(args) { var name; if(! args.virtualSerialNumber args.virtualSerialNumber == "-"){ name = args.hostName + "_" + args.storageSystemName + "_" + args.storagePortName; }else{ name = args.hostName + "_" + args.virtualStorageSystemName + "_" + args.storagePortName; } if (!(name === null typeof(name) == "string" name instanceof String)) { throw new Error("Zone name must be a string: "+ name); } name = name.replace(/[A-Za- z0-9_]/g, '_'); if(name.length > 60){ throw new Error("Zone name must be within 60 characters: "+ name); } if (/^[A-Z]/i.test(name) == false) { throw new Error("Zone name must start with a alphabet: "+ name); } if (/^LSAN_/i.test(name) /^TI_/i.test(name) /^QOS[HML][0-9]+_/ i.test(name)) { throw new Error("Zone name has the prefix LSAN_, TI_ or QOSxx_ cannot be for normal zone: "+name); } return name; })</pre>

Add host to cluster in vCenter service (submit)

keyName	Type	Description	Range	Default value
vCenterConnection	File	Specify a vCenter connection.	See Following File type property list.	-
ESXCluster	String	Specify a ESX Cluster.	-	-

keyName	Type	Description	Range	Default value
ESXHosts	File	Specify ESX servers to which existing datastores need to be allocated.	See Following File type property list.	-
ConfigurationManagerConnection	File	Provides a table from which you can choose the Configuration Manager connection.	See Following File type property list.	-
StorageSystem	File	Provides a table from which you can choose the storage system.	See Following File type property list.	-
ResourceGroup	File	Specify a resource group.	See Following File type property list.	-
PortSelection	String	Select storage port selection condition. "Smaller number of hosts": Select the port with the smallest registered WWN. (Default value) "Smaller number of volumes: Select the port with the smallest registered LUN.	"Smaller number of hosts" / "Smaller number of volumes"	"Smaller number of hosts"

keyName	Type	Description	Range	Default value
ResourceCriteria	File	Specify the Storage Port Configuration Expressions (Name and Value) that meets the specified criteria (Equals, Not Equals, Starts with, and Ends with) based on the selected condition (All or Any).	See Following File type property list.	-
ScriptForHostGroupNaming	File	Write down a script to decide names of Host Groups.	-	Refer to the Script example below.
HostMode	String	Specify Host Mode.	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"	VMWARE_EX
HostModeOptions	String	Specify Host Mode Options.	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"	VMWARE_EX
UseFabricSettings	Boolean	Specify whether to use fabric settings or not.	true / false	true

keyName	Type	Description	Range	Default value
BNAConnections	File	Specify BNA Connections.	See Following File type property list.	-
BNAResourceGroup	String	Specify Resource Group.	-	-
TargetFabrics	String	Specify target fabrics.	-	-
UseExistingZone	Boolean	Specify whether to use existing zone.	true / false	false
UseActiveZoneOnly	Boolean	Specify whether to use only active zone.	true / false	true
NumOfHopsRestriction	Boolean	Specify whether to enable Num. of Hops Restriction.	true / false	false
MaximumNumOfHops	Integer	Specify the maximum number of hops.	-	-
UpdateZoneConfiguration	Boolean	Determines whether to add to an existing zone or create a new zone. If Use Existing Zone is true, this setting is ignored even if entered.	true / false	true

keyName	Type	Description	Range	Default value
UseExistingZoneAliases	Boolean	Determines whether to use existing zone aliases. Specify True to use predefined zone aliases regardless of the specified naming conventions. If you specify False, the system selects zone aliases that follow the naming conventions. In either case, if there are no existing zone aliases, the system creates new ones that follow the naming conventions. When selecting the existing Zone Alias, Zone naming is fixed as HostZoneAliasName_StorageZoneAliasName.	true / false	false
UpdateCurrentActiveZoneConfiguration	Boolean	Determines whether to use Zone Active configuration when adding or creating a zone.	true / false	true

keyName	Type	Description	Range	Default value
ZoneConfigurationsToUpdate	String	Lists the zone configuration names to add (separated by commas). If Update Zone Configuration is false, this setting is ignored.	-	-
IntervalForEachFabricSettings	Integer	Specify wait time between configuring each fabric (min).	-	-
ScriptForZoneNaming	File	Specify naming rule for zone as script.	-	Refer to the Script example below.
ScriptForHostZoneAliasNaming	File	Specify naming rule for Zone Alias of host WWN as script.	-	Refer to the Script example below.
ScriptForStorageZoneAliasNaming	File	Specify naming rule for Zone Alias of storage port as script.	-	Refer to the Script example below.

File type property list

Table 343 vCenterConnection

Data nesting information		Description	Range
values			
	productName	Product name of registering to Web Service Connection	"vCenter"
	name	Name	-
	ipAddress	IP address	-
	port	Port	-

Data nesting information		Description	Range
	protocol	Protocol	-
	userID	User ID	-
	status	Status of connection	-
	connectedTime	Connected time	-

Table 344 ConfigurationManagerConnection

Data nesting information		Description	Range
values			
	productName	Product name of registering to Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IP address	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status of connection	-
	connectedTime	Connected time	-

Table 345 StorageSystem

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 346 ResourceGroup

Data nesting information		Description	Range
values			
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-

Table 347 ResourceCriteria

Data nesting information		Description	Range
values			
	storagePortCriteria	Storage Port Criteria	-
	condition	Condition	-
	expressions	Expression	-
	name	Name	"Name"
	op	Operation	"Equals", "Not Equals", "Starts With", "Ends With"
	value	Value	-
	join	Join condition of the Expressions	"All", "Any"

Table 348 BNACConnections

Data nesting information		Description	Range
values			
	productName	Category	-
	name	Name	-
	ipAddress	IP address / Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-

Data nesting information		Description	Range
	status	Status	-
	connectedTime	Connected time	-

Table 349 ScriptForHostGroupNaming

Specifications of the script	Description
script	Function that is written in the syntax of ECMA Script 5. The following conditions of arguments and return must be satisfied.
arguments	arguments[0]: The object with the following properties is passed as an argument. mold: The ID of the host (Managed Object ID in vCenter) name: The name of the host. clusterName: The name of the cluster to which the host belongs. clusterMold: The ID of the cluster to which the host belongs. (Managed Object ID in vCenter) ipAddresses: The IP addresses for management of the host. wwns: The WWNs of the host (: separated hex value)
return	Script must return the string that satisfies the following conditions: <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and " " 2. The first character is alphabetic 3. Host Group name is up to 64 characters
example	<pre>function(host) { /** * Following attributes are available. * * - host.moId: string * The ID of the host (Managed Object ID in vCenter) * * - host.name: string * The name of the host. * * - host.clusterName: string * The name of the cluster to which the host belongs. * * - host.clusterMold: string * The ID of the cluster to which the host belongs. * (Managed Object ID in vCenter) * * - host.ipAddresses: string * The IP addresses for management of the host. * * - host.wwns: [string] * The WWNs of the host (: separated hex value) * */ var hostGroupName = host.name; if (!</pre>

Specifications of the script	Description
	<pre>hostGroupName) { hostGroupName = "HostGroupForDataStore"; } return hostGroupName; }</pre>

Table 350 ScriptForZoneNaming / ScriptForHostZoneAliasNaming / ScriptForStorageZoneAliasNaming

Specifications of the script	Description
script	Function that is written in the syntax of ECMA Script 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument.</p> <p>hostname: Host name</p> <p>hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA.</p> <p>storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA.</p> <p>storageSystemFamily: Display model name of the physical storage system</p> <p>storageSystemName: Name of physical storage system on Device Manager</p> <p>storageSystemSerialNumber: Serial number of physical storage system</p> <p>storagePortName: Display port name of the storage system</p> <p>virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-")</p> <p>virtualStorageSystemName: Name of virtual storage on Device Manager (if non-virtual, "-")</p> <p>virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-")</p> <p>serviceProperties: List of the service properties passed to the plug-in</p>
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> Available characters: Only alphanumeric characters and " _

Specifications of the script	Description
	<ol style="list-style-type: none"> 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters 4. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+", "QOSMn+", "QOSLn_" is not allowed (case ignored. "n" is number.)
example	<pre>(function(args) { var name; if(! args.virtualSerialNumber args.virtualSerialNumber == "-"){ name = args.hostName + "_" + args.storageSystemName + "_" + args.storagePortName; }else{ name = args.hostName + "_" + args.virtualStorageSystemName + "_" + args.storagePortName; } if (!(name === null typeof(name) == "string" name instanceof String)) { throw new Error("Zone name must be a string: "+ name); } name = name.replace(/[A-Za-z0- 9_]/g, '_'); if(name.length > 60){ throw new Error("Zone name must be within 60 characters: "+ name); } if (/^[A-Z]/i.test(name) == false) { throw new Error("Zone name must start with a alphabet: "+ name); } if (/^LSAN_/i.test(name) /^TI_/i.test(name) /^QOS[HML][0-9]+_/ i.test(name)) { throw new Error("Zone name has the prefix LSAN_, TI_ or QOSxx_ cannot be for normal zone: "+name); } return name; })</pre>

Add host to cluster in vCenter service (task details)

Use the following information to add Host to Cluster in vCenter Service.

keyName	Type	Description	Range
Ldevs	File	-	See the "File type property list" section following this table.
LunPaths	File	-	See the "File type property list" section following this table.
ZoneConfigurationCreationResult	File	-	See the "File type property list" section following this table.

keyName	Type	Description	Range
ZoneCreationResult	File	-	See the "File type property list" section following this table.
ZoneAliasCreationResult	File	-	See the "File type property list" section following this table.
ZoneConfigurationUpdateResult	File	-	See the "File type property list" section following this table.
ZoneUpdateResult	File	-	See the "File type property list" section following this table.
ZoneAliasUpdateResult	File	-	See the "File type property list" section following this table.

File type property list

Table 351 Ldevs

Data nesting information		Description	Range
value ¹			
	ldevId	LDEV ID	-
	virtualLdevId	Virtual LDEV ID	-
	label	Label	-
	byteFormatCapacity	Capacity	-
	blockCapacity	Block Capacity	-
	poolId	Pool ID	-
	resourceGroupId	Resource Group ID	-
	numOfPorts	No. of Ports	-
	numOfUsedBlock	No. of Used Blocks	-
	isFullAllocationEnabled	Full Allocation Enabled	-
	emulationType	Emulation Type	-
	clprId	CLPR ID	-
	mpBladeId	MP Blade ID	-
	dataReductionMode	Date Reduction Mode	-
	isAluaEnabled	ALUA Enabled	-

Data nesting information		Description	Range
	status	Status	-
	ssid	SSID	-
	dataReductionStatus	Data Reduction Status	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 352 LunPaths

Data nesting information		Description	Range
values ¹			
	hostName	Host Name	-
	hostPortName	Host Port WWN	-
	portWorldWideName	Storage Port WWN	-
	storageDeviceId	Storage Device ID	-
	portName	Storage Port Name	-
	lun	LUN	-
	portType	Port Type	-
	capacity	Capacity	-
	ldevId	LDEV ID	-
	hostGroupNameOrIscsiTarget	Host Group Name	-
	hostGroupNumber	Host Group Number	-
	hostMode	Host Mode	-
	hostModeOptions	Host Mode Options	-
	storageSystemModel	Storage System Model	-
	storageSystemSerialNumber	Storage System Serial No.	-
	ldevLabel	LDEV Label	-
	virtualStorageMachineResourceGroupName	Resource Group Name	-
	virtualLdevId	Virtual LDEV ID	-

Data nesting information		Description	Range
	poolId	Pool ID	-
	asymmetricAccessStatus	Asymmetric Access State	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 353 ZoneConfigurationCreationResult

Data nesting information		Description	Range
values ¹			
	name	Name	-
	zoneNames	Zone Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 354 ZoneCreationResult

Data nesting information		Description	Range
values ¹			
	name	Name	-
	displayNames	Type	-
	aliasNames	Alias Names	-
	memberNames	Member Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 355 ZoneAliasCreationResult

Data nesting information		Description	Range
values ¹			
	name	Name	-
	memberNames	Member Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 356 ZoneConfigurationUpdateResult

Data nesting information		Description	Range
values ¹			
	name	Name	-
	zoneNames	Zone Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 357 ZoneUpdateResult

Data nesting information		Description	Range
values ¹			
	name	Name	-
	type	Type	-
	aliasNames	Alias Names	-
	memberNames	Member Names	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-

Data nesting information	Description	Range
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Table 358 ZoneAliasUpdateResult

Data nesting information	Description	Range
values ¹		
name	Name	-
memberNames	Member Names	-
bnaname	BNA Name	-
fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Remove host from cluster in vCenter service properties

Use the following properties to modify or create values for the Remove Host from Cluster in vCenter Service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Remove host from cluster in vCenter service (edit)

KeyName	Type	Description	Range	Default value
vCenterConnection	File	Specify a vCenter Server that is registered as a Web Service Connection in the Administration Tab.	See Following File type property list.	-
ESXCluster	String	Specify the ESX Cluster name.	-	-
ESXHosts	File	Specify the ESX Host name.	See Following File type property list.	-
EnterMaintenanceMode	Boolean	Select the checkbox to enter maintenance mode.	True or False	True
Timeout	Integer	Specify the timeout value in seconds for entering Maintenance Mode.	0-86400	1800

KeyName	Type	Description	Range	Default value
EvacuatePoweredOffVms	Boolean	Select the checkbox to move the powered-off virtual machines (and suspended virtual machines) to other ESX hosts in the same ESX cluster. If the checkbox is not selected, powered-off virtual machines are not moved to other ESX hosts when the ESX host is put into maintenance mode. If the checkbox is selected, the task will not succeed unless all the powered-off virtual machines are move to other hosts.	True or False	True
UnmountDatastoreOption	Boolean	Select the checkbox to unmount the VMFS datastores before unprovisioning the storage volume.	True or False	True
DeleteHostGroupOption	Boolean	Select the checkbox to delete the host group.	True or False	True

KeyName	Type	Description	Range	Default value
RemoveZoningOption	Boolean	Select the checkbox to remove zoning settings.	True or False	False

File type property list

Table 359 vCenterConnection

Data nesting information		Description	Range
values			
	productName	Product name of registering to Web Service Connection	"vCenter"
	name	Name	-
	ipAddress	IP address	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status of connection	-
	connectedTime	Connected time	-

Table 360 ESXHost

Data nesting information		Description	Range
values			
	mold	Mold	-
	name	Name	-
	ipAddress	IP address	-
	wwns	WWNs	-
	clusterName	Cluster Name	-
	clusterMold	Cluster Mold	-
	datastoreNum	Datastore Number	-

Data nesting information		Description	Range
	maintenanceMode	Maintenance Mode	-

Remove host from cluster in vCenter service (submit)

KeyName	Type	Description	Range	Remark	Default value
vCenterConnection	File	Specify a vCenter Server that is registered as a Web Service Connection in the Administration Tab.	See Following File type property list.	-	-
ESXCluster	String	Specify the ESX Cluster name.	-	-	-
ESXHosts	File	Specify the ESX Host name.	See Following File type property list.	-	-
EnterMaintenanceMode	Boolean	Select the checkbox to enter maintenance mode.	True or False	-	True
Timeout	Integer	Specify the timeout value in seconds for entering Maintenance Mode.	0-86400	-	1800

KeyName	Type	Description	Range	Remark	Default value
EvacuatePoweredOffVms	Boolean	Select the checkbox to move the powered-off virtual machines (and suspended virtual machines) to other ESX hosts in the same ESX cluster. If the checkbox is not selected, powered-off virtual machines are not moved to other ESX hosts when the ESX host is put into maintenance mode. If the checkbox is selected, the task will not succeed unless all the powered-off virtual machines are move to other hosts.	True or False	-	True
UnmountDatastoreOption	Boolean	Select the checkbox to unmount the VMFS datastores before unprovisioning the storage volume.	True or False	-	True

KeyName	Type	Description	Range	Remark	Default value
DeleteHostGroupOption	Boolean	Select the checkbox to delete the host group.	True or False	-	True
RemoveZoningOption	Boolean	Select the checkbox to remove zoning settings.	True or False	-	False

File type property list

Table 361 vCenterConnection

Data nesting information	Description	Range	Remarks	Repeatable
values				
productName	Product name of registering to Web Service Connection	"vCenter"	-	-
name	Name	-	-	-
ipAddress	IP address	-	-	-
port	Port	-	-	-
protocol	Protocol	-	-	-
userID	User ID	-	-	-
status	Status of connection	-	-	-
connectedTime	Connected time	-	-	-

Table 362 ESXHost

Data nesting information	Description	Range	Remarks	Repeatable
values				

Data nesting information		Description	Range	Remarks	Repeatable
	modal	Mold	-	-	-
	name	Name	-	-	-
	ipAddress	IP address	-	-	-
	wwns	WWNs	-	-	-
	clusterName	Cluster Name	-	-	-
	clusterMold	Cluster Mold	-	-	-
	datastoreNum	Datastore Number	-	-	-
	maintenanceMode	Maintenance Mode	-	-	-

Remove host from cluster in vCenter service (task details)

Use the following information to remove Host from the Cluster in vCenter Service.

keyName	Type	Description	Range
TheNumberOfSuccessHostGroupDeletion	String	Stores the number of success deleted host group.	
DeletedHostGroupsInformation	File	Stores the deleted host groups/iSCSI target information.	See the "File type property list" section following this table.
WwnRemovalResult	File	Stores the WWN/iSCSI name removal result.	See the "File type property list" section following this table.
DeletedLUNPathConfigurationInformation	File	Stores the deleted LUN path information from the volume unallocation results.	See the "File type property list" section following this table.

keyName	Type	Description	Range
ZoneConfigurationRemovalRequest	File	List of Zone Configuration Removal Requests.	See the "File type property list" section following this table.
ZoneRemovalRequest	File	List of Zone Removal Requests.	See the "File type property list" section following this table.
ZoneAliasRemovalRequest	File	List of Zones Aliases Removal Requests.	See the "File type property list" section following this table.
ZoneConfigurationUpdateRequest	File	List of Zone Configurations Update Requests.	See the "File type property list" section following this table.
ZoneUpdateRequest	File	List of Zones Update Requests.	See the "File type property list" section following this table.
ZoneAliasUpdateRequest	File	List of Zones Aliases Update Requests.	See the "File type property list" section following this table.

File type property list

Table 363 DeletedHostGroupsInformation

Data nesting information	Description	Range
value ¹		
hostGroupNameOrIscsiTarget	Host Group Name or iSCSI Target	-
storagePort	Storage Port	-
portType	Port Type	-
hostMode	HostMode	-
hostModeOptions	HostModeOptions	-

Data nesting information		Description	Range
	hostGroupNumber	Host Group Number	-
	model	Storage Model	-
	serialNumber	Storage SerialNumber	-
	result	Result of Host Group Deletion	"Success" or "Failed"
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 364 WwnRemovalResult

Data nesting information		Description	Range
values ¹			
	hostPort	Host Port	-
	hostGroupOrIscsiTargetInfo ¹	Host Group Name or iSCSI Target Information	-
	model	Storage Model	-
	serialNumber	Storage SerialNumber	-
	storagePort	Storage Port	-
	hostGroupNameOrIscsiTarget	Host Group Name or iSCSI Target	-
	hostGroupNumber	Host Group Number	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 365 DeletedLUNPathConfigurationInformation

Data nesting information	Description	Range
values ¹		

Data nesting information		Description	Range
	hostName	Host Group Name or iSCSI Target	-
	hostPortName	Host Port	-
	portWorldWideName	Storage Port WWN	-
	storageDeviceId	Storage Device ID	-
	portName	Storage Port	-
	portType	Port Type	-
	capacity	Capacity	-
	ldevId	Ldev ID	-
	hostGroupNameOrIscsiTarget	Host Group Name or iSCSI Target Information	-
	hostGroupNumber	Host Group Number	-
	hostMode	HostMode	-
	hostModeOptions	HostModeOptions	-
	storageSystemModel	Storage Model	-
	storageSystemSerialNumber	Storage SerialNumber	-
	ldevLabel	LDEV Label	-
	virtualStorageMachineResourceGroupName	Resource Group Name	-
	virtualModel	Virtual Model	-
	virtualSerialNumber	Virtual Serial Number	-
	virtualLdevId	Virtual LDEV ID	-
	configurationManager	Configuration Manager	-
	poolId	Pool ID	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 366 ZoneConfigurationRemovalRequest

Data nesting information		Description	Range
values ¹			
	name	Name	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 367 ZoneRemovalRequest

Data nesting information		Description	Range
values ¹			
	name	Name	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 368 ZoneAliasRemovalRequest

Data nesting information		Description	Range
values ¹			
	name	Name	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 369 ZoneConfigurationUpdateRequest

Data nesting information		Description	Range
values ¹			

Data nesting information		Description	Range
	name	Name	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 370 ZoneUpdateRequest

Data nesting information		Description	Range
values ¹			
	name	Name	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 371 ZoneAliasUpdateRequest

Data nesting information		Description	Range
values ¹			
	name	Name	-
	bnaname	BNA Name	-
	fabricName	Fabric Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Allocate volumes from virtual storage machine service properties

Use the following properties to modify or create values for the allocate volumes from virtual storage machine service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Allocate volumes from virtual storage machine (edit)

key Name	Explanation	Input/Output	Type	Range	Default value
ConfigurationManagerConnection	Configuration Manager Connection.	Input	File	See the "File type property list" section following this table.	
StorageSystem	Storage System.	Input	File	See the "File type property list" section following this table.	
VirtualStorageMachine	Virtual Storage Machine.	Input	string	Virtual Storage Machine specified in Shared Properties.	
NumberOfVolumes	Number of Volumes.	Input	integer	1-500.	
LDEVIDStartsFrom	Starting number of LDEVID.	Input	integer	00:00:00-00:FE:FF.	
VolumeCapacity	Volume capacity.	Input	integer	Refer to the "capacity" row in the "AddVirtualVolume command parameters" table in the Hitachi Command Suite CLI Reference Guide.	

key Name	Explanation	Input/Output	Type	Range	Default value
Pool	Pool.	Input	File	See the "File type property list" section following this table.	
VolumeLabel	Volume level.	Input	string	Enter a maximum of 64 characters.	
LUN Starts from	Starting number of LUN.	Input	integer	0-07FF.	
ExistingOrCreateNew	Existing or Create new.	Input	string	"Existing Host Group/iSCSI Target" or "New Host Group/iSCSI Target".	Existing Host Group/iSCSI Target
ExistingHostGroupsOr iSCSITargets	Existing Host Groups or iSCSI Targets.	Input	File	See the "File type property list" section following this table.	
PortType	Port Type.	Input	string	"Fibre" or "iSCSI".	Fibre
HostGroupSettings	Host Group Settings which created new.	Input	File	See the "File type property list" section following this table.	
ReservationTargets	Reservation Targets.	Input	File	See the "File type property list" section following this table.	

File type property list

Table 372 ConfigurationManagerConnection

Data nesting information		Explanation	Range
values			
	productName	Product name to register to the Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IpAddress	-
	Port	Port	-
	protocol	Protocol	-
	userID	UserID	-
	status	Status of the connection	-
	connectedTime	Connected time	-

Table 373 StorageSystem

Data nesting information		Explanation	Range
values			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 374 ReservationTargets

Data nesting information		Explanation	Range
values ¹			
	configurationManagerConnection	Configuration Manager Connection	
	productName	Product name of registering to Web Service Connection	"ConfigurationManager"
	name	Name	-

Data nesting information		Explanation	Range
	ipAddress	IP Address	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status of the connection	-
	connectedTime	Connected time	-
	storageSystem	Storage System	-
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 375 ExistingHostGroupsOriSCSITargets

Data nesting information		Explanation	Range
values ¹			
	storageDeviceId	Storage Device ID	-
	portId	Port ID	-
	hostGroupNumber	Host Group number	-
	hostGroupName	Host Group name	-
	iscsiName	iSCSI name	-
	hostMode	Host Mode	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 376 Pool

Data nesting information		Explanation	Range
values			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-
	numOfLdevs	Number of LDEVs	-

Table 377 HostGroupSettings

Data nesting information		Explanation	Range
values ¹			
	port	Port	-
	wwnSettings ^{1, 2}	WWN Settings	
	wwn	WWN	Enter a maximum of 16 characters in hexadecimal format.
	wwnNickname	WWN Nickname	Enter a maximum of 64 characters.
	hostGroupName ³	Host Group name	Enter a maximum of 64 characters.
	iScsiSettings ^{1, 4}	iScsiSettings	-
	iScsiName	iSCSI name	Specify in iqn or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z, 0-9, ., -, : -eui format: Specify 20 characters in hexadecimal.

Data nesting information		Explanation	Range
	iScsiNickname	iSCSI Nickname	Enter a maximum of 32 characters.
	iScsiTargetName ⁵	iSCSI Target Name	Enter a maximum of 32 characters
	hostMode	Host Mode	Refer to "Values that can be specified in the hostmode parameter" in the Hitachi Command Suite CLI Reference Guide.
	hostModeOptions	Host Mode Options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the Hitachi Command Suite CLI Reference Guide.
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "PortType" is "Fibre", you can specify WWN Settings. 3. When "PortType" is "Fibre", you can specify hostGroupName. 4. When "PortType" is "iSCSI", you can specify iSCSI Settings. 5. When "PortType" is "iSCSI", you can specify iSCSI Target Name. 			

Allocate volumes from virtual storage machine (submit)

key Name	Explanation	Input/Output	Type	Range	Default value
ConfigurationManagerConnection	Configuration Manager Connection	Input	File	See the "File type property list" section following this table.	
StorageSystem	Storage System.	Input	File	See the "File type property list" section following this table.	

key Name	Explanation	Input/Output	Type	Range	Default value
VirtualStorageeMachine	Virtual Storage Machine.	Input	string	Virtual Storage Machine specified in Shared Properties.	
NumberOfVolumes	Number of Volumes.	Input	integer	1-500.	
LDEVIDStartsFrom	Starting number of LDEVID.	Input	integer	00:00:00-00:FE:FF.	
VolumeCapacity	Volume capacity.	Input	integer	Refer to the "capacity" row in the "AddVirtualVolume command parameters" table in the Hitachi Command Suite CLI Reference Guide.	
Pool	Pool.	Input	File	See the "File type property list" section following this table.	
VolumeLabel	Volume level.	Input	string	Enter a maximum of 64 characters.	
LUN Starts from	Starting number of LUN.	Input	integer	0-07FF.	

key Name	Explanation	Input/Output	Type	Range	Default value
ExistingOrCreateNew	Existing or Create new.	Input	string	"Existing Host Group/iSCSI Target" or "New Host Group/iSCSI Target".	Existing Host Group/iSCSI Target
ExistingHostGroupsOrISCSITargets	Existing Host Groups or iSCSI Targets.	Input	File	See the "File type property list" section following this table.	
PortType	Port Type.	Input	string	"Fibre" or "iSCSI".	Fibre
HostGroupSettings	Host Group Settings which created new.	Input	File	See the "File type property list" section following this table.	
ReservationTargets	Reservation Targets.	Input	File	See the "File type property list" section following this table.	

File type property list

Table 378 ConfigurationManagerConnection

Data nesting information		Explanation	Range
values			
	productName	Product name to register to the Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IpAddress	-
	Port	Port	-

Data nesting information		Explanation	Range
	protocol	Protocol	-
	userID	UserID	-
	status	Status of the connection	-
	connectedTime	Connected time	-

Table 379 StorageSystem

Data nesting information		Explanation	Range
values			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 380 ReservationTargets

Data nesting information		Explanation	Range
values ¹			
	configurationManagerCo nnection	Configuration Manager Connection	
	productName	Product name of registering to Web Service Connection	"Configuration Manager"
	name	Name	-
	ipAddress	IP Address	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status of the connection	-
	connectedTime	Connected time	-
	storageSystem	Storage System	-

Data nesting information		Explanation	Range
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 381 ExistingHostGroupsOriSCSITargets

Data nesting information		Explanation	Range
values ¹			
	storageDeviceId	Storage Device ID	-
	portId	Port ID	-
	hostGroupNumber	Host Group number	-
	hostGroupName	Host Group name	-
	iscsiName	iSCSI name	-
	hostMode	Host Mode	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 382 Pool

Data nesting information		Explanation	Range
values			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-

Data nesting information		Explanation	Range
	numOfLdevs	Number of LDEVs	-

Table 383 HostGroupSettings

Data nesting information		Explanation	Range
values ¹			
	port	Port	-
	wwnSettings ^{1, 2}	WWN Settings	
	wwn	WWN	Enter a maximum of 16 characters in hexadecimal format.
	wwnNickname	WWN Nickname	Enter a maximum of 64 characters.
	hostGroupName ³	Host Group name	Enter a maximum of 64 characters.
	iScsiSettings ^{1, 4}	iScsiSettings	-
	iScsiName	iSCSI name	Specify in iqn or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-,: -eui format: Specify 20 characters in hexadecimal.
	iScsiNickname	iSCSI Nickname	Enter a maximum of 32 characters.
	iScsiTargetName ⁵	iSCSI Target Name	Enter a maximum of 32 characters
	hostMode	Host Mode	Refer to "Values that can be specified in the hostmode parameter" in the Hitachi Command Suite CLI Reference Guide.

Data nesting information		Explanation	Range
	hostModeOptions	Host Mode Options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the Hitachi Command Suite CLI Reference Guide.
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "PortType" is "Fibre", you can specify WWN Settings. 3. When "PortType" is "Fibre", you can specify hostGroupName. 4. When "PortType" is "iSCSI", you can specify iSCSI Settings. 5. When "PortType" is "iSCSI", you can specify iSCSI Target Name. 			

Allocate volumes from virtual storage machine (task details)

key Name	Explanation	Input/ Output	Type	Range
PrimarySite_PrimaryVolumeLUNPathConfigurationInformation	Primary volumes LUN path configuration information for the primary site.	Output	File	See the "File type property list" section following this table.
OtherSite_HAReservedVolumesInformation	Reserved volumes information for other sites.	Output	File	See the "File type property list" section following this table.

File type property list

Table 384 PrimarySite_PrimaryVolumesLUNPathConfigurationInformation

Data nesting information		Explanation	Range
values ¹			
	hostWWN	WWN/iSCSI name	-
	storagePort	Storage port	-

Data nesting information		Explanation	Range
	lun	LUN	-
	portType	Port type	-
	capacity	Capacity	-
	ldevId	LDEV ID	-
	hostGroupNameOrIscsiTarget	Host Group name/iSCSI target name	-
	model	Model	-
	serialNumber	Serial number	-
	ldevLabel	LDEV label	-
	virtualStorageMachineResourceGroupName	Virtual Storage Machine resource group name	-
	virtualModel	Virtual model	-
	virtualSerialNumber	Virtual serial number	-
	configurationManager	Configuration manager	-
	poolId	Pool ID	-
	asymmetricAccessStatus	Asymmetric access status	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 385 OtherSite_HAReservedVolumesInformation

Data nesting information		Explanation	Range
values ¹			
	ldevId	LDEV ID	-
	model	Model	-
	serialNumber	Serial number	-
	ldevLabel	LDEV label	-
	virtualStorageMachineResourceGroupName	Virtual Storage Machine resource group name	-
	virtualModel	Virtual model	-

Data nesting information		Explanation	Range
	virtualSerialNumber	Virtual serial number	-
	configurationManager	Configuration manager	-
	PoolId	Pool ID	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Create high availability pair for migration service properties

Use the following properties to modify or create values for the create high availability pair for migration service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Create high availability pair for migration (edit)

key Name	Explanation	Input/Output	Type	Range	Default value
SourceConfigurationManagerConnection	Migration Source Configuration Manager Connection	Input	File	See the "File type property list" section following this table.	
SourceStorageSystem	Migration Source Storage System	Input	File	See the "File type property list" section following this table.	
SourceVolumesFilter	Migration Source Volume Filter	Input	File	See the "File type property list" section following this table.	

key Name	Explanation	Input/Output	Type	Range	Default value
JoinFiltersBy	Join Filter By	Input	string	"and" or "or"	
SourceVolumes	Migration Source Volumes	Input	File	See the "File type property list" section following this table.	
TargetConfigurationManagerConnection	Migration Target Configuration Manager Connection	Input	File	See the "File type property list" section following this table.	
TargetStorageSystem	Migration Target Storage System	Input	File	See the "File type property list" section following this table.	
Pool	Pool	Input	File	See the "File type property list" section following this table.	
LUN Starts from	Starting number of LUN	Input	integer	0-07FF	
ExistingOrCreateNewHostGroup	Existing or Create new Host Group	Input	string	Existing Host Group/iSCSI Target "Existing Host Group/iSCSI Target" or "New Host Group/iSCSI Target"	Existing Host Group/iSCSI Target

key Name	Explanation	Input/Output	Type	Range	Default value
ExistingHostGroupsOrISCSITargets	Existing Host Groups or iSCSI Targets	Input	File	See the "File type property list" section following this table.	
PortType	Port Type	Input	string	"Fibre" or "iSCSI"	Fibre
HostGroupSettings	Host Group Settings which created new	Input	File	See the "File type property list" section following this table.	
ExistingOrCreateNewCopyGroup	Existing or Create new Copy Group	Input	string	"Existing Copy Group" or "New Copy Group"	Existing Copy Group
CopyGroupName	Copy Group Name	Input	string	Enter a maximum of 29 characters.	
ExistingCopyGroup	Existing Copy Group	Input	File	See the "File type property list" section following this table.	

key Name	Explanation	Input/Output	Type	Range	Default value
CopyPairName	Copy Pair Name	Input	string	Enter a maximum of 26 characters.	Specify the new copy pair name to create using the following format: {Copy Pair Name}_{sequential number (for-digits)}. When you create one copy pair, sequential numbers are not added. When you create multiple copy pairs, the sequential numbers are added.
QuorumDiskId	Quorum Disk ID	Input	integer	0-1F	Must [^] [01][0-9A-Fa-f]\$.
PathGroupId	Path Group ID	Input	integer	0-FF	Must [^] [0-9A-Fa-f][0-9A-Fa-f]\$.
ConsistencyGroup	Consistency Group	Input	boolean	"true" or "false"	False
ConsistencyGroupId	Consistency Group ID	Input	integer	0-255	-
MuNumber	MU Number	Input	integer	-	-
CopyPace	Copy Pace	Input	integer	1-15	3
PerformInitialCopy	Whether perform Initial Copy	Input	boolean	"true" or "false"	True

File type property list

Table 386 SourceConfigurationManagerConnection

Data nesting information		Explanation	Range
value			
	productName	Product name to register to the Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IpAddress	-
	Port	Port	-
	protocol	Protocol	-
	userID	UserID	-
	status	Status of the connection	-
	connectedTime	Connected time	-

Table 387 SourceStorageSystem

Data nesting information		Explanation	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 388 TargetConfigurationManagerConnection

Data nesting information		Explanation	Range
value			
	productName	Product name to register to the Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IpAddress	-

Data nesting information		Explanation	Range
	Port	Port	-
	protocol	Protocol	-
	userID	UserID	-
	status	Status of the connection	-
	connectedTime	Connected time	-

Table 389 TargetStorageSystem

Data nesting information		Explanation	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 390 Pool

Data nesting information		Explanation	Range
value			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-
	numOfLdevs	Number of LDEVs	-

Table 391 ExistingHostGroupsOriSCSITargets

Data nesting information		Explanation	Range
value ¹			
	portId	Port ID	-
	storageDeviceId	Storage Device ID	-
	hostGroupId	Host Group ID	-
	hostGroupName	Host Group name	-
	iscsiName	iSCSI name	-
	hostMode	Host Mode	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 392 ExistingCopyGroup

Data nesting information		Explanation	Range
value			
	copyGroupName	Copy Group name	-
	muNumber	Mu number	-
	localDeviceGroupName	Local Device Group name	-
	remoteDeviceGroupName	Remote Device Group name	-

Table 393 SourceVolumesFilter

Data nesting information		Explanation	Range
value ¹			
	key	Key used by the source volume filter	"LDEV ID," "Label," or "Pool ID."
	operator	operator	When specifying "LDEV ID", use the following operators: "=", "<", ">", "<=", ">=", "!=".

Data nesting information		Explanation	Range
			When specifying "Label", use the following operators: "=", "!=", "starts with", "ends with". When specifying "Pool ID", use the following operators: "=", "<", ">", "<=", ">=", "!=".
	value	value	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 394 SourceVolumes

Data nesting information		Explanation	Range
value ¹			
	storageDeviceId	Storage Device ID	-
	ldevId	LDEV ID	-
	label	Volume name	-
	byteFormatCapacity	Byte format capacity	-
	poolId	Pool ID	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 395 HostGroupSettings

Data nesting information		Explanation	Range
values ¹			
	port	Port	-
	wwnSettings ^{1, 2}	WWN Settings	
	wwn	WWN	Enter a maximum of 16 characters in hexadecimal format.

Data nesting information		Explanation	Range
	wwnNickname	WWN Nickname	Enter a maximum of 64 characters.
	hostGroupName ³	Host Group name	Enter a maximum of 64 characters.
	iScsiSettings ^{1, 4}	iScsiSettings	-
	iScsiName	iSCSI name	Specify in iqn or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-,: -eui format: Specify 20 characters in hexadecimal.
	iScsiNickname	iSCSI Nickname	Enter a maximum of 32 characters.
	iScsiTargetName ⁵	iSCSI Target Name	Enter a maximum of 32 characters
	hostMode	Host Mode	Refer to "Values that can be specified in the hostmode parameter" in the Hitachi Command Suite CLI Reference Guide.
	hostModeOptions	Host Mode Options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the Hitachi Command Suite CLI Reference Guide.
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "PortType" is "Fibre", you can specify WWN Settings. 3. When "PortType" is "Fibre", you can specify hostGroupName. 4. When "PortType" is "iSCSI", you can specify iSCSI Settings. 5. When "PortType" is "iSCSI", you can specify iSCSI Target Name. 			

Create high availability pair for migration (submit)

key Name	Explanation	Input/Output	Type	Range	Default value
SourceConfigurationManagerConnection	Migration Source Configuration Manager Connection	Input	File	See the "File type property list" section following this table.	
SourceStorageSystem	Migration Source Storage System	Input	File	See the "File type property list" section following this table.	
SourceVolumesFilter	Migration Source Volume Filter	Input	File	See the "File type property list" section following this table.	
JoinFiltersBy	Join Filter By	Input	string	"and" or "or"	
SourceVolumes	Migration Source Volumes	Input	File	See the "File type property list" section following this table.	
TargetConfigurationManagerConnection	Migration Target Configuration Manager Connection	Input	File	See the "File type property list" section following this table.	
TargetStorageSystem	Migration Target Storage System	Input	File	See the "File type property list" section following this table.	

key Name	Explanation	Input/Output	Type	Range	Default value
Pool	Pool	Input	File	See the "File type property list" section following this table.	
LUN Starts from	Starting number of LUN	Input	integer	0-07FF	
ExistingOrCreateNewHostGroup	Existing or Create new Host Group	Input	string	Existing Host Group/iSCSI Target "Existing Host Group/iSCSI Target" or "New Host Group/iSCSI Target"	Existing Host Group/iSCSI Target
ExistingHostGroupsOrISCSITargets	Existing Host Groups or iSCSI Targets	Input	File	See the "File type property list" section following this table.	
PortType	Port Type	Input	string	"Fibre" or "iSCSI"	Fibre
HostGroupSettings	Host Group Settings which created new	Input	File	See the "File type property list" section following this table.	
ExistingOrCreateNewCopyGroup	Existing or Create new Copy Group	Input	string	"Existing Copy Group" or "New Copy Group"	Existing Copy Group
CopyGroupName	Copy Group Name	Input	string	Enter a maximum of 29 characters.	

key Name	Explanation	Input/Output	Type	Range	Default value
ExistingCopy Group	Existing Copy Group	Input	File	See the "File type property list" section following this table.	
CopyPairName	Copy Pair Name	Input	string	Enter a maximum of 26 characters.	Specify the new copy pair name to create using the following format: {Copy Pair Name}_{sequential number (for-digits)}. When you create one copy pair, sequential numbers are not added. When you create multiple copy pairs, the sequential numbers are added.
QuorumDiskId	Quorum Disk ID	Input	integer	0-1F	Must [^] [01][0-9A-Fa-f]\$.
PathGroupID	Path Group ID	Input	integer	0-FF	Must [^] [0-9A-Fa-f][0-9A-Fa-f]\$.
ConsistencyGroup	Consistency Group	Input	boolean	"true" or "false"	False
ConsistencyGroupID	Consistency Group ID	Input	integer	0-255	-
MuNumber	MU Number	Input	integer	-	-

key Name	Explanation	Input/Output	Type	Range	Default value
CopyPace	Copy Pace	Input	integer	1-15	3
PerformInitialCopy	Whether perform Initial Copy	Input	boolean	"true" or "false"	True

File type property list

Table 396 SourceConfigurationManagerConnection

Data nesting information	Explanation	Range
value		
productName	Product name to register to the Web Service Connection	"ConfigurationManager"
name	Name	-
ipAddress	IpAddress	-
Port	Port	-
protocol	Protocol	-
userID	UserID	-
status	Status of the connection	-
connectedTime	Connected time	-

Table 397 SourceStorageSystem

Data nesting information	Explanation	Range
value		
storageDeviceId	Storage Device ID	-
model	Model	-
serialNumber	Serial Number	-
svIp	SVP IP Address	-

Table 398 TargetConfigurationManagerConnection

Data nesting information		Explanation	Range
value			
	productName	Product name to register to the Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IpAddress	-
	Port	Port	-
	protocol	Protocol	-
	userID	UserID	-
	status	Status of the connection	-
	connectedTime	Connected time	-

Table 399 TargetStorageSystem

Data nesting information		Explanation	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 400 Pool

Data nesting information		Explanation	Range
value			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-

Data nesting information		Explanation	Range
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-
	numOfLdevs	Number of LDEVs	-

Table 401 ExistingHostGroupsOriSCSITargets

Data nesting information		Explanation	Range
value ¹			
	portId	Port ID	-
	storageDeviceId	Storage Device ID	-
	hostGroupId	Host Group ID	-
	hostGroupName	Host Group name	-
	iscsiName	iSCSI name	-
	hostMode	Host Mode	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Table 402 ExistingCopyGroup

Data nesting information		Explanation	Range
value			
	copyGroupName	Copy Group name	-
	muNumber	Mu number	-
	localDeviceGroupName	Local Device Group name	-
	remoteDeviceGroupName	Remote Device Group name	-

Table 403 SourceVolumesFilter

Data nesting information		Explanation	Range
value ¹			
	key	Key used by the source volume filter	"LDEV ID," "Label," or "Pool ID."
	operator	operator	When specifying "LDEV ID", use the following operators: "=", "<", ">", "<=", ">=", "!=". When specifying "Label", use the following operators: "=", "!=", "starts with", "ends with". When specifying "Pool ID", use the following operators: "=", "<", ">", "<=", ">=", "!=".
	value	value	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 404 SourceVolumes

Data nesting information		Explanation	Range
value ¹			
	storageDeviceId	Storage Device ID	-
	ldevId	LDEV ID	-
	label	Volume name	-
	byteFormatCapacity	Byte format capacity	-
	poolId	Pool ID	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 405 HostGroupSettings

Data nesting information		Explanation	Range
values ¹			
	port	Port	-
	wwnSettings ^{1, 2}	WWN Settings	
	wwn	WWN	Enter a maximum of 16 characters in hexadecimal format.
	wwnNickname	WWN Nickname	Enter a maximum of 64 characters.
	hostGroupName ³	Host Group name	Enter a maximum of 64 characters.
	iScsiSettings ^{1, 4}	iScsiSettings	-
	iScsiName	iSCSI name	Specify in iqn or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-,: -eui format: Specify 20 characters in hexadecimal.
	iScsiNickname	iSCSI Nickname	Enter a maximum of 32 characters.
	iScsiTargetName ⁵	iSCSI Target Name	Enter a maximum of 32 characters
	hostMode	Host Mode	Refer to "Values that can be specified in the hostmode parameter" in the Hitachi Command Suite CLI Reference Guide.
	hostModeOptions	Host Mode Options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the Hitachi Command Suite CLI Reference Guide.
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Data nesting information	Explanation	Range
<ol style="list-style-type: none"> 2. When "PortType" is "Fibre", you can specify WWN Settings. 3. When "PortType" is "Fibre", you can specify hostGroupName. 4. When "PortType" is "iSCSI", you can specify iSCSI Settings. 5. When "PortType" is "iSCSI", you can specify iSCSI Target Name. 		

Create high availability pair for migration (task details)

key Name	Explanation	Input/Output	Type	Range
PrimarySite_PrimaryVolumesLUNPathConfigurationInformation	Primary volumes LUN path configuration information for the primary site.	Output	File	See the "File type property list" section following this table.
SecondarySite_SecondaryVolumesLUNPathConfigurationInformation	Secondary volumes LUN path configuration information for the secondary site.	Output	File	See the "File type property list" section following this table.
CopyGroupConfigurationInformation	Copy group configuration information.	Output	File	See the "File type property list" section following this table.

File type property list

Table 406 PrimarySite_PrimaryVolumesLUNPathConfigurationInformation

Data nesting information	Explanation	Range
values ¹		
hostWWN	WWN/iSCSI name	-
storagePort	Storage port	-
lun	LUN	-

Data nesting information		Explanation	Range
	portType	Port type	-
	capacity	Capacity	-
	ldevId	LDEV ID	-
	hostGroupNameOrIscsiTarget	Host Group name/iSCSI target name	-
	model	Model	-
	serialNumber	Serial number	-
	ldevLabel	LDEV label	-
	virtualStorageMachineResourceGroup	Virtual Storage Machine resource group name	-
	virtualModel	Virtual model	-
	virtualSerialNumber	Virtual serial number	-
	configurationManager	Configuration manager	-
	poolId	Pool ID	-
	asymmetricAccessStatus	Asymmetric access status	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Table 407 SecondarySite_SecondaryVolumesLUNPathConfigurationInformation

Data nesting information		Explanation	Range
values ¹			
	hostWWN	WWN/iSCSI name	-
	storagePort	Storage port	-
	lun	LUN	-
	portType	Port type	-
	capacity	Capacity	-
	ldevId	LDEV ID	-
	hostGroupNameOrIscsiTarget	Host Group name/iSCSI target name	-

Data nesting information		Explanation	Range
	model	Model	-
	serialNumber	Serial number	-
	ldevLabel	LDEV label	-
	virtualStorageMachineResourceGroup Name	Virtual Storage Machine resource group name	-
	virtualModel	Virtual model	-
	virtualSerialNumber	Virtual serial number	-
	configurationManager	Configuration manager	-
	poolId	Pool ID	-
	asymmetricAccessStatus	Asymmetric access status	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Table 408 CopyGroupConfigurationInformation

Data nesting information		Explanation	Range
values			
	copyGroupName	Copy group name	-
	ctgId	Consistency group ID	-
	muNumber	MU number	-
	quorumDiskId	Quorum disk ID	-
	siteInformation ¹	Site information	-
	primaryOrSecondary	Primary/Secondary	-
	model	Model	-
	serialNumber	Serial number	-
	virtualStorageMachineResource GroupName	Virtual Storage Machine resource group name	-
	virtualModel	Virtual model	-
	virtualSerialNumber	Virtual serial number	-
	pathGroupId	Path group ID	-

Data nesting information		Explanation	Range
	configurationManager	Configuration Manager	-
	deletedCopyPairs ¹		-
	primaryModel	Primary model	-
	primarySerialNumber	Primary serial number	-
	secondaryModel	Secondary model	-
	secondarySerialNumber	Secondary serial number	-
	virtualStorageMachineResourceGroupName	Virtual Storage Machine resource group name	-
	virtualModel	Virtual model	-
	virtualSerialNumber	Virtual serial number	-
	primaryConfigurationManager	Primary Configuration Manager	-
	secondaryConfigurationManager	Secondary Configuration Manager	-
	copyPairName	Copy pair name	-
	copyPace	Copy pace	-
	fenceLevel	Fence level	-
	ldevId	LDEV ID	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Migrate data using high availability pair service properties

Use the following properties to modify or create values for the migrate data using high availability pair service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Migrate data using high availability pair (edit)

keyName	Explanation	Input/Output	Type	Range	Remark	Default Value
SourceConfigurationManagerConnection	Migration source configuration manager connection.	Input	File	See the "File type property list" section following this table.		
SourceStorageSystem	Migration source storage system.	Input	File	See the "File type property list" section following this table.		
SpecifyTargetBy	Specify target by.	Input	String	"Source Volume" or "Copy Group".		"Source Volume"
SourceVolumesFilter	Migration source volume filter.	Input	File	See the "File type property list" section following this table.		
JoinFiltersBy	Join filter by.	Input	String	"and" or "or".		"and"
SourceVolumes	Migration source volumes.	Input	File	See the "File type property list" section following this table.		

keyName	Explanation	Input/Output	Type	Range	Remark	Default Value
TargetConfigurationManagerConnection	Migration target configuration manager connection.	Input	File		See the "File type property list" section following this table.	
DeleteHostGroupOption	Delete the host.	Input	Boolean	True	Group or iSCSI target only when all the LUN paths are deleted.	
TargetStorageSystem	Migration target storage system.	Input	File		See the "File type property list" section following this table.	
CopyGroup	Copy group.	Input	File		See the "File type property list" section following this table.	

File Type property list

**Table 409 SourceConfigurationManagerConnection /
TargetConfigurationManagerConnection**

Data nesting information		Description	Range
values			
	productName	Product name for which you are registering the Web Service Connection	"ConfigurationManager "
	name	Name	-
	ipAddress	IP Address	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status of the connection	-
	connectedTime	Connected time	-

Table 410 SourceStorageSystem / TargetStorageSystem

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 411 SourceVolumesFilter

Data nesting information		Explanation	Range
value ¹			
	key	Key used by the source volume filter	"LDEV ID," "Label," or "Pool ID."

Data nesting information		Explanation	Range
	operator	operator	When specifying "LDEV ID", use the following operators: "=", "<", ">", "<=", ">=", "!=". When specifying "Label", use the following operators: "=", "!=", "starts with", "ends with". When specifying "Pool ID", use the following operators: "=", "<", ">", "<=", ">=", "!=".
	value	value	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 412 SourceVolumes

Data nesting information		Explanation	Range
value ¹			
	storageDeviceId	Storage Device ID	-
	ldevId	LDEV ID	-
	label	Volume name	-
	byteFormatCapacity	Byte format capacity	-
	poolId	Pool ID	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 413 CopyGroup

Data nesting information		Description	Range
value			
	copyGroupName	Copy group name	-

Data nesting information		Description	Range
	muNumber	MU number	-
	localDeviceGroupName	Local device group name	-
	remoteDeviceGroupName	Remote device group name	-

Migrate data using high availability pair (submit)

keyName	Explanation	Input/Output	Type	Range	Remark	Default Value
SourceConfigurationManagerConnection	Migration source configuration manager connection.	Input	File	See the "File type property list" section following this table.		
SourceStorageSystem	Migration source storage system.	Input	File	See the "File type property list" section following this table.		
SpecifyTargetBy	Specify target by.	Input	String	"Source Volume" or "Copy Group"		"Source Volume"
SourceVolumesFilter	Migration source volume filter.	Input	File	See the "File type property list" section following this table.		

keyName	Explanation	Input/Output	Type	Range	Remark	Default Value
JoinFiltersBy	Join filter by.	Input	String	"and" or "or"		"and"
SourceVolumes	Migration source volumes.	Input	File	See the "File type property list" section following this table.		
TargetConfigurationManagerConnection	Migration target configuration manager connection.	Input	File	See the "File type property list" section following this table.		
TargetStorageSystem	Migration target storage system.	Input	File	See the "File type property list" section following this table.		
CopyGroup	Copy group.	Input	File	See the "File type property list" section following this table.		

File Type property list

**Table 414 SourceConfigurationManagerConnection /
TargetConfigurationManagerConnection**

Data nesting information		Description	Range
values			
	productName	Product name for which you are registering the Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IP Address	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status of the connection	-
	connectedTime	Connected time	-

Table 415 SourceStorageSystem / TargetStorageSystem

Data nesting information		Description	Range
values			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 416 SourceVolumesFilter

Data nesting information		Explanation	Range
value ¹			
	key	Key used by the source volume filter	"LDEV ID," "Label," or "Pool ID."

Data nesting information		Explanation	Range
	operator	operator	When specifying "LDEV ID", use the following operators: "=", "<", ">", "<=", ">=", "!=". When specifying "Label", use the following operators: "=", "!=", "starts with", "ends with". When specifying "Pool ID", use the following operators: "=", "<", ">", "<=", ">=", "!=".
	value	value	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 417 SourceVolumes

Data nesting information		Explanation	Range
value ¹			
	storageDeviceId	Storage Device ID	-
	ldevId	LDEV ID	-
	label	Volume name	-
	byteFormatCapacity	Byte format capacity	-
	poolId	Pool ID	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 418 CopyGroup

Data nesting information		Description	Range
value			
	copyGroupName	Copy group name	-

Data nesting information		Description	Range
	muNumber	MU number	-
	localDeviceGroupName	Local device group name	-
	remoteDeviceGroupName	Remote device group name	-

Migrate data using high availability pair (task details)

key Name	Explanation	Input/Output	Type	Range
VolumeLUNPathConfigurationInformation	Volume LUN path configuration information.	Output	File	See the "File type property list" section following this table.
DeletedCopyPairsInformation	Deleted copy pairs information.	Output	File	See the "File type property list" section following this table.
DeletedHostGroupsInformation	Deleted host groups/iSCSI targets information.	Output	File	See the "File type property list" section following this table.

File type property list

Table 419 VolumeLUNPathConfigurationInformation

Data nesting information		Explanation	Range
values			
	primarySite	Primary site	-
	migrationSourceVolumes ¹	Migration source volumes	-
	hostWWN	WWN/iSCSI name	-
	storagePort	Storage port	-

Data nesting information			Explanation	Range
		lun	LUN	-
		portType	Port type	-
		capacity	Capacity	-
		ldevId	LDEV ID	-
		hostGroupNameOrIscsiTarget	Host group name/ iSCSI target name	-
		model	Model	-
		serialNumber	Serial number	-
		ldevLabel	LDEV label	-
		virtualStorageMachineResourceGroupName	Virtual Storage Machine resource group name	-
		virtualModel	Virtual model	-
		virtualSerialNumber	Virtual serial number	-
		configurationManager	Configuration Manager	-
		poolId	Pool ID	-
		asymmetricAccessStatus	Asymmetric access status	-
	otherVolumesBelongingToTheSameHostGroupAsMigrationSourceVolumes ¹		Other volumes belonging to the same host group as migration source volumes	-
		The same as migrationSourceVolumes		-
	secondarySite		Secondary site	-
	migrationTargetVolumes ¹		Migration target volumes	-
		The same as migrationSourceVolumes		-

Data nesting information			Explanation	Range
		otherVolumesBelongingToTheSameHostGroupAsMigrationTargetVolumes ¹	Other volumes belonging to the same Host Group as migration target volumes	-
		The same as migrationSourceVolumes		-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>				

Table 420 DeletedCopyPairsInformation

Data nesting information			Explanation	Range
values				
		copyGroupName	Copy group name	-
		ctgId	Consistency group ID	-
		muNumber	MU number	-
		quorumDiskId	Quorum disk ID	-
		siteInformation ¹	Site information	-
		primaryOrSecondary	Primary/Secondary	-
		model	Model	-
		serialNumber	Serial number	-
		virtualStorageMachineResourceGroupName	Virtual Storage Machine resource group name	-
		virtualModel	Virtual model	-
		virtualSerialNumber	Virtual serial number	-
		configurationManager	Configuration Manager	-
		deletedCopyPairs ¹		-
		primaryModel	Primary model	-
		primarySerialNumber	Primary serial number	-
		secondaryModel	Secondary model	-

Data nesting information		Explanation	Range
	secondarySerialNumber	Secondary serial number	-
	virtualStorageMachineResourceGroupName	Virtual Storage Machine resource group name	-
	virtualModel	Virtual model	-
	virtualSerialNumber	Virtual serial number	-
	primaryConfigurationManager	Primary Configuration Manager	-
	secondaryConfigurationManager	Secondary Configuration Manager	-
	copyPairName	Copy pair name	-
	copyPace	Copy pace	-
	fenceLevel	Fence level	-
	ldevId	LDEV ID	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Table 421 DeletedHostGroupsInformation

Data nesting information		Explanation	Range
value ¹			-
	hostGroupNameOrIScsiTargetName	Host Group name/iSCSI target name	-
	hostWWN	WWN/iSCSI name	-
	storagePort	Storage port	-
	portType	Port type	-
	hostMode	Host mode	-
	hostModeOptions	Host mode options	-
	hostGroupNumber	Host group number	-
	model	Model	-
	serialNumber	Serial number	-

Data nesting information	Explanation	Range
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Export VSM configuration information across sites service properties

Use the following properties to modify or create values for the export VSM configuration information across sites service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Export virtual storage machine configuration across sites (edit)

keyName	Explanation	Input/Output	Type
VirtualStorageMachine	Specifies information about the virtual storage machines to include when exporting configuration information.	Input	String
ReportOutputFilePath	Specifies the file path in which to output the configuration information report file.	Input	String

Export virtual storage machine configuration across sites (submit)

keyName	Explanation	Input/Output	Type
VirtualStorageMachine	Specifies information about the virtual storage machines to include when exporting configuration information.	Input	String

keyName	Explanation	Input/Output	Type
ReportOutputFilePath	Specifies the file path in which to output the configuration information report file.	Input	String

Export virtual storage machine configuration across sites (task details)

key Name	Explanation	Input/ Output	Type	Range
CreatedTime	Created time.	Output	String	-
VirtualStorageMachineOutput	Virtual storage machine output.	Output	String	-
PhysicalStorageMachines	Physical storage machines.	Output	File	See the "File type property list" section following this table.
ReservedVolumes	Reserved volumes.	Output	File	See the "File type property list" section following this table.
ReportOutputFilePathOut	Report output file path out.	Output	String	-

File type property list

Table 422 PhysicalStorageMachines

Data nesting information	Explanation	Range
value ¹		
storageDeviceId	Storage device ID	-
model	Model	-
serialNumber	Serial number	-
svplp	SVP IP	-

Data nesting information	Explanation	Range
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Table 423 Reserved volumes

Data nesting information	Explanation	Range
value ¹		
	ldevId	LDEV ID
	primaryStorageSystem	Primary storage system
	secondaryStorageSystem	Secondary storage system
	reservedStorageSystems	Reserved storage system
	highAvailabilityActivated	High availability activated
	primaryTargetHostGroups	Primary target host groups
	secondaryTargetHostGroups	Secondary target host groups
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Allocate Volumes with 2DC Remote Replication service properties

Use the following properties to modify or create values for the Allocate Volumes with 2DC Remote Replication service.

Allocate Volumes with 2DC Remote Replication service (edit)

KeyName	Type	Description	Range	Default Value
ConfigurationManagerConnection	File	Specify the Configuration Manager Connection for P-Vols.	See the following File type property list	-
StorageSystem	File	Specify the Storage System for P-Vols.	See the following File type property list	-
ResourceGroup	File	Specify the Resource Group for P-Vols.	See the following File type property list	-
Pool	File	Specify the pool for P-Vols.	See the following File type property list	-
CapacityFormat	String	Specify the volume capacity format as Byte or Block.	"Byte" or "Block"	"Byte"
VolumeSettings	File	Specify the parameters required to create new volumes for P-Vols.	See the following File type property list	-
ResourceCriteria	File	Specify the resource criteria.	See the following File type property list	-
PortType	String	Specify the port type as Fibre or iSCSI.	"Fibre" or "iSCSI"	"Fibre"

KeyName	Type	Description	Range	Default Value
HostGroupSettings	File	Specify the parameters required to create a new Host Group/ iSCSI Target or specify to use an existing Host Group/ iSCSI Target.	See the following File type property list	-
PrimaryFabricSettingEnabled	boolean	Specifying true enables fabric information collection functionality.	true or false	false
PrimaryConnectionNames	String	Specify the connection name defined in the Web Service Connections on the Administration Tab. Separate multiple values by commas. If this value is omitted, the system uses all connections that are defined for the product name listed in the Web Service Connections.	-	-
PrimaryFabricResourcegroups	String	Specify the switch management server resource group. Separate multiple values by commas.	-	"All"

KeyName	Type	Description	Range	Default Value
PrimaryTargetFabrics	String	Specify the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	-	-
PrimaryUsingExistingZone	boolean	Specifies whether to select a predefined zone or any connectable path. If you specify True, the system selects paths within the range of the existing Zone setting. If you specify False, the system selects connectable paths regardless of the existing Zone setting.	true or false	true
PrimaryFabricHintsRestriction	boolean	Determines whether the service will fail if there is no path that matches the specified collection range.	true or false	false

KeyName	Type	Description	Range	Default Value
PrimaryZoneSettingEnabled	boolean	Specify True to enable the modify zone settings functionality.	true or false	false
PrimaryUseExistingZoneAliases	boolean	Specify True to use predefined Zone Aliases regardless of the naming conventions the user specifies. If you specify False, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions.	true or false	false
PrimaryUpdateActiveZoneConfiguration	boolean	Specify True to add a Zone to the active Zone Configuration.	true or false	true

KeyName	Type	Description	Range	Default Value
PrimaryZoneConfigurationNameToUpdate	String	To add a zone to a Zone Configuration other than the active configuration, specify the name of the Zone Configuration in which to add the zone.	-	-
PrimaryNamingScriptZone	File	Specify the naming convention script that determines the Zone name for the path.	See the Script specifications below	-
PrimaryNamingScriptHostZoneAlias	File	Specify the naming convention script that determines the Zone Alias name for the host port.	See the Script specifications below	-
PrimaryNamingScriptStorageZoneAlias	File	Specify the zone information.	See the Script specifications below	-
SecondaryConfigurationManagerConnection	File	Specify the Configuration Manager Connection for S-Vols.	See the following File type property list	-
SecondaryStorageSystem	File	Specify the Storage System for S-Vols.	See the following File type property list	-
SecondaryResourceGroup	File	Specify the Resource Group for S-Vols.	See the following File type property list	-

KeyName	Type	Description	Range	Default Value
SecondaryPool	File	Specify the pool for S-Vols.	See the following File type property list	-
SecondaryVolumeSettings	File	Specify the parameters required to create new volumes for S-Vols.	See the following File type property list	-
SecondaryResourceCriteria	File	Specify the resource criteria.	See the following File type property list	-
SecondaryPortType	String	Specify the port type as Fibre or iSCSI.	"Fibre" or "iSCSI"	"Fibre"
SecondaryHostGroupSettings	File	Specify the parameters required to create a new Host Group/ iSCSI Target or specify to use an existing Host Group/ iSCSI Target.	See the following File type property list	-
SecondaryFabricSettingEnabled	boolean	Specifying true enables fabric information collection functionality.	true or false	false

KeyName	Type	Description	Range	Default Value
SecondaryConnectionNames	String	Specify the connection name defined in the Web Service Connections on the Administration Tab. Separate multiple values by commas. If this value is omitted, the system uses all connections that are defined for the product name listed in the Web Service Connections.	-	-
SecondaryFabricResourcegroups	String	Specify the switch management server resource group. Separate multiple values by commas.	-	"All"
SecondaryTargetFabrics	String	Specify the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	-	-

KeyName	Type	Description	Range	Default Value
SecondaryUsingExistingZone	boolean	Specifies whether to select a predefined zone or any connectable path. If you specify True, the system selects paths within the range of the existing Zone setting. If you specify False, the system selects connectable paths regardless of the existing Zone setting.	true or false	true
SecondaryFabricHopsRestriction	boolean	Determines whether the service will fail if there is no path that matches the specified collection range.	true or false	false
SecondaryZoneSettingEnabled	boolean	Specify True to enable the modify zone settings functionality.	true or false	false

KeyName	Type	Description	Range	Default Value
SecondaryUseExistingZoneAliases	boolean	Specify True to use predefined Zone Aliases regardless of the naming conventions the user specifies. If you specify False, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions.	true or false	false
SecondaryUpdateActiveZoneConfiguration	boolean	Specify True to add a Zone to the active Zone Configuration.	true or false	true
SecondaryZoneConfigurationNameToUpdate	String	To add a zone to a Zone Configuration other than the active configuration, specify the name of the Zone Configuration in which to add the zone.	-	-

KeyName	Type	Description	Range	Default Value
SecondaryNamingScriptZone	File	Specify the naming convention script that determines the Zone name for the path.	See the Script specifications below	-
SecondaryNamingScriptHostZoneAlias	File	Specify the naming convention script that determines the Zone Alias name for the host port.	See the Script specifications below	-
SecondaryNamingScriptStorageZoneAlias	File	Specify the zone information.	See the Script specifications below	-
ReplicationType	String	Specify the pair type.	"Synchronous Remote Clone" or "Asynchronous Remote Clone"	"Synchronous Remote Clone"
ExistingOrCreateNewCopyGroup	String	Specify whether to use an existing copy group or create a new one.	"New Copy Group" or "Existing Copy Group"	"New Copy Group"
CopyGroupName	String	Specify the name of the new copy group to create.	The length should be less than 29. The string should consist of the following character set. A-Z,a-z,0-9,-,.,:,@,_ A string beginning with '-' is not allowed.	-

KeyName	Type	Description	Range	Default Value
ExistingCopyGroup	File	Specify the existing copy group.	See the following File type property list	-
CopyPace	integer	Specify the copy speed. The larger value you specify the faster the copy speed will be.	1 to 15 (in dex)	3
FenceLevelForSync	String	Specify the fence level.	"NEVER" or "STATUS" or "DATA"	"DATA"
FenceLevelForAsync	String	Specify the fence level.	"ASYNC"	"ASYNC"
PrimaryJNLG	File	Specify the journal group of the primary volume.	See the following File type property list	-
SecondaryJNLG	File	Specify the journal group of the secondary volume.	See the following File type property list	-
UseTheNocopyOption	boolean	Specify whether to perform initial copy when creating a pair.	true or false	true
AssignCTG	boolean	Specify whether to register the new pairs in a consistency group.	true or false	true

KeyName	Type	Description	Range	Default Value
CTGIDSelection	String	Specify whether to select the consistency group ID automatically or manually.	"Auto Selection" or "Manual Selection"	"Auto Selection"
CTGID	String	Specify the consistency group ID by using a hexadecimal (base 16) number.	The range of selectable CTG ID is changed due to specified primary and secondary storage systems as below: <ul style="list-style-type: none"> ▪ VSP G200 0 to F (in hex) ▪ VSP G400, VSP G600, VSP F400, VSP F600, VSP N400, VSP N600 0 to 3F (in hex) 	

KeyName	Type	Description	Range	Default Value
			<ul style="list-style-type: none"> ▪ VSP G130, VSP G350, VSP G370, VSP G700, VSP F350, VSP F370, VSP F700, VSP G800, VSP F800, VSP N800 0 to 7F (in hex) ▪ VSP G900, VSP F900, VSP G1000, VSP G1500, VSP F1500 to FF (in hex) <p>When storage models are different between the primary and the secondary, narrower range take precedence.</p>	
MUNumberSelection	String	Specify whether to select the MU (mirror unit) number automatically or manually.	"Auto Selection" or "Manual Selection"	"Auto Selection"
MUNumber	String	Specify the MU (mirror unit) number by using a number from 0 to 3.	0 to 3	0

KeyName	Type	Description	Range	Default Value
PathGroupIDSelection	String	Specify whether to select the path group ID automatically or manually.	"Auto Selection" or "Manual Selection"	"Auto Selection"
PathGroupID	String	Specify the path group ID by using a hexadecimal (base 16) number in the range from 00 to FF.	00 to FF (in hex)	00
ReductionForceCopy	boolean	Specify whether to forcibly create a pair for the volume for which the capacity saving function (deduplication and compression) is enabled.	true or false	false

File type property list

Table 424 ConfigurationManagerConnection

Data nesting information		Description	Range
value			
	productName	Product name of registering to Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IpAddress	-
	port	Port	-
	protocol	Protocol	-
	userID	UserID	-

Data nesting information		Description	Range
	status	Status of the connection	-
	connectedTime	Connected time	-

Table 425 StorageSystem

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 426 ResourceGroup

Data nesting information		Description	Range
value			
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-

Table 427 Pool

Data nesting information		Description	Range
value			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-

Data nesting information		Description	Range
	numOfLdevs	Number of LDEVs	-

Table 428 VolumeSettings

Data nesting information		Description	Range
value ¹			
	volumeUsage	Volume Usage	A maximum of 64 characters can be entered. And the string should be consisted from only following character set. A-Z,a-z,0-9,~,!,@,#,\$,%,&,^(,),+,-,=, {,},[,],',,`
	numberOfVolumes	Number of Volumes	1-500
	ldevIdStartsFrom	LDEV ID Starts from	0-FFFFFF
	volumeCapacityInMiB ²	Volume Capacity	-
	blockCapacity ³	Volume Capacity	-
	volumeLabel	Volume Label	A maximum of 32 characters can be entered. And the string should be consisted from only following character set. A-Z,a-z,0-9,!,#,\$,%,&',(,),+,-,;,:,=@, [,],^,_,`{,}~,/\
	lunStartsFrom	LUN Starts From	0-07FF
	virtualLdevIdStartsFrom	Virtual LDEV ID Starts From	0-FEFF
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "CapacityFormat" is "Byte", volumeCapacityInMiB can be specified. 3. When "CapacityFormat" is "Block", blockCapacity can be specified. 			

Table 429 ResourceCriteria

Data nesting information		Description	Range
value ¹			

Data nesting information				Description	Range
	volumeUsage ²			Volume Usage	-
	storagePort Criteria			Storage Port Criteria	-
		expressions ¹		Condition	-
			name	Attribute	"Name"
			op	Operator Type	"Equals", "Not Equals", "Starts With", "Ends With"
			value	Value	-
		join		Join condition of the Expressions	"All", "Any"

1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.
 2. Select from volume usage specified in "Volume Settings".

Table 430 HostGroupSettings

Data nesting information		Description	Range
value ¹			
	hostGroupName	Host Group Name / iSCSI Target Alias	A maximum of 64 characters can be entered. And the string should be consisted from only following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,-,.,;,@,_,

Data nesting information		Description	Range
	iScsiTargetName ²		iSCSI Target Name Within 5 to 32 characters can be entered. And the string should be consisted from only following character set. a-z,0-9,,-,,: If you specify in eui format, specify 20 characters in hexadecimal.
	wwnSettings ^{1,3}		WWN Setting -
		wwn	WWN 16 characters in hexadecimal.
		wwnNickname	WWN Nickname A maximum of 64 characters can be entered. And the string should be consisted from only following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,-,.,:,@,_
	iScsiSettings ^{1,4}		iSCSI Setting -
		iScsiName	iSCSI Name Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,,-,,: - eui format: Specify 20 characters in hexadecimal.
		iScsiNickname	iSCSI Nickname A maximum of 32 characters can be entered. And the string should be consisted from only following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,-,.,:,@,_

Data nesting information		Description	Range
	hostMode ⁵	Host Mode	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"
	hostModeOptions ⁶	Host Mode Options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the Hitachi Command Suite CLI Reference Guide.
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "PortType" is "iSCSI", iScsiTargetName can be specified. 3. When "PortType" is "Fibre", wwnSettings can be specified. 4. When "PortType" is "iSCSI", iScsiSettings can be specified. 5. Refer to "Values that can be specified in the hostmode parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i>. 6. Refer to "Values that can be specified in the hostmodeoptions parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> 			

Table 431 SecondaryConfigurationManagerConnection

Data nesting information		Description	Range
value			
	productName	Product name of registering to Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IpAddress	-
	port	Port	-
	protocol	Protocol	-
	userID	UserID	-
	status	Status of the connection	-

Table 432 SecondaryStorageSystem

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 433 SecondaryResourceGroup

Data nesting information		Description	Range
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-

Table 434 SecondaryPool

Data nesting information		Description	Range
value			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-
	numOfLdevs	Number of LDEVs	-

Table 435 SecondaryVolumeSettings

Data nesting information		Description	Range
value ¹			

Data nesting information		Description	Range
	volumeUsage ²	Volume Usage	A maximum of 64 characters can be entered. And the string should be consisted from only following character set. A-Z,a-z,0-9,~,!,@,#,\$,%,&,^,&,(,),_,+,-,=,{,},[,],',,`
	ldevIdStartsFrom	LDEV ID Starts from	0-FFFFFF
	volumeLabel	Volume Label	A maximum of 32 characters can be entered. And the string should be consisted from only following character set. A-Z,a-z,0-9,!,#,\$,%,&',(,),+,-,=,@,[,],^,_,` ,{,},~,/\
	lunStartsFrom	LUN Starts From	0-07FF
	virtualLdevIdStartsFrom	Virtual LDEV ID Starts From	0-FEFF
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. Select from volume usages specified in Volume Settings". 			

Table 436 SecondaryResourceCriteria

Data nesting information			Description	Range
value ¹				
	volumeUsage ²		Volume Usage	-
	storagePortCriteria		Storage Port Criteria	-
		expressions ¹	Condition	-
		name	Attribute	"Name"
		op	Operator Type	"Equals", "Not Equals", "Starts With", "Ends With"
		value	Value	-

Data nesting information			Description	Range
		join	Join condition of the Expressions	"All", "Any"
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. Select from volume usage specified in "Volume Settings". 				

Table 437 SecondaryHostGroupSettings

Data nesting information			Description	Range
value ¹				
	hostGroupName		Host Group Name / iSCSI Target Alias	A maximum of 64 characters can be entered. And the string should be consisted from only following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,-,.,;,@,_
	iScsiTargetName ²		iSCSI Target Name	Within 5 to 32 characters can be entered. And the string should be consisted from only following character set. a-z,0-9,-,.,: If you specify in eui format, specify 20 characters in hexadecimal.
	wwnSettings ^{1, 3}		WWN Setting	-
		wwn	WWN	16 characters in hexadecimal.

Data nesting information		Description	Range
		wwnNickname	WWN Nickname A maximum of 64 characters can be entered. And the string should be consisted from only following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,-,.,;,@,_
	iScsiSettings ^{1,4}		iSCSI Setting -
		iScsiName	iSCSI Name Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,-,.,; - eui format: Specify 20 characters in hexadecimal.
		iScsiNickname	iSCSI Nickname A maximum of 32 characters can be entered. And the string should be consisted from only following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,-,.,;,@,_
	hostMode ⁵		Host Mode "HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"
	hostModeOptions ⁶		Host Mode Options Refer to "Values that can be specified in the hostmodeoptions parameter" in the Hitachi Command Suite CLI Reference Guide.
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "PortType" is "iSCSI", iScsiTargetName can be specified. 3. When "PortType" is "Fibre", wwnSettings can be specified. 4. When "PortType" is "iSCSI", iScsiSettings can be specified. 			

Data nesting information	Description	Range
5.	Refer to "Values that can be specified in the hostmode parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> .	
6.	Refer to "Values that can be specified in the hostmodeoptions parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i>	

Table 438 ExistingCopyGroup

Data nesting information	Description	Range
value		
copyGroupName	Copy Group Name	-
muNumber	MU Number	-
localDeviceGroupName	Local Device Group Name	-
remoteDeviceGroupName	Remote Device Group Name	-

Table 439 PrimaryJNLG

Data nesting information	Description	Range
value		
journalId	Journal ID	-
journalStatus	Status	-
byteFormatCapacity	Capacity	-

Table 440 SecondaryJNLG

Data nesting information	Description	Range
value		
journalId	Journal ID	-
journalStatus	Status	-
byteFormatCapacity	Capacity	-

Script specifications

Table 441 PrimaryNamingScriptZone

Script specifications	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument:</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage system. ▪ storageSystemName: Name of physical storage system on Configuration Manager. ▪ storageSystemSerialNumber: Serial number of physical storage system. ▪ storagePortName: Display port name of the storage system. ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-"). ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-"). ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-"). ▪ serviceProperties: List of the service properties passed to the plugin.
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters 4. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+_ ", "QOSMn+_ ", "QOSLn_" is not allowed (case ignored. "n" is number.)
Example	<pre>function nameZone(args) { var name = args.hostName; if (name === null !(typeof (name) == "string" name instanceof String)) { throw new Error(</pre>

Script specifications	Description
	<pre> "Host name must be a string or null: " + name); } name = name.replace(/^[A-Za-z0-9_]/g, '_'); var wwn = args.hostPortWorldWideName; if (wwn === null !(typeof (wwn) == "string" wwn instanceof String)) { throw new Error("Host port WWN must be a string: " + wwn); } name = name + '_' + wwn.replace(/:/g, '').slice(-4); if (name.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must start with a alphabet: " + name); } var SERVERALIAS = name; var serial = args.storageSystemSerialNumber; if (serial === null !(typeof (serial) == "string" serial instanceof String)) { throw new Error("Storage System Serial Number must be a string: " + serial); } name = args.storageSystemName; if (name) { if (!(typeof (name) == "string" name instanceof String)) { throw new Error("Storage System name must be a string or undefined: " + name); } name = name + '_' + serial.replace(/:/g, '').slice(-4); } else { name = 'SN' + serial; } name = name.replace(/^[A-Za-z0-9_]/g, '_'); var PortName = args.storagePortName; if (PortName === null !(typeof (PortName) == "string" PortName instanceof String)) { throw new Error("Port Name must be a string: " + PortName); } PortName = PortName.replace(/^[A-Za-z0-9_]/g, '_'); name = name + '_' + PortName; if (name.length > 64) { throw new Error("Zone alias name must be within 64 characters: " </pre>

Script specifications	Description
	<pre> + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must start with a alphabet: " + name); } var ARRAYALIAS = name; var name1 = SERVERALIAS + '_' + ARRAYALIAS; if (name1.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name1); } if (/^[A-Z]/i.test(name1) === false) { throw new Error("Zone alias name must start with a alphabet: " + name1); } return name1; } </pre>

Table 442 PrimaryNamingScriptHostZoneAlias

Script specifications	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument:</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage system. ▪ storageSystemName: Name of physical storage system on Configuration Manager. ▪ storageSystemSerialNumber: Serial number of physical storage system. ▪ storagePortName: Display port name of the storage system.

Script specifications	Description
	<ul style="list-style-type: none"> ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-"). ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-"). ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-"). ▪ serviceProperties: List of the service properties passed to the plug-in.
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters 4. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+_", "QOSMn+_", "QOSLn_" is not allowed (case ignored. "n" is number.)
Example	<pre>function nameHostZoneAlias(args) { var name = args.hostName; if (name === null !(typeof (name) == "string" name instanceof String)) { throw new Error("Host name must be a string: " + name); } name = name.replace(/[^A-Za-z0-9_]/g, '_'); var wwn = args.hostPortWorldWideName; if (wwn === null !(typeof (wwn) == "string" wwn instanceof String)) { throw new Error("Host port WWN must be a string: " + wwn); } name = name + '_' + wwn.replace(/:/g, '').slice(-4); if (name.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must start with a alphabet: " + name); } return name; }</pre>

Table 443 PrimaryNamingScriptStorageZoneAlias

Script specifications	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument:</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage system. ▪ storageSystemName: Name of physical storage system on Configuration Manager. ▪ storageSystemSerialNumber: Serial number of physical storage system. ▪ storagePortName: Display port name of the storage system. ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-"). ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-"). ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-"). ▪ serviceProperties: List of the service properties passed to the plugin.
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters 4. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+_", "QOSMn+_", "QOSLn_" is not allowed (case ignored. "n" is number.)
Example	<pre>function nameStorageZoneAlias(args) { var name = args.storageSystemName; if (name) { if (!(typeof (name) == "string" name instanceof String)) { throw new Error(</pre>

Script specifications	Description
	<pre> "Storage system name must be a string or null: " + name); } name = name.replace(/[^A-Za-z0-9_]/g, '_'); } var serial = args.storageSystemSerialNumber; if (serial === null !(typeof (serial) == "string" serial instanceof String)) { throw new Error("Storage System Serial Number must be a string: " + serial); } var PortName = args.storagePortName; if (PortName === null !(typeof (PortName) == "string" PortName instanceof String)) { throw new Error("Port Name must be a string: " + PortName); } PortName = PortName.replace(/[^A-Za-z0-9_]/g, '_'); if (name) { name = name + '_' + serial.replace(/:/g, '').slice(-4) + '_' + PortName; } else { name = 'SN' + serial.replace(/:/g, '') + '_' + PortName; } if (name.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must start with a alphabet: " + name); } return name; } </pre>

Table 444 SecondaryNamingScriptZone

Script specifications	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.

Script specifications	Description
arguments	<p>arguments[0]: The object with the following properties is passed as an argument:</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage system. ▪ storageSystemName: Name of physical storage system on Configuration Manager. ▪ storageSystemSerialNumber: Serial number of physical storage system. ▪ storagePortName: Display port name of the storage system. ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-"). ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-"). ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-"). ▪ serviceProperties: List of the service properties passed to the plugin.
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters 4. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+", "QOSMn+", "QOSLn_" is not allowed (case ignored. "n" is number.)
Example	<pre>function nameZone(args) { var name = args.hostName; if (name === null !(typeof (name) == "string" name instanceof String)) { throw new Error("Host name must be a string or null: " + name); } name = name.replace(/[^A-Za-z0-9_]/g, '_'); var wwn = args.hostPortWorldWideName; if (wwn === null !(typeof (wwn) == "string" wwn</pre>

Script specifications	Description
	<pre>instanceof String)) { throw new Error("Host port WWN must be a string: " + wwn); } name = name + '_' + wwn.replace(/:/g, '').slice(-4); if (name.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must start with a alphabet: " + name); } var SERVERALIAS = name; var serial = args.storageSystemSerialNumber; if (serial === null !(typeof (serial) == "string" serial instanceof String)) { throw new Error("Storage System Serial Number must be a string: " + serial); } name = args.storageSystemName; if (name) { if (!(typeof (name) == "string" name instanceof String)) { throw new Error("Storage System name must be a string or undefined: " + name); } name = name + '_' + serial.replace(/:/g, '').slice(-4); } else { name = 'SN' + serial; } name = name.replace(/^[A-Za-z0-9_]/g, '_'); var PortName = args.storagePortName; if (PortName === null !(typeof (PortName) == "string" PortName instanceof String)) { throw new Error("Port Name must be a string: " + PortName); } PortName = PortName.replace(/^[A-Za-z0-9_]/g, '_'); name = name + '_' + PortName; if (name.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must start with a alphabet: " + name); }</pre>

Script specifications	Description
	<pre> var ARRAYALIAS = name; var name1 = SERVERALIAS + '_' + ARRAYALIAS; if (name1.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name1); } if (/^[A-Z]/i.test(name1) === false) { throw new Error("Zone alias name must start with a alphabet: " + name1); } return name1; } </pre>

Table 445 SecondaryNamingScriptHostZoneAlias

Script specifications	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument:</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage system. ▪ storageSystemName: Name of physical storage system on Configuration Manager. ▪ storageSystemSerialNumber: Serial number of physical storage system. ▪ storagePortName: Display port name of the storage system. ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-"). ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-").

Script specifications	Description
	<ul style="list-style-type: none"> ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-"). ▪ serviceProperties: List of the service properties passed to the plugin.
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters 4. About Zone, the string starting from "LSAN_", "TL_", "QOSHn+", "QOSMn+", "QOSLn_" is not allowed (case ignored. "n" is number.)
Example	<pre>function nameHostZoneAlias(args) { var name = args.hostName; if (name === null !(typeof (name) == "string" name instanceof String)) { throw new Error("Host name must be a string: " + name); } name = name.replace(/[^A-Za-z0-9_]/g, '_'); var wwn = args.hostPortWorldWideName; if (wwn === null !(typeof (wwn) == "string" wwn instanceof String)) { throw new Error("Host port WWN must be a string: " + wwn); } name = name + '_' + wwn.replace(/:/g, '').slice(-4); if (name.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must start with a alphabet: " + name); } return name; }</pre>

Table 446 SecondaryNamingScriptStorageZoneAlias

Script specifications	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.

Script specifications	Description
arguments	<p>arguments[0]: The object with the following properties is passed as an argument:</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage system. ▪ storageSystemName: Name of physical storage system on Configuration Manager. ▪ storageSystemSerialNumber: Serial number of physical storage system. ▪ storagePortName: Display port name of the storage system. ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-"). ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-"). ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-"). ▪ serviceProperties: List of the service properties passed to the plugin.
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters 4. About Zone, the string starting from "LSAN_", "TI_", "QOSHn+_", "QOSMn+_", "QOSLn_" is not allowed (case ignored. "n" is number.)
Example	<pre>function nameStorageZoneAlias(args) { var name = args.storageSystemName; if (name) { if (!(typeof (name) == "string" name instanceof String)) { throw new Error("Storage system name must be a string or null: " + name); } name = name.replace(/[^A-Za-z0-9_]/g, '_'); } }</pre>

Script specifications	Description
	<pre> var serial = args.storageSystemSerialNumber; if (serial === null !(typeof (serial) == "string" serial instanceof String)) { throw new Error("Storage System Serial Number must be a string: " + serial); } var PortName = args.storagePortName; if (PortName === null !(typeof (PortName) == "string" PortName instanceof String)) { throw new Error("Port Name must be a string: " + PortName); } PortName = PortName.replace(/[^A-Za-z0-9_]/g, '_'); if (name) { name = name + '_' + serial.replace(/:/g, '').slice(-4) + '_' + PortName; } else { name = 'SN' + serial.replace(/:/g, '') + '_' + PortName; } if (name.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must start with a alphabet: " + name); } return name; } </pre>

Allocate Volumes with 2DC Remote Replication service (submit)

KeyName	Type	Description	Range	Default Value
ConfigurationManagerConnection	File	Specify the Configuration Manager Connection for P-Vols.	See the following File type property list	-
StorageSystem	File	Specify the Storage System for P-Vols.	See the following File type property list	-

KeyName	Type	Description	Range	Default Value
ResourceGroup	File	Specify the Resource Group for P-Vols.	See the following File type property list	-
Pool	File	Specify the pool for P-Vols.	See the following File type property list	-
CapacityFormat	String	Specify the volume capacity format as Byte or Block.	"Byte" or "Block"	"Byte"
VolumeSettings	File	Specify the parameters required to create new volumes for P-Vols.	See the following File type property list	-
ResourceCriteria	File	Specify the resource criteria.	See the following File type property list	-
PortType	String	Specify the port type as Fibre or iSCSI.	"Fibre" or "iSCSI"	"Fibre"
HostGroupSettings	File	Specify the parameters required to create a new Host Group/ iSCSI Target or specify to use an existing Host Group/ iSCSI Target.	See the following File type property list	-
SecondaryConfigurationManagerConnection	File	Specify the Configuration Manager Connection for S-Vols.	See the following File type property list	-

KeyName	Type	Description	Range	Default Value
SecondaryStorageSystem	File	Specify the Storage System for S-Vols.	See the following File type property list	-
SecondaryResourceGroup	File	Specify the Resource Group for S-Vols.	See the following File type property list	-
SecondaryPool	File	Specify the pool for S-Vols.	See the following File type property list	-
SecondaryVolumeSettings	File	Specify the parameters required to create new volumes for S-Vols.	See the following File type property list	-
SecondaryResourceCriteria	File	Specify the resource criteria.	See the following File type property list	-
SecondaryPortType	String	Specify the port type as Fibre or iSCSI.	"Fibre" or "iSCSI"	"Fibre"
SecondaryHostGroupSettings	File	Specify the parameters required to create a new Host Group/ iSCSI Target or specify to use an existing Host Group/ iSCSI Target.	See the following File type property list	-
ReplicationType	String	Specify the pair type.	"Synchronous Remote Clone" or "Asynchronous Remote Clone"	"Synchronous Remote Clone"

KeyName	Type	Description	Range	Default Value
ExistingOrCreateNewCopyGroup	String	Specify whether to use an existing copy group or create a new one.	"New Copy Group" or "Existing Copy Group"	"New Copy Group"
CopyGroupName	String	Specify the name of the new copy group to create.	The length should be less than 29. And the String should be consisted from only following character set. A String starts from '-' is not allowed. A-Z,a-z,0-9,-,.,:,@,_	-
ExistingCopyGroup	File	Specify the existing copy group.	See the following File type property list	-
CopyPace	integer	Specify the copy speed. The larger value you specify the faster the copy speed will be.	1 to 15 (in dex)	3
FenceLevelForSync	String	Specify the fence level.	"NEVER" or "STATUS" or "DATA"	"DATA"
FenceLevelForAsync	String	Specify the fence level.	"ASYNC"	"ASYNC"
PrimaryJNLG	File	Specify the journal group of the primary volume.	See the following File type property list	-

KeyName	Type	Description	Range	Default Value
SecondaryJNLG	File	Specify the journal group of the secondary volume.	See the following File type property list	-
UseTheNocopy Option	boolean	Specify whether to perform initial copy when creating a pair.	true or false	true
AssignCTG	boolean	Specify whether to register the new pairs in a consistency group.	true or false	true
CTGIDSelection	String	Specify whether to select the consistency group ID automatically or manually.	"Auto Selection" or "Manual Selection"	"Auto Selection"
CTGID	String	Specify the consistency group ID by using a hexadecimal (base 16) number.	The range of selectable CTG ID is changed due to specified primary and secondary storage systems as below: <ul style="list-style-type: none"> ▪ VSP G200 0 to F (in hex) ▪ VSP G400, VSP G600, VSP F400, VSP F600, VSP N400, VSP N600 0 to 3F (in hex) 	

KeyName	Type	Description	Range	Default Value
			<ul style="list-style-type: none"> ▪ VSP G130, VSP G350, VSP G370, VSP G700, VSP F350, VSP F370, VSP F700, VSP G800, VSP F800, VSP N800 0 to 7F (in hex) ▪ VSP G900, VSP F900, VSP G1000, VSP G1500, VSP F1500 to FF (in hex) <p>When storage models are different between the primary and the secondary, narrower range take precedence.</p>	
MUNumberSelection	String	Specify whether to select the MU (mirror unit) number automatically or manually.	"Auto Selection" or "Manual Selection"	"Auto Selection"
MUNumber	String	Specify the MU (mirror unit) number by using a number from 0 to 3.	0 to 3	0

KeyName	Type	Description	Range	Default Value
PathGroupIDSelection	String	Specify whether to select the path group ID automatically or manually.	"Auto Selection" or "Manual Selection"	"Auto Selection"
PathGroupID	String	Specify the path group ID by using a hexadecimal (base 16) number in the range from 00 to FF.	00 to FF (in hex)	00
ReductionForceCopy	boolean	Specify whether to forcibly create a pair for the volume for which the capacity saving function (deduplication and compression) is enabled.	true or false	false

File type property list

Table 447 ConfigurationManagerConnection

Data nesting information		Description	Range
value			
	productName	Product name of registering to Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IpAddress	-
	port	Port	-
	protocol	Protocol	-
	userID	UserID	-

Data nesting information		Description	Range
	status	Status of the connection	-
	connectedTime	Connected time	-

Table 448 StorageSystem

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 449 ResourceGroup

Data nesting information		Description	Range
value			
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-

Table 450 Pool

Data nesting information		Description	Range
value			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-

Data nesting information		Description	Range
	numOfLdevs	Number of LDEVs	-

Table 451 VolumeSettings

Data nesting information		Description	Range
value ¹			
	volumeUsage	Volume Usage	A maximum of 64 characters can be entered. And the string should be consisted from only following character set. A-Z,a-z,0-9,~,!,@,#,\$,%,&,^(,),_+,;=, {,},[,],',,`
	numberOfVolumes	Number of Volumes	1-500
	ldevIdStartsFrom	LDEV ID Starts from	0-FFFFFF
	volumeCapacityInMiB ²	Volume Capacity	-
	blockCapacity ³	Volume Capacity	-
	volumeLabel	Volume Label	A maximum of 32 characters can be entered. And the string should be consisted from only following character set. A-Z,a-z,0-9,!,#,\$,%,&',(,),+,:;=,@, [,],^,_,\, {,},~,/\
	lunStartsFrom	LUN Starts From	0-07FF
	virtualLdevIdStartsFrom	Virtual LDEV ID Starts From	0-FEFF
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "CapacityFormat" is "Byte", volumeCapacityInMiB can be specified. 3. When "CapacityFormat" is "Block", blockCapacity can be specified. 			

Table 452 ResourceCriteria

Data nesting information		Description	Range
value ¹			

Data nesting information				Description	Range
	volumeUsage ²			Volume Usage	-
	storagePortCriteria			Storage Port Criteria	-
		expressions ¹		Condition	-
			name	Attribute	"Name"
			op	Operator Type	"Equals", "Not Equals", "Starts With", "Ends With"
			value	Value	-
		join		Join condition of the Expressions	"All", "Any"

1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.
 2. Select from volume usage specified in "Volume Settings".

Table 453 HostGroupSettings

Data nesting information		Description	Range
value ¹			
	hostGroupName	Host Group Name / iSCSI Target Alias	The length should be less than 29. The string should consist of the following character set. A-Z,a-z,0-9,-,.,:,@,_ A string beginning with '-' is not allowed.

Data nesting information		Description	Range
	iScsiTargetName ²		iSCSI Target Name Within 5 to 32 characters can be entered. And the string should be consisted from only following character set. a-z,0-9,.,-,: If you specify in eui format, specify 20 characters in hexadecimal.
	wwnSettings ^{1, 3}		WWN Setting -
		wwn	WWN 16 characters in hexadecimal.
		wwnNickname	WWN Nickname A maximum of 64 characters can be entered. And the string should be consisted from only following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,-,.,:,@,_
	iScsiSettings ^{1,4}		iSCSI Setting -
		iScsiName	iSCSI Name Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-,: - eui format: Specify 20 characters in hexadecimal.
		iScsiNickname	iSCSI Nickname A maximum of 32 characters can be entered. And the string should be consisted from only following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,-,.,:,@,_

Data nesting information		Description	Range
	hostMode ⁵	Host Mode	"HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"
	hostModeOptions ⁶	Host Mode Options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the Hitachi Command Suite CLI Reference Guide.
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "PortType" is "iSCSI", iScsiTargetName can be specified. 3. When "PortType" is "Fibre", wwnSettings can be specified. 4. When "PortType" is "iSCSI", iScsiSettings can be specified. 5. Refer to "Values that can be specified in the hostmode parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i>. 6. Refer to "Values that can be specified in the hostmodeoptions parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> 			

Table 454 SecondaryConfigurationManagerConnection

Data nesting information		Description	Range
value			
	productName	Product name of registering to Web Service Connection	"ConfigurationManager"
	name	Name	-
	ipAddress	IpAddress	-
	port	Port	-
	protocol	Protocol	-
	userID	UserID	-
	status	Status of the connection	-

Table 455 SecondaryStorageSystem

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-

Table 456 SecondaryResourceGroup

Data nesting information		Description	Range
	resourceGroupId	Resource Group ID	-
	resourceGroupName	Resource Group Name	-
	virtualStorageId	Virtual Storage System ID	-

Table 457 SecondaryPool

Data nesting information		Description	Range
value			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-
	numOfLdevs	Number of LDEVs	-

Table 458 SecondaryVolumeSettings

Data nesting information		Description	Range
value ¹			

Data nesting information		Description	Range
	volumeUsage ²	Volume Usage	A maximum of 64 characters can be entered. And the string should be consisted from only following character set. A-Z,a-z,0-9,~,!,@,#,\$,%^,&,(,),_,+,-,=,{,},[,],',,`
	ldevIdStartsFrom	LDEV ID Starts from	0-FFFFFF
	volumeLabel	Volume Label	A maximum of 32 characters can be entered. And the string should be consisted from only following character set. A-Z,a-z,0-9,!,#,\$,%&'(,),+,-,;=@, [,],^,_,` ,{,},~,/\
	lunStartsFrom	LUN Starts From	0-07FF
	virtualLdevIdStartsFrom	Virtual LDEV ID Starts From	0-FEFF
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. Select from volume usages specified in Volume Settings". 			

Table 459 SecondaryResourceCriteria

Data nesting information			Description	Range
value ¹				
	volumeUsage ²		Volume Usage	-
	storagePortCriteria		Storage Port Criteria	-
		expressions ¹	Condition	-
		name	Attribute	"Name"
		op	Operator Type	"Equals", "Not Equals", "Starts With", "Ends With"
		value	Value	-

Data nesting information			Description	Range
		join	Join condition of the Expressions	"All", "Any"
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. Select from volume usage specified in "Volume Settings". 				

Table 460 SecondaryHostGroupSettings

Data nesting information			Description	Range
value ¹				
	hostGroupName		Host Group Name / iSCSI Target Alias	A maximum of 64 characters can be entered. And the string should be consisted from only following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,-,.,:,@,_
	iScsiTargetName ²		iSCSI Target Name	Within 5 to 32 characters can be entered. And the string should be consisted from only following character set. a-z,0-9,-,.,: If you specify in eui format, specify 20 characters in hexadecimal.
	wwnSettings ^{1, 3}		WWN Setting	-
		wwn	WWN	16 characters in hexadecimal.

Data nesting information		Description	Range
		wwnNickname	WWN Nickname A maximum of 64 characters can be entered. And the string should be consisted from only following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,-,.,;,@,_,
	iScsiSettings ^{1,4}		iSCSI Setting -
		iScsiName	iSCSI Name Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,-,.,; - eui format: Specify 20 characters in hexadecimal.
		iScsiNickname	iSCSI Nickname A maximum of 32 characters can be entered. And the string should be consisted from only following character set. A string starts from '-' is not allowed. A-Z,a-z,0-9,-,.,;,@,_,
	hostMode ⁵		Host Mode "HP-UX", "SOLARIS", "AIX", "WIN", "LINUX/IRIX", "TRU64", "OVMS", "NETWARE", "VMWARE", "VMWARE_EX", "WIN_EX"
	hostModeOptions ⁶		Host Mode Options Refer to "Values that can be specified in the hostmodeoptions parameter" in the Hitachi Command Suite CLI Reference Guide.
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "PortType" is "iSCSI", iScsiTargetName can be specified. 3. When "PortType" is "Fibre", wwnSettings can be specified. 4. When "PortType" is "iSCSI", iScsiSettings can be specified. 			

Data nesting information	Description	Range
5.	Refer to "Values that can be specified in the hostmode parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i> .	
6.	Refer to "Values that can be specified in the hostmodeoptions parameter" in the <i>Hitachi Command Suite CLI Reference Guide</i>	

Table 461 ExistingCopyGroup

Data nesting information	Description	Range
value		
copyGroupName	Copy Group Name	-
muNumber	MU Number	-
localDeviceGroupName	Local Device Group Name	-
remoteDeviceGroupName	Remote Device Group Name	-

Table 462 PrimaryJNLG

Data nesting information	Description	Range
value		
journalId	Journal ID	-
journalStatus	Status	-
byteFormatCapacity	Capacity	-

Table 463 SecondaryJNLG

Data nesting information	Description	Range
value		
journalId	Journal ID	-
journalStatus	Status	-
byteFormatCapacity	Capacity	-

Allocate Volumes with 2DC Remote Replication (task details)

KeyName	Type	Description	Range
LUNPathConfigurationInformation	File	Stores the allocated LUN path information from the volume allocation results.	See the following File type property list
SecondaryVolumeLUNPathConfigurationInformation	File	Stores the allocated LUN path information from the volume allocation results.	See the following File type property list
CopyPairConfigurationInformation	File	Stores the allocated LUN path information from the volume allocation results.	See the following File type property list
/ExecuteZoningConfigurationPvol/ ExecutePvolZoningConfiguration/ ConfigureWWNZoningPvol/ provisioning.taskResult.createdZoneConfigurations	File	List of newly created zone configurations	See the following File type property list
/ExecuteZoningConfigurationPvol/ ExecutePvolZoningConfiguration/ ConfigureWWNZoningPvol/ provisioning.taskResult.createdZones	File	List of newly created zone.	See the following File type property list
/ExecuteZoningConfigurationPvol/ ExecutePvolZoningConfiguration/ ConfigureWWNZoningPvol/ provisioning.taskResult.createdZoneAliases	File	List of newly created zone aliases.	See the following File type property list

KeyName	Type	Description	Range
/ExecuteZoningConfigurationPvol/ ExecutePvolZoningConfiguration/ ConfigureWWNZoningPvol/ provisioning.taskResult.updatedZoneConfigurations	File	List of zone configurations where the settings were updated.	See the following File type property list
/ExecuteZoningConfigurationPvol/ ExecutePvolZoningConfiguration/ ConfigureWWNZoningPvol/ provisioning.taskResult.updatedZones	File	List of zones where the settings were updated.	See the following File type property list
/ExecuteZoningConfigurationPvol/ ExecutePvolZoningConfiguration/ ConfigureWWNZoningPvol/ provisioning.taskResult.updatedZoneAliases	File	List of zone aliases where the settings were updated	See the following File type property list
/ExecuteZoningConfigurationSvol/ ExecuteSvolZoningConfiguration/ ConfigureWwnZoningSvol/ provisioning.taskResult.createdZoneConfigurations	File	List of newly created zone configurations	See the following File type property list
/ExecuteZoningConfigurationSvol/ ExecuteSvolZoningConfiguration/ ConfigureWwnZoningSvol/ provisioning.taskResult.createdZones	File	List of newly created zone.	See the following File type property list
/ExecuteZoningConfigurationSvol/ ExecuteSvolZoningConfiguration/ ConfigureWwnZoningSvol/ provisioning.taskResult.createdZoneAliases	File	List of newly created zone aliases.	See the following File type property list
/ExecuteZoningConfigurationSvol/ ExecuteSvolZoningConfiguration/ ConfigureWwnZoningSvol/ provisioning.taskResult.updatedZoneConfigurations	File	List of zone configurations where the settings were updated.	See the following File type property list
/ExecuteZoningConfigurationSvol/ ExecuteSvolZoningConfiguration/ ConfigureWwnZoningSvol/ provisioning.taskResult.updatedZones	File	List of zones where the settings were updated.	See the following File type property list

KeyName	Type	Description	Range
/ExecuteZoningConfigurationSvol/ ExecuteSvolZoningConfiguration/ ConfigureWwnZoningSvol/ provisioning.taskResult.updatedZoneAliases	File	List of zone aliases where the settings were updated	See the following File type property list

File type property list

Table 464 LUNPathConfigurationInformation

Data nesting information		Description	Range
value ¹			
	storageDeviceId	Storage Device ID	-
	volumeUsage	Volume Usage	-
	hostPort	Host Port	-
	storagePort	Storage Port	-
	lun	LUN	-
	portType	Port Type	-
	capacity	Capacity	-
	provisionedCapacity	Provisioned Capacity	-
	ldevId	LDEV ID	-
	hostGroupNameOrIscsiTarget	Host Group Name/iSCSI Target	-
	hostGroupNumber	Host Group Number	-
	hostMode	Host Mode	-
	hostModeOptions	Host Mode Options	-
	model	Model	-
	serialNumber	Serial Number	-
	ldevLabel	LDEV Label	-
	virtualStorageMachineResourceGroupName	Resource Group in Virtual Storage System	-
	parityGroup	Parity Group	-

Data nesting information		Description	Range
	attributes	Attributes	-
	resourceGroupName	Resource Group Name	-
	virtualLdevId	Virtual LDEV ID	-
	configurationManager	Configuration Manager	-
	poolId	Pool ID	-
	poolName	Pool Name	-
	asymmetricAccessStatus	ALUA Settings	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 465 SecondaryVolumeLUNPathConfigurationInformation

Data nesting information		Description	Range
value ¹			
	storageDeviceId	Storage Device ID	-
	volumeUsage	Volume Usage	-
	hostPort	Host Port	-
	storagePort	Storage Port	-
	lun	LUN	-
	portType	Port Type	-
	capacity	Capacity	-
	provisionedCapacity	Provisioned Capacity	-
	ldevId	LDEV ID	-
	hostGroupNameOrIscsiTarget	Host Group Name/iSCSI Target	-
	hostGroupNumber	Host Group Number	-
	hostMode	Host Mode	-
	hostModeOptions	Host Mode Options	-
	model	Model	-

Data nesting information		Description	Range
	serialNumber	Serial Number	-
	ldevLabel	LDEV Label	-
	virtualStorageMachineResourceGroupName	Resource Group in Virtual Storage System	-
	parityGroup	Parity Group	-
	attributes	Attributes	-
	resourceGroupName	Resource Group Name	-
	virtualLdevId	Virtual LDEV ID	-
	configurationManager	Configuration Manager	-
	poolId	Pool ID	-
	poolName	Pool Name	-
	asymmetricAccessStatus	ALUA Settings	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 466 CopyPairConfigurationInformation

Data nesting information		Description	Range
value ¹			
	copyType	Copy Type	-
	copyGroupName	Copy Group name	-
	volumeUsage	Target host port which primary volume has allocated to.	-
	copyPairName	Target host port which secondary volume has allocated to.	-
	pvolLdevId	Volume Usage name	-
	pvolVirtualLdevId		-
	localStorageSystemModel		-
	localStorageSystemSerialNumber		-
	localResourceGroupName		-

Data nesting information		Description	Range
	svolLdevId	Copy Pair Name	-
	svolVirtualLdevId	LDEV ID of P-Vol	-
	remoteStorageSystemModel	LDEV ID of S-Vol	-
	remoteStorageSystemSerialNumber		-
	remoteResourceGroupName	Storage Array name	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Table 467 /ExecuteZoningConfigurationPvol/ExecutePvolZoningConfiguration/ConfigureWWNZoningPvol/provisioning.taskResult.zoneConfiguration

Data nesting information		Explanation	Range
values ^{1,2}		List of newly created Zone Configuration	-
	name ²	Name of newly created Zone Configuration name	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	zoneNames ^{1,2}	Zone to add to the created Zone Configuration	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 468 /ExecuteZoningConfigurationPvol/ExecutePvolZoningConfiguration/ConfigureWWNZoningPvol/provisioning.taskResult.createdZones

Data nesting information		Explanation	Range
values ^{1,2}		List of newly created zone	
	name ²	Name of newly created zone	-
	bnaname ²	Name of BNA that manages the settings	-

Data nesting information		Explanation	Range
	fabricName ²	Name of Fabric where the settings exist	-
	Zone Alias to add to the created Zone ^{1,2}	Zone to add to the created Zone Configuration	-
	memberNames ^{1,2}	WWN of the port added to the created Zone	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 469 /ExecuteZoningConfigurationPvol/ExecutePvolZoningConfiguration/ConfigureWWNZoningPvol/provisioning.taskResult.createdZoneAliases

Data nesting information		Explanation	Range
values ^{1,2}		List of newly created Zone alias	
	name ²	Name of newly created zone alias	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	memberNames ^{1,2}	WWN of the port added to the created Zone	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 470 /ExecuteZoningConfigurationPvol/ExecutePvolZoningConfiguration/ConfigureWWNZoningPvol/provisioning.taskResult.updatedZoneConfigurations

Data nesting information		Explanation	Range
values ^{1,2}		Zone to add to the created Zone Configuration	
	name ²	Name of updated zone configuration	-

Data nesting information		Explanation	Range
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	zoneNames ^{1,2}	Name of added zone	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 471 /ExecuteZoningConfigurationPvol/ExecutePvolZoningConfiguration/ConfigureWWNZoningPvol/provisioning.taskResult.updatedZones

Data nesting information		Explanation	Range
values ^{1,2}		List of zones where the settings were updated	
	name ²	Name of zone where settings were updated	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	aliasNames ^{1,2}	Name of added Zone alias	-
	memberNames ^{1,2}	WWN of the added port	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 472 /ExecuteZoningConfigurationPvol/ExecutePvolZoningConfiguration/ConfigureWWNZoningPvol/provisioning.taskResult.updatedZoneAliases

Data nesting information		Explanation	Range
values ^{1,2}		List of Zone alias where settings were updated	
	name ²	Name of Zone alias where settings were updated	-

Data nesting information		Explanation	Range
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	memberNames ^{1,2}	WWN of added port	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 473 /ExecuteZoningConfigurationPvol/ExecutePvolZoningConfiguration/ConfigureWWNZoningPvol/provisioning.taskResult.zoneConfiguration

Data nesting information		Explanation	Range
values ^{1,2}		List of newly created Zone Configuration	-
	name ²	Name of newly created Zone Configuration name	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	zoneNames ^{1,2}	Zone to add to the created Zone Configuration	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 474 /ExecuteZoningConfigurationPvol/ExecutePvolZoningConfiguration/ConfigureWWNZoningPvol/provisioning.taskResult.createdZones

Data nesting information		Explanation	Range
values ^{1,2}		List of newly created zone	
	name ²	Name of newly created zone	-
	bnaname ²	Name of BNA that manages the settings	-

Data nesting information		Explanation	Range
	fabricName ²	Name of Fabric where the settings exist	-
	Zone Alias to add to the created Zone ^{1,2}	Zone to add to the created Zone Configuration	-
	memberNames ^{1,2}	WWN of the port added to the created Zone	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 475 /ExecuteZoningConfigurationPvol/ExecutePvolZoningConfiguration/ConfigureWWNZoningPvol/provisioning.taskResult.createdZoneAliases

Data nesting information		Explanation	Range
values ^{1,2}		List of newly created Zone alias	
	name ²	Name of newly created zone alias	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	memberNames ^{1,2}	WWN of the port added to the created Zone	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 476 /ExecuteZoningConfigurationPvol/ExecutePvolZoningConfiguration/ConfigureWWNZoningPvol/provisioning.taskResult.updatedZoneConfigurations

Data nesting information		Explanation	Range
values ^{1,2}		Zone to add to the created Zone Configuration	
	name ²	Name of updated zone configuration	-

Data nesting information		Explanation	Range
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	zoneNames ^{1,2}	Name of added zone	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 477 /ExecuteZoningConfigurationPvol/ExecutePvolZoningConfiguration/ConfigureWWNZoningPvol/provisioning.taskResult.updatedZones

Data nesting information		Explanation	Range
values ^{1,2}		List of zones where the settings were updated	
	name ²	Name of zone where settings were updated	-
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	aliasNames ^{1,2}	Name of added Zone alias	-
	memberNames ^{1,2}	WWN of the added port	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. 8.5.0 or later</p>			

Table 478 /ExecuteZoningConfigurationPvol/ExecutePvolZoningConfiguration/ConfigureWWNZoningPvol/provisioning.taskResult.updatedZoneAliases

Data nesting information		Explanation	Range
values ^{1,2}		List of Zone alias where settings were updated	
	name ²	Name of Zone alias where settings were updated	-

Data nesting information		Explanation	Range
	bnaname ²	Name of BNA that manages the settings	-
	fabricName ²	Name of Fabric where the settings exist	-
	memberNames ^{1,2}	WWN of added port	-
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. 8.5.0 or later 			

Global-Active Device Setup service properties

Use the following properties to modify or create values for the Global-Active Device Setup Service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Global-Active Device Setup (edit)

keyName	Type	Description	Range	Default value
SourceConfigurationManagerConnection	file	Specify the Configuration Manager Connection of Primary(Source) Storage for migration.	See the following File type property list	-
SourceStorageSystem	file	Specify the Primary (Source) Storage System for migration.	See the following File type property list	-
TargetConfigurationManagerConnection	file	Specify the Configuration Manager Connection of the Secondary (Target) Storage for migration.	See the following File type property list	-

keyName	Type	Description	Range	Default value
TargetStorageSystem	file	Specify the Secondary (Target) Storage System for migration.	See the following File type property list	-
ConfigureOrSkipVSM	string	Select whether to create a Virtual Storage Machine or skip this step.	Configure, Skip	Configure
ExistingVirtualStorageMachine	file	Specify the virtual storage machine on the primary storage as the migration source.	See the following File type property list	-
ResourceGroupName ¹	string	Specify the name of the resource group on the primary and secondary storage for the virtual storage machines.	1-32 characters	-
ConfigureOrSkipQuorum	string	Select whether to configure a Quorum Disk or skip this step.	Configure, Skip	Configure
QuorumDiskId	integer	Specify the Quorum Disk ID.	0-31	-
SourceVolumesFilter	file	Use the filters to display only the primary volumes that match the specified criteria.	See the following File type property list	-
JoinFiltersBy	string	Use the "and" and the "or" operators to join multiple filters.	and, or	and
SourceVolumes	file	Select the volume to use as the Quorum disk on the primary storage.	See the following File type property list	-

keyName	Type	Description	Range	Default value
TargetVolumesFilter	file	Use the filters to display only the secondary volumes that match the specified criteria.	See the following File type property list	-
TargetJoinFiltersBy	string	Use the "and" and the "or" operators to join multiple filters.	and, or	and
TargetVolumes	file	Select the volume to use as the Quorum disk on the secondary storage.	See the following File type property list	-
PrimaryHorcmInstanceMin	integer	Select the minimum value for the range of CCI instances to operate on the primary storage.	1-1047	1020
PrimaryHorcmInstanceMax	integer	Select the maximum value for the range of CCI instances to operate on the primary storage.	1-1047	1029
SecondaryHorcmInstanceMin	integer	Select the minimum value for the range of CCI instances to operate on the secondary storage.	1-1047	1030
SecondaryHorcmInstanceMax	integer	Select the maximum value for the range of CCI instances to operate on the secondary storage.	1-1047	1039
ConfigureOrSkipRemotePaths	string	Select whether to set Remote Path Groups or skip this step.	Configure, Skip	Configure
RemotePathSetting	file		See the following File type property list	-

keyName	Type	Description	Range	Default value
ConfigureOrSkipPrimaryPairManagementServerConfigurations	string	Select whether to set Pair Management Server Configurations or skip this step.	Configure, Skip	Configure
ExistingOrCreateNew	string	Select whether to use an existing Host Group/iSCSI Target or create a new Host Group/iSCSI Target.	"Existing Host Group/iSCSI Target", "New Host Group/iSCSI Target"	Existing Host Group/iSCSI Target
ExistingHostGroupsOriSCSITargets	file	Select an existing Host Group or iSCSI Target.	See the following File type property list	-
PortType	string	Select the Port Type.	Fibre, iSCSI	Fibre
HostGroupSettings	file		See the following File type property list	-
ConfigureOrSkipSecondaryPairManagementServerConfigurations	string	Select whether to set Pair Management Server Configurations or skip this step.	Configure, Skip	Configure
SecondaryExistingOrCreateNew	string	Select whether to use an existing Host Group/iSCSI Target or create a new Host Group/iSCSI Target.	"Existing Host Group/iSCSI Target", "New Host Group/iSCSI Target"	Existing Host Group/iSCSI Target
SecondaryExistingHostGroupsOriSCSITargets	file	Select an existing Host Group or iSCSI Target.	See the following File type property list	-
SecondaryPortType	string	Select the Port Type.	Fibre, iSCSI	Fibre
SecondaryHostGroupSettings	file		See the following File type property list	-

keyName	Type	Description	Range	Default value
isSecurityEnabled	boolean	Select this option to enable Command Device Security.	true, false	false
isUserAuthenticationEnabled	boolean	Select this option to enable User Authentication.	true, false	true
isDeviceGroupDefinitionEnabled	boolean	Select this option to enable Device Group Definitions.	true, false	false
VolumeCapacity	integer	Specify the volume capacity.	47-4194304	47
VolumeLabel ²	string	Specify the volume label.	0-64 characters	CMD
DPVolumeOrBasicVolume	string	Specify the volume type.	"Basic Volume", "Dynamic Provisioning"	Dynamic Provisioning
Pool	file	Select the pool.	See the following File type property list	-
ParityGroup	file	Select the parity group.	See the following File type property list	-
LDEVIDStartsFrom	integer	Specify the startup LDEV ID as a hexadecimal number for the volume to allocate. If this field is listed as "allocated" in another template, you must change it.	0-16777215	0
LUNStartsFrom	integer	Specify the starting logical unit number assigned to the volume for a host.	0-2047	0

keyName	Type	Description	Range	Default value
SecondaryDPVolumeOrBasicVolume	string	Specify the volume type.	"Basic Volume", "Dynamic Provisioning"	Dynamic Provisioning
SecondaryPool	file	Select the parity group.	See the following File type property list	-
SecondaryParityGroup	file	Select the parity group.	See the following File type property list	-
SecondaryLDEVIDStartsFrom	integer	Specify the startup LDEV ID as a hexadecimal number for the volume to allocate. If this field is listed as "allocated" in another template, you must change it.	0-16777215	0
SecondaryLUNStartsFrom	integer	Specify the starting logical unit number assigned to the volume for a host.	0-2047	0
<ol style="list-style-type: none"> <code>^[A-Za-z0-9@_][A-Za-z0-9@_-]*\$</code> <code>^[A-Za-z0-9!#\$%&'()+, -. : =@ [] ^_`{ }~/\ \]*</code> 				

File type property list

Table 479 SourceConfigurationManagerConnection, TargetConfigurationManagerConnection

Data nesting information		Description	Range
value			
	productName	Category	-
	name	Name	-
	ipAddress	IP Address/Host Name	-

Data nesting information		Description	Range
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-
	connectedTime	Connected Time	-

Table 480 SourceStorageSystem, TargetStorageSystem

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	isSecure	Secure Connection	-
	svplp	SVP IP Address	-
	ctl1Ip	Controller 1 IP	-
	ctl2Ip	Controller 2 IP	-
	dkcMicroVersion	DKC Micro Version	-

Table 481 ExistingVirtualStorageMachine

Data nesting information		Description	Range
value			
	vsmType	Primary-Secondary Type	-
	virtualModel	Virtual Model	-
	VirtualSerialNumber	Virtual Serial Number	-

Table 482 SourceVolumesFilter, TargetVolumesFilter

Data nesting information		Description	Range
value ¹			
	key	Key used by the source volume filter	"LDEV ID", "Label", "External Volume Id" or "External Volume Id String"
	operator	Operator	When specify "LDEV ID", the following operators can be specified: "=", "<", ">", "<=", ">=", "!=". When specify "Label", "External Volume Id" or "External Volume Id String", the following operators can be specified: "=", "!=", "starts with", "ends with".
	value	Value	
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Table 483 SourceVolumes, TargetVolumes

Data nesting information		Description	Range
value			
	ldevId	Volume	0-16777215
	label	LDEV Label	-
	byteFormatCapacity	Capacity	-
	status	Status	-
	attributes	Attributes	-
	numOfPorts	Number of Ports	-
	externalVolumeld	External Volume ID	-
	externalVolumeldString	External Volume ID String	-

Table 484 RemotePathSetting

Data nesting information		Description	Range
value ¹			
	sourceMCUInitiatorPort	Primary Storage MCU Initiator Port	-
	sourceRCUTargetPort	Primary Storage RCU Target Port	-
	targetMCUInitiatorPort	Secondary Storage MCU Initiator Port	-
	targetRCUTargetPort	Secondary Storage RCU Target Port	-
	pathGroupId	Path Group ID	0-255
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 485 ExistingHostGroupsOriSCSITargets, SecondaryExistingHostGroupsOriSCSITargets

Data nesting information		Description	Range
value ¹			
	storageDeviceId	Storage Device ID	-
	portId	Port	-
	hostGroupNumber	Host Group Number	-
	hostGroupName	Host Group Name	-
	iscsiName	iSCSI Name	-
	hostMode	Host Mode	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 486 HostGroupSettings, SecondaryHostGroupSettings

Data nesting information		Description	Range
value ¹			
	port	Port	

Data nesting information		Description	Range	
	hostGroupName ²		Host Group Name / iSCSI Target Alias	A maximum of 64 characters can be entered.
	iScsiTargetName ³		iSCSI Target Name	A maximum of 32 characters can be entered.
	wwnSettings ^{1,4}		WWN Settings	
		wwn	WWN	A maximum of 16 characters is allowed in hexadecimal.
		wwnNickname	WWN Nickname	A maximum of 64 characters can be entered.
	iScsiSettings ^{1,5}		iSCSI Settings	
		iScsiName	iSCSI Name	Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-,: -eui format: Specify 20 characters in hexadecimal.
		iScsiNickname	iSCSI Nickname	A maximum of 32 characters can be entered.
	hostMode		Host Mode	Refer to "Values that can be specified in the hostmode parameter" in the Hitachi Command Suite CLI Reference Guide.

Data nesting information		Description	Range
	hostModeOptions	Host Mode Options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the Hitachi Command Suite CLI Reference Guide.
Remarks			
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "PortType" is "Fibre", hostGroupName can be specified. 3. When "PortType" is "iSCSI", iScsiTargetName can be specified. 4. When "PortType" is "Fibre", wwnSettings can be specified. 5. When "PortType" is "iSCSI", iScsiSettings can be specified. 			

Table 487 Pool, SecondaryPool

Data nesting information		Description	Range
value			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-
	numOfLdevs	Number of LDEVs	-

Table 488 ParityGroup, SecondaryParityGroup

Data nesting information		Description	Range
value			
	parityGroupId	Parity Group ID	-

Data nesting information		Description	Range
	raidLevel	Raid Level	-
	raidType	Raid Type	-
	clprId	CLPR	-
	availableVolumeCapacity	Available Capacity	-
	totalCapacity	Total Capacity	-
	isAcceleratedCompressionEnabled	Is Accelerated Compression Enabled	-
	numOfLdevs	Number of Volumes	-

Global-Active Device Setup (submit)

keyName	Type	Description	Range	Default value
SourceConfigurationManagerConnection	file	Specify the Configuration Manager Connection of Primary(Source) Storage for migration.	See the following File type property list	-
SourceStorageSystem	file	Specify the Primary (Source) Storage System for migration.	See the following File type property list	-
TargetConfigurationManagerConnection	file	Specify the Configuration Manager Connection of the Secondary (Target) Storage for migration.	See the following File type property list	-
TargetStorageSystem	file	Specify the Secondary (Target) Storage System for migration.	See the following File type property list	-
ConfigureOrSkipVSM	string	Select whether to create a Virtual Storage Machine or skip this step.	Configure, Skip	Configure

keyName	Type	Description	Range	Default value
ExistingVirtualStorage Machine	file	Specify the virtual storage machine on the primary storage as the migration source.	See the following File type property list	-
ResourceGroupName ¹	string	Specify the name of the resource group on the primary and secondary storage for the virtual storage machines.	1-32 characters	-
ConfigureOrSkipQuorum	string	Select whether to configure a Quorum Disk or skip this step.	Configure, Skip	Configure
QuorumDiskId	integer	Specify the Quorum Disk ID.	0-31	-
SourceVolumesFilter	file	Use the filters to display only the primary volumes that match the specified criteria.	See the following File type property list	-
JoinFiltersBy	string	Use the "and" and the "or" operators to join multiple filters.	and, or	and
SourceVolumes	file	Select the volume to use as the Quorum disk on the primary storage.	See the following File type property list	-
TargetVolumesFilter	file	Use the filters to display only the secondary volumes that match the specified criteria.	See the following File type property list	-
TargetJoinFiltersBy	string	Use the "and" and the "or" operators to join multiple filters.	and, or	and

keyName	Type	Description	Range	Default value
TargetVolumes	file	Select the volume to use as the Quorum disk on the secondary storage.	See the following File type property list	-
PrimaryHorcmInstanceMin ²	integer	Select the minimum value for the range of CCI instances to operate on the primary storage.	1-1047	1020
PrimaryHorcmInstanceMax ²	integer	Select the maximum value for the range of CCI instances to operate on the primary storage.	1-1047	1029
SecondaryHorcmInstanceMin ²	integer	Select the minimum value for the range of CCI instances to operate on the secondary storage.	1-1047	1030
SecondaryHorcmInstanceMax ²	integer	Select the maximum value for the range of CCI instances to operate on the secondary storage.	1-1047	1039
ConfigureOrSkipRemotePaths	string	Select whether to set Remote Path Groups or skip this step.	Configure, Skip	Configure
RemotePathSetting	file		See the following File type property list	-
ConfigureOrSkipPrimaryPairManagementServerConfigurations	string	Select whether to set Pair Management Server Configurations or skip this step.	Configure, Skip	Configure

keyName	Type	Description	Range	Default value
ExistingOrCreateNew	string	Select whether to use an existing Host Group/iSCSI Target or create a new Host Group/iSCSI Target.	"Existing Host Group/iSCSI Target", "New Host Group/iSCSI Target"	Existing Host Group/iSCSI Target
ExistingHostGroupsOriSCSITargets	file	Select an existing Host Group or iSCSI Target.	See the following File type property list	-
PortType	string	Select the Port Type.	Fibre, iSCSI	Fibre
HostGroupSettings	file		See the following File type property list	-
ConfigureOrSkipSecondaryPairManagementServerConfigurations	string	Select whether to set Pair Management Server Configurations or skip this step.	Configure, Skip	Configure
SecondaryExistingOrcreateNew	string	Select whether to use an existing Host Group/iSCSI Target or create a new Host Group/iSCSI Target.	"Existing Host Group/iSCSI Target", "New Host Group/iSCSI Target"	Existing Host Group/iSCSI Target
SecondaryExistingHostGroupsOriSCSITargets	file	Select an existing Host Group or iSCSI Target.	See the following File type property list	-
SecondaryPortType	string	Select the Port Type.	Fibre, iSCSI	Fibre
SecondaryHostGroupSettings	file		See the following File type property list	-
isSecurityEnabled	boolean	Select this option to enable Command Device Security.	true, false	false

keyName	Type	Description	Range	Default value
isUserAuthenticationEnabled	boolean	Select this option to enable User Authentication.	true, false	true
isDeviceGroupDefinitionEnabled	boolean	Select this option to enable Device Group Definitions.	true, false	false
VolumeCapacity	integer	Specify the volume capacity.	47-4194304	47
VolumeLabel ³	string	Specify the volume label.	0-64 characters	CMD
DPVolumeOrBasicVolume	string	Specify the volume type.	"Basic Volume", "Dynamic Provisioning"	Dynamic Provisioning
Pool	file	Select the pool.	See the following File type property list	-
ParityGroup	file	Select the parity group.	See the following File type property list	-
LDEVIDStartsFrom	integer	Specify the startup LDEV ID as a hexadecimal number for the volume to allocate. If this field is listed as "allocated" in another template, you must change it.	0-16777215	0
LUNStartsFrom	integer	Specify the starting logical unit number assigned to the volume for a host.	0-2047	0
SecondaryDPVolumeOrBasicVolume	string	Specify the volume type.	"Basic Volume", "Dynamic Provisioning"	Dynamic Provisioning

keyName	Type	Description	Range	Default value
SecondaryPool	file	Select the parity group.	See the following File type property list	-
SecondaryParityGroup	file	Select the parity group.	See the following File type property list	-
SecondaryLDEVIDStartsFrom	integer	Specify the startup LDEV ID as a hexadecimal number for the volume to allocate. If this field is listed as "allocated" in another template, you must change it.	0-16777215	0
SecondaryLUNStartsFrom	integer	Specify the starting logical unit number assigned to the volume for a host.	0-2047	0
<ol style="list-style-type: none"> 1. <code>^[A-Za-z0-9@_][A-Za-z0-9@_-]*\$</code> 2. This property cannot be updated. 3. <code>^[A-Za-z0-9!#\$%&'()*+,-.:=@[]^_`{ }~/\]*</code> 				

File type property list

Table 489 SourceConfigurationManagerConnection, TargetConfigurationManagerConnection

Data nesting information		Description	Range
value			
	productName	Category	-
	name	Name	-
	ipAddress	IP Address/Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-

Data nesting information		Description	Range
	status	Status	-
	connectedTime	Connected Time	-

Table 490 SourceStorageSystem, TargetStorageSystem

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	isSecure	Secure Connection	-
	svplp	SVP IP Address	-
	ctl1Ip	Controller 1 IP	-
	ctl2Ip	Controller 2 IP	-
	dkcMicroVersion	DKC Micro Version	-

Table 491 ExistingVirtualStorageMachine

Data nesting information		Description	Range
value ¹			
	key	Key used by the source volume filter	"LDEV ID", "Label", "External Volume Id" or "External Volume Id String"
	operator	Operator	When specify "LDEV ID", the following operators can be specified: "=", "<", ">", "<=", ">=", "!=". When specify "Label", "External Volume Id" or "External Volume Id String", the following operators can be specified: "=", "!=", "starts with", "ends with".

Data nesting information		Description	Range
	value	Value	
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 492 SourceVolumesFilter, TargetVolumesFilter

Data nesting information		Description	Range
value ¹			
	key	Key used by the source volume filter.	"LDEV ID", "Label" or "Pool ID"
	operator	Operator	When specifying "LDEV ID", the following operators can be specified: "=", "<", ">", "<=", ">=", "!=", When specifying "Label", the following operators can be specified: "=", "!=", "starts with", "ends with". When specifying "Pool ID", the following operators can be specified: "=", "<", ">", "<=", ">=", "!=",
	value	Value	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 493 SourceVolumes, TargetVolumes

Data nesting information		Description	Range
value			
	ldevId	Volume	0-16777215
	label	LDEV Label	-
	byteFormatCapacity	Capacity	-
	status	Status	-

Data nesting information		Description	Range
	attributes	Attributes	-
	numOfPorts	Number of Ports	-
	externalVolumeld	External Volume ID	-
	externalVolumeldString	External Volume ID String	-

Table 494 RemotePathSetting

Data nesting information		Description	Range
value ¹			
	sourceMCUInitiatorPort	Primary Storage MCU Initiator Port	-
	sourceRCUTargetPort	Primary Storage RCU Target Port	-
	targetMCUInitiatorPort	Secondary Storage MCU Initiator Port	-
	targetRCUTargetPort	Secondary Storage RCU Target Port	-
	pathGroupId	Path Group ID	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 495 ExistingHostGroupsOriSCSITargets, SecondaryExistingHostGroupsOriSCSITargets

Data nesting information		Description	Range
value ¹			
	storageDeviceId	Storage Device ID	-
	portId	Port	-
	hostGroupNumber	Host Group Number	-
	hostGroupName	Host Group Name	-
	iscsiName	iSCSI Name	-

Data nesting information		Description	Range
	hostMode	Host Mode	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 496 HostGroupSettings, SecondaryHostGroupSettings

Data nesting information		Description	Range	
value ¹				
	port	Port		
	hostGroupName ²	Host Group Name / iSCSI Target Alias	A maximum of 64 characters can be entered.	
	iScsiTargetName ³	iSCSI Target Name	A maximum of 32 characters can be entered.	
	wwnSettings ^{1, 4}	WWN Settings		
		wwn	WWN	A maximum of 16 characters is allowed in hexadecimal.
		wwnNickname	WWN Nickname	A maximum of 64 characters can be entered.
	iScsiSettings ^{1, 5}	iSCSI Settings		
		iScsiName	iSCSI Name	Specify in iqn format or eui format. -iqn format: Specify 5-223 characters by using the following characters: a-z,0-9,.,-,: -eui format: Specify 20 characters in hexadecimal.

Data nesting information		Description	Range
	iScsiNickname	iSCSI Nickname	A maximum of 32 characters can be entered.
	hostMode	Host Mode	Refer to "Values that can be specified in the hostmode parameter" in the Hitachi Command Suite CLI Reference Guide.
	hostModeOptions	Host Mode Options	Refer to "Values that can be specified in the hostmodeoptions parameter" in the Hitachi Command Suite CLI Reference Guide.
<p>Remarks</p> <ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. When "PortType" is "Fibre", hostGroupName can be specified. 3. When "PortType" is "iSCSI", iScsiTargetName can be specified. 4. When "PortType" is "Fibre", wwnSettings can be specified. 5. When "PortType" is "iSCSI", iScsiSettings can be specified. 			

Table 497 Pool, SecondaryPool

Data nesting information		Description	Range
value			
	poolId	Pool ID	-
	poolName	Pool name	-
	poolType	Pool Type	-
	usedCapacityRate	Used capacity rate	-

Data nesting information		Description	Range
	availableVolumeCapacity	Available Volume capacity	-
	totalPoolCapacity	Total Pool capacity	-
	numOfLdevs	Number of LDEVs	-

Table 498 ParityGroup, SecondaryParityGroup

Data nesting information		Description	Range
value			
	parityGroupId	Parity Group ID	-
	raidLevel	Raid Level	-
	raidType	Raid Type	-
	clprId	CLPR	-
	availableVolumeCapacity	Available Capacity	-
	totalCapacity	Total Capacity	-
	isAcceleratedCompressionEnabled	Is Accelerated Compression Enabled	-
	numOfLdevs	Number of Volumes	-

Global-Active Device Setup (task details)

KeyName	Type	Description	Range
PrimaryVSMInformation	file	Stores the created Virtual Storage information for Primary Storage.	See the following File type property list
SecondaryVSMInformation2	file	Stores the created Virtual Storage information for Secondary Storage.	See the following File type property list

KeyName	Type	Description	Range
PrimaryQuorumDiskInformation	file	Stores the defined Quorum Disk information for Primary Storage.	See the following File type property list
SecondaryQuorumDiskInformation	file	Stores the defined Quorum Disk information for Secondary Storage.	See the following File type property list
RemotePathConfigurations	file	Stores the Defined Remote Path information for Primary Storage and Secondary Storage.	See the following File type property list
/ConfigurePairManagementServers/ AllocatePrimaryCommandDevice/ LUNPathConfigurationInformation	file	Stores the allocated LUN path information from the volume allocation results.	See the following File type property list
/ConfigurePairManagementServers/ AllocateSecondaryCommandDevice/ LUNPathConfigurationInformation	file	Stores the allocated LUN path information from the volume allocation results.	See the following File type property list

File type property list

Table 499 DataFlowInformation

Data nesting information		Description	Range
value			
	name	Name	-
	description	Description	-
	active	Status	-
	sourceNode	Source node ID	-
	id	ID	-

Table 500 PrimarySite_PrimaryVolumesLUNPathConfigurationInformation, SecondarySite_SecondaryVolumesLUNPathConfigurationInformation

Data nesting information		Description	Range
value			
	hostPort	Host Port	-
	storagePort	Storage Port	-
	lun	LUN	-
	portType	Port Type	-
	capacity	Capacity	-
	ldevId	Volume	-
	hostGroupNameOrIscsiTarget	Host Group Name/iSCSI Target Alias	-
	iscsiTargetName	iSCSI Target Name	-
	model	Model	-
	serialNumber	Serial No.	-
	ldevLabel	LDEV Label	-
	resourceGroupName	Resource Group	-
	virtualLdevId	Virtual LDEV ID	-
	virtualModel	Virtual Model	-
	virtualSerialNumber	Virtual Serial No.	-
	configurationManager	Configuration Manager	-
	poolId	Pool	-
	tcpPort	TCP Port	-
	ipv4Address	IPv4 Address	-
	ipv6LinkLocalAddress	IPv6 Link Local Address	-
	ipv6GlobalAddress	IPv6 Global Address	-

Table 501 CopyGroupConfigurationInformation

Data nesting information		Description	Range
value			

Data nesting information		Description	Range	
	ctgId		CTG ID	-
	muNumber		MU Number	-
	quorumDiskName		Quorum Disk Name	-
	siteInformation ¹		Site Information	-
		primaryOrSecondary	Primary/Secondary	-
		model	Model	-
		serialNumber	Serial No.	-
		virtualSerialNumber	Virtual Serial No.	-
		configurationManager	Configuration Manager	-
	createdCopyPairs ¹			-
		primaryLdevId	Primary Volume	-
		primaryModel	Primary Model	-
		primarySerialNumber	Primary Serial No.	-
		secondaryLdevId	Secondary Volume	-
		secondaryModel	Secondary Model	-
		secondarySerialNumber	Secondary Serial No.	-
		virtualSerialNumber	Virtual Serial No.	-
		fenceLevel	Fence Level	-
		primaryConfigurationManager	Primary Configuration Manager	-
		secondaryConfigurationManager	Secondary Configuration Manager	-
1. Repeatabe. Repeatabe items must be repeated and must include all lower layer tags.				

Table 502 DeletedCopyPairsInformation

Data nesting information		Description	Range
value			
	ldevId	Volume	-
	label	LDEV Label	-
	byteFormatCapacity	Capacity	-
	status	Status	-
	attributes	Attributes	-
	numOfPorts	Number of Ports	-
	externalVolumeld	External Volume Id	-
	externalVolumeldString	External Volume Id String	-

Table 503 DeletedHostGroupsInformation

Data nesting information		Description	Range
value ¹			
	sourcePort	Source storage port	-
	targetPort	Target storage port	-
1. Repeatabe. Repeatabe items must be repeated and must include all lower layer tags.			

Table 504 provisioning.taskResult.zoneConfiguration

Data nesting information		Description	Range
value ¹		List of newly created zone configurations	
	task	Name of newly created zone configuration	-
	bnaname	Name of BNA that manages the settings	-
	fabricName	Name of the fabric in which the settings exist	-

Data nesting information		Description	Range
	zoneNames ¹	Zone to be added to the created zone configuration	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 505 provisioning.taskResult.createdZones

Data nesting information		Description	Range
value ¹		List of newly created zones	
	name	Name of the newly created zone	-
	bnaname	Name of the BNA that manages the settings	-
	fabricName	Name of the fabric in which the settings exist	-
	aliasNames ¹	Zone Alias to be added to the created zone	-
	memberNames ¹	WWN of the port added to the created zone	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 506 provisioning.taskResult.createdZoneAliases

Data nesting information		Description	Range
value ¹		List of newly created zone aliases	
	name	Name of the newly created zone alias	-
	bnaname	Name of the BNA that manages the settings	-
	fabricName	Name of the fabric in which the settings exist	-
	memberNames ¹	WWN of the port added to the created zone	-

Data nesting information	Description	Range
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Table 507 provisioning.taskResult.updatedZoneConfigurations

Data nesting information	Description	Range
value ¹	List of zone configurations in which the settings were updated	
name	Name of the zone configuration in which the settings were updated	-
bnaname	Name of the BNA that manages the settings	-
fabricName	Name of the fabric in which the settings exist	-
zoneNames ¹	Name of the added zone	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Table 508 provisioning.taskResult.updatedZones

Data nesting information	Description	Range
value ¹	List of zones in which the settings were updated	
name	Name of the zone in which the settings were updated	-
bnaname	Name of the BNA that manages the settings	-
fabricName	Name of the fabric in which the settings exist	-
aliasNames ¹	Name of the added zone alias	-
memberNames ¹	WWN of the added port	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.		

Table 509 provisioning.taskResult.updatedZoneAliases

Data nesting information		Description	Range
value ¹		List of zone aliases in which the settings were updated	
	name	Name of the zone alias in which the settings were updated	-
	bnaname	Name of the BNA that manages the settings	-
	fabricName	Name of the fabric in which the settings exist	-
	memberNames ¹	WWN of the added port	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Online Migration service properties

Use the following properties to modify or create values for the Online Migration Service.



Note: The term "VSP Gx00 models" refers to the VSP G200, VSP G350, VSP G370, VSP G400, VSP G600, VSP G700, VSP G800, and VSP G900 product models. The term "VSP Fx00 models" refers to the VSP F350, VSP F370, VSP F400, VSP F600, VSP F700, VSP F800, and VSP F900 product models.

Online Migration (edit)

KeyName	Type	Description	Range	Default Value
SourceConfigurationManagerConnection	file	Specify the Source Configuration Manager Connection for migration.	See the following File type property list	-
SourceStorageSystem	file	Specify the Source Storage System for migration.	See the following File type property list	-

KeyName	Type	Description	Range	Default Value
SourceVolumesFilter	file	Use the filters to display only the source volumes that match the specified criteria.	See the following File type property list	-
JoinFiltersBy	string	Use the "and" and the "or" operators to join multiple filters.	and, or	and
ResourceGroupFilter	string	Use the filter to display only the source volumes that belong to the resource group.		-
SourceVolumes	file	Specify the source volumes.	See the following File type property list	-
TargetConfigurationManagerConnection	file	Specify the Target Configuration Manager Connection for migration.	See the following File type property list	-
TargetStorageSystem	file	Specify the Target Storage System for migration.	See the following File type property list	-
PortMappings	file	Specify mappings for the source and target storage ports. Based on the mappings, the system configures the I/O path between the host and the target storage port.	See the following File type property list	-
DataInstanceDirectorConnection	file	Specify the Data Instance Director Connection.	See the following File type property list	-
TemplateDataFlow	file	Specify the Data Flow for the template.	See the following File type property list	-

KeyName	Type	Description	Range	Default Value
SourceNode	file	Specify the Source Block Device Node.	See the following File type property list	-
TargetNode	file	Specify the Target Block Device Node.	See the following File type property list	-
Pool	file	Specify the Target Pool.	See the following File type property list	-
ResourceGroup	file	Specify the Target Resource Group.	See the following File type property list	-
QuorumDisk	file	Specify the Quorum Disk.	See the following File type property list	-
CopyPace	integer	Specify the Copy Pace (Slow: 3, Medium: 8, or Fast: 15).	3,8,15	8
mailsettings.enable	boolean	Specify whether to send an email notification when the migration target volume path allocation is complete. This enables you to confirm the path allocation listed in the email, then bring it online.	-	false
mailsettings.to ¹	string	Specify the primary (TO) email notification addresses.	0-1024	-
mailsettings.cc ¹	string	Specify additional CC email notification addresses.	0-1024	-

KeyName	Type	Description	Range	Default Value
mailsettings.bcc ¹	string	Specify additional BCC email notification addresses.	0-1024	-
mailsettings.subject	string	Specify the email subject.	-	Migration task information. (Waiting for Action.)
mailsettings.body	file	Specify the text of the email body.	-	Confirm the LUN paths of the target volumes in the Task Details dialog box. %taskDetails% For the target hosts, make sure that all of the LUN paths of the TARGET storage systems are online, and then click Migrate.

KeyName	Type	Description	Range	Default Value
userResponse.dialogText	file	Specify the text of the User-Response Wait dialog box.	-	Confirm the LUN paths of the target volumes in the Task Details dialog box. %taskDetails% For the target hosts, make sure that all of the LUN paths of the TARGET storage systems are online, and then click Migrate.
deleteHostGroupOption	boolean	Select the checkbox to delete the Host Group.	-	false
deleteVolumeOption	boolean	Select the checkbox to delete the Volume.	-	false
provisioning.fabricSetting.enabled	boolean	Specify True to enable fabric information collection functionality.	-	true

KeyName	Type	Description	Range	Default Value
provisioning.fabricSetting.connection.names	string	Specify the connection name defined in the Web Service Connections on the Administration Tab. Separate multiple values by commas. If this value is omitted, the system uses all connections that are defined for the product name listed in the Web Service Connections.	-	-
provisioning.fabricSetting.resourcegroups	string	Specify the switch management server resource group. Separate multiple values by commas.	-	All
provisioning.fabricSetting.fabrics	string	Specify the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	-	-
provisioning.fabricSetting.usingExistingZone	boolean	Specify whether to select a predefined zone or any connectable path. If you specify True, the system selects paths within the range of the existing Zone setting. If you specify False, the system selects connectable paths regardless of the existing Zone setting.	-	true

KeyName	Type	Description	Range	Default Value
provisioning.fabricSetting.hops.restriction	boolean	Determines whether the service will fail if there is no path that matches the specified collection range.	-	false
provisioning.zoneSetting.enabled	boolean	Specify True to enable the modify zone settings functionality.	-	true
provisioning.zoneSetting.useExistingZoneAliases	boolean	Specify True to use predefined Zone Aliases regardless of the naming conventions the user specifies. If you specify False, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions.	-	false
provisioning.zoneSetting.updateActiveZoneConfiguration	boolean	Specify True to add a Zone to the active Zone Configuration.	-	true
provisioning.zoneSetting.zoneConfigurationName	string	To add a zone to a Zone Configuration other than the active configuration, specify the name of the Zone Configuration in which to add the zone.	-	-


```

var wwn = args.hostPortWorldWideName;
if (wwn === null || !(typeof (wwn) == "string" || wwn instanceof String))
{
throw new Error("Host port WWN must be a string: " + wwn);
}
name = name + '_' + wwn.replace(/:/g, '').slice(-4);
if (name.length > 64) {
throw new Error("Zone alias name must be within 64 characters: " + name);
}
if (/^[A-Z]/i.test(name) == false) {
throw new Error("Zone alias name must start with a alphabet: " + name);
}
var SERVERALIAS = name;
var serial = args.storageSystemSerialNumber;
if (serial === null || !(typeof (serial) == "string" || serial instanceof
String)) {
throw new Error("Storage System Serial Number must be a string: " +
serial); }
name = args.storageSystemName; if (name) {
if (!(typeof(name) == "string" || name instanceof String)) {
throw new Error("Storage System name must be a string or undefined: "+
name);
}
name = name + '_' + serial.replace(/:/g, '').slice(-4); }
else{ name = 'SN'+serial; }
name = name.replace(/[^A-Za-z0-9_]/g, '_');
var PortName = args.storagePortName
if (PortName === null || !(typeof(PortName) == "string" || PortName
instanceof String)) {
throw new Error("Port Name must be a string: "+ PortName);
}
PortName = PortName.replace(/[^A-Za-z0-9_]/g, '_');
name = name + '_' + PortName; if (name.length > 64) {
throw new Error("Zone alias name must be within 64 characters: " + name);
}
if (/^[A-Z]/i.test(name) == false) {
throw new Error("Zone alias name must start with a alphabet: " + name);
}
var ARRAYALIAS = name; var name1 = SERVERALIAS + '_' + ARRAYALIAS;
if (name1.length > 64) {
throw new Error("Zone alias name must be within 64 characters: " +
name1);
}
if (/^[A-Z]/i.test(name1) == false) {
throw new Error("Zone alias name must start with a alphabet: " + name1);
}
return name1;
})

```

provisioning.zoneSetting.namingScript.hostZoneAlias example

```
(function(args) {
  var name = args.hostName;
  if (name === null || !(typeof(name) == "string" || name instanceof
String)) {
    throw new Error("Host name must be a string: "+ name);
  }
  name = name.replace(/[^A-Za-z0-9_]/g, '_');
  var wwn = args.hostPortWorldWideName;
  if (wwn === null || !(typeof(wwn) == "string" || wwn instanceof String))
{
    throw new Error("Host port WWN must be a string: " + wwn);
  }
  name = name + '_' + wwn.replace(/:/g, '').slice(-4); if (name.length >
64) {
    throw new Error("Zone alias name must be within 64 characters: " + name);
  }
  if (/^[A-Z]/i.test(name) == false) {
    throw new Error("Zone alias name must start with a alphabet: " + name);
  }
  return name;
})
```

provisioning.zoneSetting.namingScript.storageZoneAlias example

```
(function(args) {
  var name = args.storageSystemName; if (name) {
    if (!(typeof(name) == "string" || name instanceof String)) {
      throw new Error("Storage system name must be a string or null: "+ name);
    }
    name = name.replace(/[^A-Za-z0-9_]/g, '_');
  }
  var serial = args.storageSystemSerialNumber;
  if (serial === null || !(typeof(serial) == "string" || serial instanceof
String)) {
    throw new Error("Storage System Serial Number must be a string: " +
serial);
  }
  var PortName = args.storagePortName
  if (PortName === null || !(typeof(PortName) == "string" || PortName
instanceof String)) {
    throw new Error("Port Name must be a string: "+ PortName);
  }
  PortName = PortName.replace(/[^A-Za-z0-9_]/g, '_');
  if(name){ name = name + '_' + serial.replace(/:/g, '').slice(-4) + '_' +
PortName;
}
  else {
    name = 'SN' + serial.replace(/:/g, '') + '_' + PortName;
  }
}
```

```

if (name.length > 64) {
  throw new Error("Zone alias name must be within 64 characters: " + name);
}
if (/^[A-Z]/i.test(name) == false) {
  throw new Error("Zone alias name must start with a alphabet: " + name);
} return name;
})

```

File type property list

Table 510 SourceConfigurationManagerConnection, TargetConfigurationManagerConnection, DataInstanceDirectorConnection

Data nesting information		Description	Range
value			
	productName	Category	-
	name	Name	-
	ipAddress	IP Address/Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-
	connectedTime	Connected Time	-

Table 511 SourceStorageSystem, TargetStorageSystem

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	isSecure	Secure Connection	-
	svplp	SVP IP Address	-
	ctl1Ip	Controller 1 IP	-
	ctl2Ip	Controller 2 IP	-
	dkcMicroVersion	DKC Micro Version	-

Table 512 SourceVolumesFilter

Data nesting information		Description	Range
value ¹			
	key	Key used by the source volume filter	"LDEV ID", "Label", "External Volume Id" or "External Volume Id String"
	operator	Operator	When specify "LDEV ID", the following operators can be specified: "=", "<", ">", "<=", ">=", "!=". When specify "Label", "External Volume Id" or "External Volume Id String", the following operators can be specified: "=", "!=", "starts with", "ends with".
	value	Value	
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Table 513 SourceVolumes

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	ldevId	LDEV ID	-
	label	Label	-
	byteFormatCapacity	Capacity	-
	poolId	Pool ID	-
	portIds	Port ID	-
	hostGroupNames	Host Group Name	-
	iSCSINames	iSCSI Name	-

Table 514 PortMappings

Data nesting information		Description	Range
value ¹			
	sourcePort	Source Storage Port	-
	targetPort	Target Storage Port	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 515 TemplateDataFlow

Data nesting information		Description	Range
value			
	name	Name	-
	description	Description	-
	active	Status	-
	sourceNode	Source Node ID	-
	id	ID	-

Table 516 SourceNode, TargetNode

Data nesting information		Description	Range
value			
	name	Name	-
	type	Type	-
	storageIdentifier	Storage Serial Number	-
	id	ID	-

Table 517 Pool

Data nesting information		Description	Range
value			
	name	Pool Name	-

Data nesting information		Description	Range
	id	Pool ID	-
	filterType	Pool Type	-
	capacity	Total Capacity	-
	free	Available Capacity	-
	used	Used Capacity	-
	storageIdentifier	Storage Serial Number	-
	storageNodeid	Serial Node ID	-

Table 518 ResourceGroup

Data nesting information		Description	Range
value			
	id	ID	-
	name	Name	-
	virtualSerial	Virtual Serial Number	-
	storageNodeid	Storage Node ID	-
	storageIdentifier	Storage Serial Number	-

Table 519 QuorumDisk

Data nesting information		Description	Range
value			
	id	Quorum Disk ID	-
	name	Name	-
	productId	Model	-
	externalSerial	Serial Number	-
	pathStatus	Path status	-
	volumeStatus	Volume status	-

Online Migration (submit)

KeyName	Type	Description	Range	Default Value
SourceConfigurationManagerConnection	file	Specify the Source Configuration Manager Connection for migration.	See the following File type property list	-
SourceStorageSystem	file	Specify the Source Storage System for migration.	See the following File type property list	-
SourceVolumesFilter	file	Use the filters to display only the source volumes that match the specified criteria.	See the following File type property list	-
JoinFiltersBy	string	Use the "and" and the "or" operators to join multiple filters.	and, or	and
ResourceGroupFilter	string	Use the filter to display only the source volumes that belong to the resource group.		-
SourceVolumes	file	Specify the source volumes.	See the following File type property list	-
TargetConfigurationManagerConnection	file	Specify the Target Configuration Manager Connection for migration.	See the following File type property list	-
TargetStorageSystem	file	Specify the Target Storage System for migration.	See the following File type property list	-

KeyName	Type	Description	Range	Default Value
PortMappings	file	Specify mappings for the source and target storage ports. Based on the mappings, the system configures the I/O path between the host and the target storage port.	See the following File type property list	-
DataInstanceDirectorConnection	file	Specify the Data Instance Director Connection.	See the following File type property list	-
TemplateDataFlow	file	Specify the Data Flow for the template.	See the following File type property list	-
SourceNode	file	Specify the Source Block Device Node.	See the following File type property list	-
TargetNode	file	Specify the Target Block Device Node.	See the following File type property list	-
Pool	file	Specify the Target Pool.	See the following File type property list	-
ResourceGroup	file	Specify the Target Resource Group.	See the following File type property list	-
QuorumDisk	file	Specify the Quorum Disk.	See the following File type property list	-
CopyPace	integer	Specify the Copy Pace (Slow: 3, Medium: 8, or Fast: 15).	3,8,15	8

KeyName	Type	Description	Range	Default Value
mailsettings.enable	boolean	Specify whether to send an email notification when the migration target volume path allocation is complete. This enables you to confirm the path allocation listed in the email, then bring it online.	-	false
mailsettings.to ¹	string	Specify the primary (TO) email notification addresses.	0-1024	-
mailsettings.cc ¹	string	Specify additional CC email notification addresses.	0-1024	-
mailsettings.bcc ¹	string	Specify additional BCC email notification addresses.	0-1024	-
mailsettings.subject	string	Specify the email subject.	-	Migration task information. (Waiting for Action.)

KeyName	Type	Description	Range	Default Value
mailsettings.body	file	Specify the text of the email body.	-	Confirm the LUN paths of the target volumes in the Task Details dialog box. %taskDetails% For the target hosts, make sure that all of the LUN paths of the TARGET storage systems are online, and then click Migrate.

KeyName	Type	Description	Range	Default Value
userResponse.dialogText	file	Specify the text of the User-Response Wait dialog box.	-	Confirm the LUN paths of the target volumes in the Task Details dialog box. %taskDetails% For the target hosts, make sure that all of the LUN paths of the TARGET storage systems are online, and then click Migrate.
deleteHostGroupOption	boolean	Select the checkbox to delete the Host Group.	-	false
deleteVolumeOption	boolean	Select the checkbox to delete the Volume.	-	false
provisioning.fabricSetting.enabled	boolean	Specify True to enable fabric information collection functionality.	-	true

KeyName	Type	Description	Range	Default Value
provisioning.fabricSetting.connection.names	string	Specify the connection name defined in the Web Service Connections on the Administration Tab. Separate multiple values by commas. If this value is omitted, the system uses all connections that are defined for the product name listed in the Web Service Connections.	-	-
provisioning.fabricSetting.resourcegroups	string	Specify the switch management server resource group. Separate multiple values by commas.	-	All
provisioning.fabricSetting.fabrics	string	Specify the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	-	-
provisioning.fabricSetting.usingExistingZone	boolean	Specify whether to select a predefined zone or any connectable path. If you specify True, the system selects paths within the range of the existing Zone setting. If you specify False, the system selects connectable paths regardless of the existing Zone setting.	-	true

KeyName	Type	Description	Range	Default Value
provisioning.fabricSetting.hops.restriction	boolean	Determines whether the service will fail if there is no path that matches the specified collection range.	-	false
provisioning.zoneSetting.enabled	boolean	Specify True to enable the modify zone settings functionality.	-	true
provisioning.zoneSetting.useExistingZoneAliases	boolean	Specify True to use predefined Zone Aliases regardless of the naming conventions the user specifies. If you specify False, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions.	-	false
provisioning.zoneSetting.updateActiveZoneConfiguration	boolean	Specify True to add a Zone to the active Zone Configuration.	-	true
provisioning.zoneSetting.zoneConfigurationName	string	To add a zone to a Zone Configuration other than the active configuration, specify the name of the Zone Configuration in which to add the zone.	-	-

KeyName	Type	Description	Range	Default Value
provisioning.zoneSetting.namingScript.zone	file	Specify the naming convention script that determines the Zone name for the path.	-	Refer to the provisioning.zoneSetting.namingScript.zone example below.
provisioning.zoneSetting.namingScript.hostZoneAlias	file	Specify the naming convention script that determines the Zone Alias name for the host port.	-	Refer to the provisioning.zoneSetting.namingScript.hostZoneAlias example below.
provisioning.zoneSetting.namingScript.storageZoneAlias	file	Specify the zone information.	-	Refer to the provisioning.zoneSetting.namingScript.storageZoneAlias example below.
<p>Remarks</p> <p>1. <code>^(((^<>()\[\]\.\,\;\:\s@\"+)(\.[^<>()\[\]\.\,\;\:\s@\"+)*)(\".+\"))@((\[[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\]) ((([a-zA-Z0-9]+\.)+[a-zA-Z]{2,})),)*((^<>()\[\]\.\,\;\:\s@\"+)(\.[^<>()\[\]\.\,\;\:\s@\"+)*)(\".+\"))@((\[[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\]) ((([a-zA-Z0-9]+\.)+[a-zA-Z]{2,}))\$</code></p>				

provisioning.zoneSetting.namingScript.zone example

```
(function(args) {
  var name = args.hostName;
  if (name === null || !(typeof(name) == "string" || name instanceof String)) {
    throw new Error("Host name must be a string or null: "+ name);
  }
})
```

```

}
name = name.replace(/[^A-Za-z0-9_]/g, '_');
var wwn = args.hostPortWorldWideName;
if (wwn === null || !(typeof (wwn) == "string" || wwn instanceof String))
{
throw new Error("Host port WWN must be a string: " + wwn);
}
name = name + '_' + wwn.replace(/:/g, '').slice(-4);
if (name.length > 64) {
throw new Error("Zone alias name must be within 64 characters: " + name);
}
if (/^[A-Z]/i.test(name) == false) {
throw new Error("Zone alias name must start with a alphabet: " + name);
}
var SERVERALIAS = name;
var serial = args.storageSystemSerialNumber;
if (serial === null || !(typeof (serial) == "string" || serial instanceof
String)) {
throw new Error("Storage System Serial Number must be a string: " +
serial); }
name = args.storageSystemName; if (name) {
if (!(typeof(name) == "string" || name instanceof String)) {
throw new Error("Storage System name must be a string or undefined: "+
name);
}
name = name + '_' + serial.replace(/:/g, '').slice(-4); }
else{ name = 'SN'+serial; }
name = name.replace(/[^A-Za-z0-9_]/g, '_');
var PortName = args.storagePortName
if (PortName === null || !(typeof(PortName) == "string" || PortName
instanceof String)) {
throw new Error("Port Name must be a string: "+ PortName);
}
PortName = PortName.replace(/[^A-Za-z0-9_]/g, '_');
name = name + '_' + PortName; if (name.length > 64) {
throw new Error("Zone alias name must be within 64 characters: " + name);
}
if (/^[A-Z]/i.test(name) == false) {
throw new Error("Zone alias name must start with a alphabet: " + name);
}
var ARRAYALIAS = name; var name1 = SERVERALIAS + '_' + ARRAYALIAS;
if (name1.length > 64) {
throw new Error("Zone alias name must be within 64 characters: " +
name1);
}
if (/^[A-Z]/i.test(name1) == false) {
throw new Error("Zone alias name must start with a alphabet: " + name1);
}
return name1;
})

```

provisioning.zoneSetting.namingScript.hostZoneAlias example

```
(function(args) {
  var name = args.hostName;
  if (name === null || !(typeof(name) == "string" || name instanceof
String)) {
    throw new Error("Host name must be a string: "+ name);
  }
  name = name.replace(/[^A-Za-z0-9_]/g, '_');
  var wwn = args.hostPortWorldWideName;
  if (wwn === null || !(typeof(wwn) == "string" || wwn instanceof String))
{
    throw new Error("Host port WWN must be a string: " + wwn);
  }
  name = name + '_' + wwn.replace(/:/g, '').slice(-4); if (name.length >
64) {
    throw new Error("Zone alias name must be within 64 characters: " + name);
  }
  if (/^[A-Z]/i.test(name) == false) {
    throw new Error("Zone alias name must start with a alphabet: " + name);
  }
  return name;
})
```

provisioning.zoneSetting.namingScript.storageZoneAlias example

```
(function(args) {
  var name = args.storageSystemName; if (name) {
    if (!(typeof(name) == "string" || name instanceof String)) {
      throw new Error("Storage system name must be a string or null: "+ name);
    }
    name = name.replace(/[^A-Za-z0-9_]/g, '_');
  }
  var serial = args.storageSystemSerialNumber;
  if (serial === null || !(typeof(serial) == "string" || serial instanceof
String)) {
    throw new Error("Storage System Serial Number must be a string: " +
serial);
  }
  var PortName = args.storagePortName
  if (PortName === null || !(typeof(PortName) == "string" || PortName
instanceof String)) {
    throw new Error("Port Name must be a string: "+ PortName);
  }
  PortName = PortName.replace(/[^A-Za-z0-9_]/g, '_');
  if(name){ name = name + '_' + serial.replace(/:/g, '').slice(-4) + '_' +
PortName;
}
  else {
    name = 'SN' + serial.replace(/:/g, '') + '_' + PortName;
  }
}
```

```

if (name.length > 64) {
  throw new Error("Zone alias name must be within 64 characters: " + name);
}
if (/^[A-Z]/i.test(name) == false) {
  throw new Error("Zone alias name must start with a alphabet: " + name);
} return name;
})

```

File type property list

Table 520 SourceConfigurationManagerConnection, TargetConfigurationManagerConnection, DataInstanceDirectorConnection

Data nesting information		Description	Range
value			
	productName	Category	-
	name	Name	-
	ipAddress	IP Address/Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-
	connectedTime	Connected Time	-

Table 521 SourceStorageSystem, TargetStorageSystem

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	isSecure	Secure Connection	-
	svplp	SVP IP Address	-
	ctl1Ip	Controller 1 IP	-
	ctl2Ip	Controller 2 IP	-
	dkcMicroVersion	DKC Micro Version	-

Table 522 SourceVolumesFilter

Data nesting information		Description	Range
value ¹			
	key	Key used by the source volume filter	"LDEV ID", "Label", "External Volume Id" or "External Volume Id String"
	operator	Operator	When specify "LDEV ID", the following operators can be specified: "=", "<", ">", "<=", ">=", "!=". When specify "Label", "External Volume Id" or "External Volume Id String", the following operators can be specified: "=", "!=", "starts with", "ends with".
	value	Value	
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Table 523 SourceVolumes

Data nesting information		Description	Range
value			
	storageDeviceId	Storage Device ID	-
	ldevId	LDEV ID	-
	label	Label	-
	byteFormatCapacity	Capacity	-
	poolId	Pool ID	-
	portIds	Port ID	-
	hostGroupNames	Host Group Name	-
	iSCSINames	iSCSI Name	-

Table 524 PortMappings

Data nesting information		Description	Range
value ¹			
	sourcePort	Source Storage Port	-
	targetPort	Target Storage Port	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 525 TemplateDataFlow

Data nesting information		Description	Range
value			
	name	Name	-
	description	Description	-
	active	Status	-
	sourceNode	Source Node ID	-
	id	ID	-

Table 526 SourceNode, TargetNode

Data nesting information		Description	Range
value			
	name	Name	-
	type	Type	-
	storageIdentifier	Storage Serial Number	-
	id	ID	-

Table 527 Pool

Data nesting information		Description	Range
value			
	name	Pool Name	-

Data nesting information		Description	Range
	id	Pool ID	-
	filterType	Pool Type	-
	capacity	Total Capacity	-
	free	Available Capacity	-
	used	Used Capacity	-
	storageIdentifier	Storage Serial Number	-
	storageNodeid	Serial Node ID	-

Table 528 ResourceGroup

Data nesting information		Description	Range
value			
	id	ID	-
	name	Name	-
	virtualSerial	Virtual Serial Number	-
	storageNodeid	Storage Node ID	-
	storageIdentifier	Storage Serial Number	-

Table 529 QuorumDisk

Data nesting information		Description	Range
value			
	id	Quorum Disk ID	-
	name	Name	-
	productId	Model	-
	externalSerial	Serial Number	-
	pathStatus	Path status	-
	volumeStatus	Volume status	-

Online Migration (task details)

KeyName	Type	Description	Range
DataFlowInformation	file	Stores Data Flow information for the migration.	See the following File type property list
PrimarySite_PrimaryVolumesLUNPathConfigurationInformation	file	Stores LUN path information for the Source Site from the specified volumes.	See the following File type property list
SecondarySite_SecondaryVolumesLUNPathConfigurationInformation	file	Stores allocated LUN path information for the Target Site based on the volume allocation results.	See the following File type property list
CopyGroupConfigurationInformation	file	Stores copy group information.	See the following File type property list
DeletedCopyPairsInformation	file	Stores deleted copy pair information.	See the following File type property list
DeletedHostGroupsInformation	file	Stores deleted host group/iSCSI target information.	See the following File type property list
provisioning.taskResult.createdZoneConfigurations	file	Stores the newly created zone configuration.	See the following File type property list
provisioning.taskResult.createdZones	file	Stores the newly created zone information.	See the following File type property list
provisioning.taskResult.createdZoneAliases	file	Stores the newly created zone aliases.	See the following File type property list

KeyName	Type	Description	Range
provisioning.taskResult.updatedZoneConfigurations	file	Stores the updated zone configuration.	See the following File type property list
provisioning.taskResult.updatedZones	file	Stores the updated zone information.	See the following File type property list
provisioning.taskResult.updatedZoneAliases	file	Stores the updated zone aliases.	See the following File type property list

File type property list

Table 530 PrimaryVSMInformation, SecondaryVSMInformation

Data nesting information	Description	Range
value		
model	Physical model	-
serialNumber	Physical serial number	-
virtualModel	Virtual model	-
virtualSerialNumber	Virtual serial number	-
resourceGroupIds	Resource group ID	-
resourceGroupNames	Resource group name	-

Table 531 PrimaryQuorumDiskInformation, SecondaryQuorumDiskInformation

Data nesting information	Description	Range
value ¹		
ldevId	Volume	-
quorumDiskId ¹	Quorum Disk ID	-
label	LDEV label	-
byteFormatCapacity	Capacity	-

Data nesting information		Description	Range
	status	Status	-
	attributes	Attributes	-
	externalVolumeld	External volume ID	-
	externalVolumeldString	External volume ID string	-
	quorumStorageSerialNumber	Quorum storage serial number	-
	quorumStorageTypeid	Quorum storage type ID	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 532 RemotePathConfigurations

Data nesting information		Description	Range
value ¹			
	sourceStorage	Source Storage System	-
	sourceStorageConfigMgr	Source Storage System Config Mgr	-
	sourceMCUInitiatorPort	model	Source Storage MCU Initiator Port
	sourceRCUTargetPort	serialNumber	source Storage RCC Target Port
	targetStorage	storagePort	Target Storage System
	targetStorageConfigMgr	hostGroupNameOrIscsiTarget	Target Storage System Config Mgr
	targetMCUInitiatorPort	hostGroupNumber	Target Storage MCU Initiator Port
	targetRCUTargetPort		Target Storage RCC Target Port
	pathGroupId		Path Group ID
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

**Table 533 /ConfigurePairManagementServers/AllocatePrimaryCommandDevice/
LUNPathConfigurationInformation, /ConfigurePairManagementServers/
AllocateSecondaryCommandDevice/LUNPathConfigurationInformation**

Data nesting information		Description	Range
value ¹			
	hostPort	Host Port	-
	storagePort	Storage Port	-
	lun	LUN	-
	portType	Port Type	-
	capacity	Capacity	-
	ldevId	Volume	-
	hostGroupNameOrIscsiTarget	Host Group Name/iSCSI Target	-
	model	Model	-
	serialNumber	Serial No.	-
	ldevLabel	LDEV Label	-
	resourceGroupName	Resource Group	-
	virtualLdevId	Virtual LDEV ID	-
	configurationManager	Configuration Manager	-
	poolId	Pool	-
	parityGroup	Parity Group	-
	attributes	Attributes	-
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p>			

Configure CIFS/NFS for Hitachi

Use the following properties to modify or create values for the Configure CIFS/NFS for Hitachi service.

Configure CIFS/NFS for Hitachi (edit)

keyName	Type	Description	Range	Default value
agentless.connection.type	string	Select the connection type.	"Internal" or "External"	"Internal"
agentless.connection ¹	string	Specify the IP address or host name of the Server/Cluster. The Admin user must add the Server/Cluster host user credentials to the Agentless Remote Connection settings in the Administration tab.	-	-
external.smu.agentless.connection ²	string	Specify the IP address or host name of the SMU Server. The Admin user must add the SMU Server user credentials to the Agentless Remote Connection settings in the Administration tab.	-	-
external.smu.cluster.choices ²	array of composite	Specify the Server/Cluster configuration.	-	-

keyName	Type	Description	Range	Default value
external.smu.cluster.selection ²	string	Select the Server/Cluster name which is specified at clusterName in external.smu.cluster.choices.	-	-
maxConnectionRetryCount	integer	Specify the retry count for SMU connections. It takes about one minute per retry.	1-60	5
file.system.share.protocol	string	Select the sharing protocol.	"CIFS" or "NFS" or "CIFS & NFS"	CIFS&NFS
create.evs	boolean	Specify whether to create an Enterprise Virtual Server (EVS).	true or false	true
create.file.system	boolean	Specify whether to create a file system.	true or false	true
create.use.or.not.vivol	string	Specify whether to create new virtual volumes, use existing virtual volumes, or do not use any virtual volumes.	"Create Virtual Volume", "Use Existing Virtual Volume" or "Do Not Use Virtual Volume"	Create Virtual Volume
create.share	boolean	Specify whether to create a CIFS share, an NFS export, or both.	true or false	true

keyName	Type	Description	Range	Default value
evs.security.context	string	Specify whether an EVS uses the global cluster-wide settings or uses individual security settings.	"Global" or "Individual"	Global
evs.ip.version	string	Specify the IP Version.	"IPv4" or "IPv6"	IPv4
evs.ipaddress	string	Specify the IPv4 address of the Enterprise Virtual Server (EVS).	Restricted Characters: ^(([1-9]?[0-9] 1[0-9]{2} 2[0-4][0-9] 25[0-5])\.)\.{3}([1-9]?[0-9] 1[0-9]{2} 2[0-4][0-9] 25[0-5])\$	-
evs.subnetmask	string	Specify the Subnetmask of the Enterprise Virtual Server (EVS).	Restricted Characters: ^((128 192 224 24[08] 25[245])\.)((0 128 192 224 24[08] 25[245])\.)\.{2}(0 128 192 224 24[08] 25[24])\$	-
evs.ipaddress.for.ipv6	string	Specify the IPv6 address and prefix length of the Enterprise Virtual Server (EVS).	Restricted Characters: ^[0-9a-fA-F:\V]*\$ Character Length: 1-43	-
evs.port	string	Specify the Port of the Enterprise Virtual Server (EVS).	-	-

keyName	Type	Description	Range	Default value
evs.label	string	Specify the Enterprise Virtual Server (EVS) label.	Restricted Characters: ^[0-9a-zA-Z\\-]*[a-zA-Z]+[0-9a-zA-Z\\-]*\$ Character Length: 1-15	-
evs.smb.max.version	integer	Specify the maximum version of the SMB.	1 or 2 or 2.1 or 3	2
configure.dns.settings	boolean	Specify whether to configure DNS Server Settings.	true or false	false
dns.server.ipaddress	string	Specify the IP address (IPv4 or IPv6) of the DNS Server.	Maximum Length: 39	-
evs.security.mode.cifs.nfs ³	string	Specify the default file system security mode for creating CIFS and NFS.	"Unix (supports Windows)" or "Mixed (Windows and Unix)"	Unix (supports Windows)
evs.security.mode.cifs ³	string	Specify the default file system security mode for creating CIFS only.	"Unix (supports Windows)" or "Mixed (Windows and Unix)"	Unix (supports Windows)
evs.security.mode.nfs ³	string	Specify the default file system security mode creating NFS only.	"Unix (supports Windows)" or "Mixed (Windows and Unix)"	Unix (supports Windows)
configure.active.directory.settings	boolean	Specify whether to configure Active Directory settings.	true or false	false

keyName	Type	Description	Range	Default value
dc.ipaddress	string	Specify the IP address (IPv4 or IPv6) of the Domain Controller (DC).	-	-
dc.admin.user	string	Specify the Administrator User of the Domain Controller (DC).	-	-
dc.admin.password	password	Specify the Administrator Password of the Domain Controller (DC).	-	-
cifs.server.account.name	string	Specify the account name of the CIFS server in Active Directory.	Restricted Characters: ^[0-9a-zA-Z\\-]*[a-zA-Z][0-9a-zA-Z\\-]*\$ Character Length: 1-15	-
new.location	string	The Active Directory folder in which to create the computer account. By default, the computer account is created in the Computers folder.	-	-
user.groups ³	string	Specify which user groups to add to the CIFS Server Administrators Group.	-	-

keyName	Type	Description	Range	Default value
add.spn	boolean	Specify whether to modify the Service Principal Names (SPNs) directory property for the Active Directory service account.	true or false	false
spn	string	Specify the Service Principal Names (SPNs).	Character Length: 1-64	-
configure.ldap.settings ³	boolean	Specify whether to configure LDAP settings.	true or false	false
ldap.servers ³	composite	Specify the LDAP Server settings.	-	-
ldap.user ³	string	Specify the User for the LDAP Server.	-	-
ldap.password ³	password	Specify the Password for the LDAP Server.	-	-
ldap.domain.name ³	string	Specify the Domain Name of the LDAP Server.	Restricted Characters: ^{?! \S?\.})[\S]*\$	-
ldap.schema ³	string	Select the LDAP schema.	"RFC-2307" or "MS Services for Unix" or "MS Identity Management for Unix" or "MS Active Directory"	RFC-2307
ldap.dns.priority ³	string	Select whether the priority is LDAP or DNS.	DNS or LDAP	DNS
file.system.name	string	Specify the file system label.	Character Length: 1-255	-

keyName	Type	Description	Range	Default value
file.system.pool.name	string	Specify the storage pool.	Character Length: 1-255	-
file.system.evs	string	Specify the existing Enterprise Virtual Server (EVS) label.	-	-
file.system.capacity ⁴	integer	Specify the amount of storage to allocate to the file system in GiB or TiB.	-	-
file.system.blocksize.in kib	integer	Select the Block Size of the file system.	32 or 4	32
file.system.allocate.on.demand	string	Select the Allocation Type for the file system.	"Allocate On Demand" or "Allocate Now"	Allocate On Demand
file.system.deduplication	boolean	Specify whether to enable file deduplication.	true or false	false
file.system.security.mode.cifs.nfs	string	Specify the file system security mode to be set when the CIFS and NFS protocol is selected.	"Default (Inherit the parent security)", "Unix (supports Windows)" or "Mixed (Windows and Unix)"	Default (Inherit the parent security)
file.system.security.mode.cifs	string	Specify the file system security mode to be set when the CIFS protocol is selected.	"Default (Inherit the parent security)", "Unix (supports Windows)" or "Mixed (Windows and Unix)"	Default (Inherit the parent security)

keyName	Type	Description	Range	Default value
file.system.security.mode.nfs	string	Specify the file system security mode to be set when the NFS protocol is selected.	"Default (Inherit the parent security)", "Unix (supports Windows)" or "Mixed (Windows and Unix)"	Default (Inherit the parent security)
file.system.email.contact	string	Specify the email addresses for sending email notification when the file system exceeds a size threshold. Ensure that you configure the SMTP settings on the related SMU in advance.	Restricted Characters: ^([\s";<>\\[\]\(\),]*)\$ Maximum Length: 512	
file.system.user.quota.defaults	composite	The quota default values define a template that the system uses to automatically generate a quota in response to a file being saved on the file system. If a file is saved, and the respective defaults are set, a user quota is created for each user.		

keyName	Type	Description	Range	Default value
file.system.group.quota.defaults	composite	<p>The quota default values define a template which the system uses to automatically generate a quota in response to a file being saved on the file system. If a file is saved, and the respective defaults are set, each group quota is created for the user's domain respectively. Group quota defaults are created with the Automatically Create Quotas for Domain Users option. Therefore, default quotas for the group Domain Users are also created automatically. By default, every NT user belongs to the group Domain Users, which includes every NT user in the quota unless each user's primary group has been set explicitly. For additional information, see</p>		

keyName	Type	Description	Range	Default value
		"Setting user/ group defaults" in the <i>File Services Administration Guide</i> .		
vivol.and.quota.common. properties ⁵	compo site	Specify common properties for virtual volumes and quotas.	-	-
vivol.and.quota.each.pro perties ⁵	array of compo site	Specify properties of each virtual volume and quota.	Array Range: 1-5	-
file.system.cifs.share.na me ⁶	string	Specify the CIFS share name.	Restricted Characters: ^[\ \\"*\\:\<\> \? \] \$ Character Length: 1-80	-
file.system.cifs.share.evs	string	Specify the existing Enterprise Virtual Server (EVS) label.	Restricted Characters: ^[0-9a-zA-Z \\-]*[a-zA-Z] +[0-9a-zA-Z\\-]*\$ Character Length: 1-15	
file.system.cifs.share.file. system	string	Specify the existing file system name.	-	-
file.system.cifs.share.qtre e.directory.path ⁶	string	Specify the directory to which the CIFS share points.	Restricted Characters: ^[\ \\"*\\:\<\> \? \] \$ Character Length: 1-254	\

keyName	Type	Description	Range	Default value
file.system.cifs.share.access.configuration ⁶	composite	Specify the IP addresses (IPv4 or IPv6) of clients that can access the share (up to 950 characters are allowed in this field). Refer to the IP Address Configuration content in the "CIFS Share Detail" section of the Hitachi NAS online help.	Maximum Length: 950	-

keyName	Type	Description	Range	Default value
file.system.cifs.share.permission ⁷	composite	Specify the user/group accounts and permissions for adding share access authentication entries to shares. Specify permissions as follows: ax = allow x, dx = deny x, where x is: r(Read), c(Change), cr(Change & Read) or f(Full Control). To specify two or more accounts, separate them by using line breaks for each. For example, this entry allows you to grant Change & Read rights to members of the 'EXAMPLE \Finance' group: EXAMPLE \Finance(acr)	Maximum Length: 990	-
file.system.cifs.share.properties	array of composite	Specify CIFS share properties.	Array Range: 1-5	-
file.system.nfs.export.name ⁶	string	Specify the name of the NFS export.	Character Length: 1-79	-

keyName	Type	Description	Range	Default value
file.system.cifs.share.evs	string	Specify the existing Enterprise Virtual Server (EVS) label.	Restricted Characters: ^[0-9a-zA-Z\\-]*[a-zA-Z]+[0-9a-zA-Z\\-]*\$ Character Length: 1-15	
file.system.nfs.export.file.system	string	Specify the existing file system name.	-	-
file.system.nfs.export.qtree.directory.path ⁶	string	Specify the subpath of the shared directory.	Restricted Character: ^/.*\$ Character Length: 1-255	/
file.system.nfs.export.access.configuration ⁶	composite	Specify the IP addresses of clients that can access the share (up to 950 characters are allowed in this field). Refer to the IP Address Configuration content in the "NFS Export Detail" section of the Hitachi NAS online help.	Maximum Length: 950	-
file.system.nfs.export.properties	array of composite	Specify NFS export properties.	Array Range: 1-5	-
<ol style="list-style-type: none"> 1. Required when "agentless.connection.type" is "Internal" 2. Required when "agentless.connection.type" is "External" 3. If "evs.security.context" is "Individual", activate this property. 4. Capacity(GiB) 5. If "create.use.or.not.vivol" is true, activate "vivol.and.quota.common.properties" group properties. 6. If "create.use.or.not.vivol" is "Do Not User Virtual Volume", show this property. 				

keyName	Type	Description	Range	Default value
7. Presentation is "textarea" Note: When 91 or more accounts are registered, meaning that there are 90 or more line feed codes, it causes an error.				

File type property list

Table 534 ldap.settings

Data nesting information	Type	Description	Range	Default Value
values				
ldap.servers	composite	-	-	-
ipaddress	string	Specify the IP address (IPv4) or host name of the LDAP Server.	-	-
port	integer	Specify the port for the LDAP Server.	0 - 65535	389

Table 535 cifs.share.settings

Data nesting information	Type	Description	Range
values			
file.system.cifs.share.access.configuration	composite	-	Maximum Length: 950

Table 536 nfs.export.settings

Data nesting information	Type	Description	Range
values			

Data nesting information		Type	Description	Range
	file.system.nfs.export.access.configuration	composite	-	Maximum Length: 950

Table 537 external.smu.cluster.choices

Data nesting information		Type	Description	Range
values				
	external.smu.cluster.choices	composite	-	-
	clusterName	string	Specify the Server/Cluster name.	-
	clusterNodeIpAddresses	array of string	Specify the IPv4 addresses of all nodes in the cluster in case the number of maximum connections of NAS Module tasks are simultaneously running and the limit is exceeded. If this happens, and this parameter is not set, the service can simultaneously run only the maximum number of tasks and the rest of the tasks will fail with a connection error.	-

Table 538 vivol.and.quota.common.properties

Data nesting information		Type	Description	Range	Default Value
values			-	-	-
	vivol.and.quota.common.properties ¹	composite	-	-	-

Data nesting information		Type	Description	Range	Default Value
	existingEvsName	string	Specify the existing Enterprise Virtual Server (EVS) label.	Restricted Characters: $^{\wedge}[0-9a-zA-Z\-\]^*[a-zA-Z\-\]^+[\$]$ Character Length: 1-15	
	existingFileSystemName ²	string	Specify the existing file system label.		-
	commonVirtualVolumesSettings		Specify common properties for virtual volumes.	-	-
	securityModeCifsAndNfs	string	Specify the virtual volume security mode to set when selecting the CIFS and NFS protocols.	"Default (Inherit the parent security)", "Unix (supports Windows)" or "Mixed (Windows and Unix)"	Default (Inherit the parent security)
	securityModeCifs	string	Specify the security mode of the virtual volumes to set when selecting the CIFS protocol only.	"Default (Inherit the parent security)", "Unix (supports Windows)" or "Mixed (Windows and Unix)"	Default (Inherit the parent security)
	securityModeNfs	string	Specify the security mode of the virtual volumes to set when selecting the NFS protocol only.	"Default (Inherit the parent security)", "Unix (supports Windows)" or "Mixed (Windows and Unix)"	Default (Inherit the parent security)

Data nesting information		Type	Description	Range	Default Value
	emailContact	string	Specify the email contact to receive information about volume usage. Ensure that you configure the SMTP settings on the related SMU in advance.	Restricted Characters: ^([\^\\ \s";<>[\]\(\),]*)\$ Character Length: 0-512	-
	quotaSettingsVivol	object	Specify the Quota Setting for virtual volumes.	-	-
	isAddingQuotaVivol ³	boolean	Specify whether to add quotas for virtual volumes.	true or false	TRUE
	hardLimitVivol	boolean	Specify whether to enable a hard limit for virtual volumes. When enabled, the amount of space and number of files specified in the usage limit and file count cannot be exceeded.	true or false	TRUE
	usageLimitVivol	integer	Specify the usage limit for virtual volumes in MiB, GiB, or TiB.	1-2199023254528 MiB	-

Data nesting information		Type	Description	Range	Default Value
	usageWarnVivol ⁴	integer	Specify the usage warning threshold for virtual volumes. (%)	5-99	75
	usageSevereVivol ⁵	integer	Specify the usage severe threshold for virtual volumes. (%)	5-99	85
	fileCountLimitVivol	string	Specify the file count limit for virtual volumes.	Restricted Characters: [0-9]	-
	fileCountWarnVivol ⁶	integer	Specify the file count warning threshold for virtual volumes. (%)	5-99	75
	fileCountSevereVivol ⁷	integer	Specify the file count severe threshold for virtual volumes. (%)	5-99	85
	quotaSettingUsersAndGroups ⁸	object	Specify the Quota Setting for users and groups.	-	-
	isAddingQuotaUsersAndGroups ⁹	boolean	Specify whether to add quotas for users and groups.	true or false	TRUE

Data nesting information		Type	Description	Range	Default Value
	hardLimitUsersAndGroups	boolean	Specify whether to enable a hard limit for users and groups. When enabled, the amount of space and number of files specified in the usage limit and count limit cannot be exceeded.	true or false	TRUE
	usageLimitUsersAndGroups	integer	Specify the usage limit for users and groups in MiB, GiB, or TiB.	1-2199023254528 MiB	-
	usageWarnUsersAndGroups ¹⁰	integer	Specify the usage warning threshold for users and groups. (%)	5-99	75
	usageSevereUsersAndGroups ¹¹	integer	Specify the usage severe threshold for users and groups. (%)	5-99	85
	fileCountLimitUsersAndGroups	string	Specify the file count limit for users and groups.	Restricted Characters: [0-9]	-
	fileCountWarnUsersAndGroups	integer	Specify the file count warning threshold for users and groups. (%)	5-99	75
	fileCountSevereUsersAndGroups	integer	Specify the file count severe threshold for users and groups. (%)	5-99	85

Data nesting information	Type	Description	Range	Default Value
<ol style="list-style-type: none"> 1. If "create.use.or.not.vivol" is true activate "vivol.and.quota.common.properties" group properties. 2. If "create.file.system" is true and "create.use.or.not.vivol" is "Create Virtual Volume" or "Use Existing Virtual Volume", show this property. 3. If this value is false, deactivate other "quotaSettingVivol" group properties. 4. When "usageSevereVivol" has a value, if "usageWarnVivol" is larger than that value, it is an error. 5. When "usageWarnVivol" has a value, if "usageSevereVivol" is larger than that value, it is an error. 6. When "fileCountSevereVivol" has a value, if "usageWarnVivol" is larger than that value, it is an error. 7. When "fileCountWarnVivol" has a value, if "fileCountSevereVivol" is larger than that value, it is an error. 8. If "create.use.or.not.vivol" is true, activate "vivol.and.quota.common.properties" group properties. 9. If this value is false, deactivate other "quotaSettingUsersAndGroups" group properties. 10. When "usageSevereUsersAndGroups" has a value, if "usageWarnUsersAndGroups" is larger than that value, it is an error. 11. When "usageWarnUsersAndGroups" has a value, if "usageSevereUsersAndGroups" is larger than that value, it is an error. 				

Table 539 vivol.and.quota.each.properties

Data nesting information	Type	Description	Range
values			
vivol.and.quota.common.properties	composite	-	-
vivolName ¹	string	Specify the virtual volume name.	Character Length: 1-79
vivolRootDirectoryPath ²	string	Specify the file system directory path to use as the root of the virtual volume.	Character Length: 2-255

Data nesting information		Type	Description	Range
	userAccounts Quota ³	object	Specify one or more user accounts for which to restrict the available space or the number of files for the virtual volumes. To specify two or more accounts, separate them by using line breaks for each.	Character Length: 1-450
	groupAccounts Quota ⁴	object	Specify one or more group accounts for which to restrict the available space or the number of files for the virtual volumes. To specify two or more accounts, separate them by using line breaks for each.	Character Length: 1-450
<ol style="list-style-type: none"> 1. If the same vivol name is specified in another Virtual Volume object (vivol.and.quota.common.properties), it is an error. 2. If there is no "/" in the first character of the path, it is an error. If the same path is specified in another Virtual Volume object (vivol.and.quota.common.properties), it is an error. 3. When 10 or more users are registered, that is, when there are nine or more line feed codes, it is an error. 4. When 10 or more groups are registered, that is, when there are nine or more line feed codes, it is an error. 				

Table 540 file.system.cifs.share.properties

Data nesting information		Type	Description	Range
values ¹				
	file.system.cifs.share.properties ²	object	-	-
	vivolName ³	string	Select a virtual volume.	
	existingVivolName ⁴	string	Specify an existing virtual volume.	Character Length: 1-80

Data nesting information		Type	Description	Range
	accessConfiguration ⁵	object	Specify the IP addresses of clients that can access the share (up to 950 characters are allowed in this field). Refer to the IP Address Configuration content in the "NFS Export Detail" section of the Hitachi NAS online help.	Maximum Length: 950
	userAndGroupAccountforPermission ⁶	object	Specify the user/group accounts and permissions for adding share access authentication entries to shares. Specify permissions as follows: ax = allow x, dx = deny x, where x is: r(Read), c(Change), cr(Change & Read) or f(Full Control). To specify two or more accounts, separate them by using line breaks for each. For example, this entry allows you to grant Change & Read rights to members of the 'EXAMPLE\Finance' group: EXAMPLE\Finance(acr)	Maximum Length: 990
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. If "create.use.or.not.vivol" is "Create Virtual Volume" or "Use Existing Virtual Volume", show this property. If "create.share" is true, "create.use.or.not.vivol" is "Create Virtual Volume" or "Use Existing Virtual Volume", and "file.system.share.protocol" is "CIFS" or "CIFS & NFS", activate this property. 3. If the same vivol name is specified in another CIFS share object (file.system.cifs.share.properties), it is an error. 4. If the same existing vivol name is specified in another CIFS export object (file.system.cifs.share.properties), it is an error. 5. Presentation is "textarea" 6. Presentation is "textarea" <p>Note: When 91 or more accounts are registered, meaning that there are 90 or more line feed codes, it causes an error.</p>				

Table 541 file.system.nfs.export.properties

Data nesting information		Type	Description	Range
values ¹				
	file.system.nfs.export.properties ²	object	-	-
	vivolName ³	string	Select a virtual volume.	
	existingVivolName ⁴	string	Specify an existing virtual volume.	Character Length: 1-79
	accessConfiguration ⁵	object	Specify the IP addresses of clients that can access the share (up to 950 characters are allowed in this field). Refer to the IP Address Configuration content in the "NFS Export Detail" section of the Hitachi NAS online help.	Maximum Length: 950
<p>1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.</p> <p>2. If "create.use.or.not.vivol" is "Create Virtual Volume" or "Use Existing Virtual Volume", show this property.</p> <p>If "create.share" is true, "create.use.or.not.vivol" is "Create Virtual Volume" or "Use Existing Virtual Volume", and "file.system.share.protocol" is "NFS" or "CIFS & NFS", activate this property.</p> <p>3. If the same vivol name is specified in another NFS export object (file.system.cifs.share.properties), it is an error.</p> <p>4. If the same existing vivol name is specified in another NFS export object (file.system.cifs.share.properties), it is an error.</p> <p>5. Presentation is "textarea"</p>				

Table 542 file.system.user.quota.defaults

Data nesting information		Type	Description	Range	Default Value
values ¹					
	isAddDefaultQuota ²	boolean	Specify whether to add user quota defaults for the file system.	true or false	false

Data nesting information		Type	Description	Range	Default Value
	hardLimit	boolean	Specify whether to enable a hard limit for the user quota defaults. When enabled, the amount of space and number of files specified in the usage and file count limits cannot be exceeded.	true or false	true
	usageLimit	integer	Specify the user quota default usage limit in MiB, GiB, or TiB.	1-219902325 4528 MiB	-
	usageWarn ³	integer	Specify the user quota default usage warning threshold. (%)	5-99	75
	usageSevere ³	integer	Specify the user quota default usage severe threshold. (%)	5-99	85
	fileCountLimit	integer	Specify the user default file count limit.	Restricted Characters: [0-9]	-
	fileCountWarn ⁴	integer	Specify the user quota default file count warning threshold. (%)	5-99	75
	fileCountSevere ⁴	integer	Specify the user quota default file count severe threshold. (%)	5-99	85
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. If this value is false, deactivate other properties of "file.system.user.quota.defaults" 3. When "usageWarn" has a value, if "usageSevere" is larger than that value, it is an error. 4. When "fileCountWarn" has a value, if "fileCountSevere" is larger than that value, it is an error. 					

Table 543 file.system.group.quota.defaults

Data nesting information		Type	Description	Range	Default Value
values ¹					
	isAddDefaultQuota ²	boolean	Specify whether to add group quota defaults for the file system.	true or false	false
	hardLimit	boolean	Specify whether to enable a hard limit for the group quota defaults. When enabled, the amount of space and number of files specified in the usage and file count limits cannot be exceeded.	true or false	true
	usageLimit	integer	Specify the group quota default usage limit in MiB, GiB, or TiB.	1-2199023254528 MiB	-
	usageWarn ³	integer	Specify the group quota default usage warning threshold. (%)	5-99	75
	usageSevere ³	integer	Specify the group quota default usage severe threshold. (%)	5-99	85
	fileCountLimit	integer	Specify the group default file count limit.	Restricted Characters: [0-9]	-
	fileCountWarn ⁴	integer	Specify the group quota default file count warning threshold. (%)	5-99	75
	fileCountSevere ⁴	integer	Specify the group quota default file count severe threshold. (%)	5-99	85

Data nesting information	Type	Description	Range	Default Value
		<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. If this value is false, deactivate other properties of "file.system.user.quota.defaults" 3. When "usageWarn" has a value, if "usageSevere" is larger than that value, it is an error. 4. When "fileCountWarn" has a value, if "fileCountSevere" is larger than that value, it is an error. 		

Configure CIFS/NFS for Hitachi (submit)

keyName	Type	Description	Range	Remark	Default value
agentless.connection.type	string	Select the connection type.	"Internal" or "External"	-	"Internal"
agentless.connection	string	Specify the IP address or host name of the Server/Cluster. The Admin user must add the Server/Cluster host user credentials to the Agentless Remote Connection settings in the Administration tab.	-	Required when "agentless.connection.type" is "Internal"	-

keyName	Type	Description	Range	Remark	Default value
external.smu.agentless.connection	string	Specify the IP address or host name of the SMU Server. The Admin user must add the SMU Server user credentials to the Agentless Remote Connection settings in the Administration tab.	-	Required when "agentless.connection.type" is "External"	-
external.smu.cluster.choices	array of composite	Specify the Server/Cluster configuration.	-	Required when "agentless.connection.type" is "External"	-
external.smu.cluster.selection	string	Select the Server/Cluster name which is specified at clusterName in external.smu.cluster.choices.	-	Required when "agentless.connection.type" is "External"	-
maxConnectionRetryCount	integer	Specify the retry count for SMU connections. It takes about one minute per retry.	1-60	-	5
file.system.share.protocol	string	Select the sharing protocol.	"CIFS" or "NFS" or "CIFS & NFS"	-	CIFS&NFS

keyName	Type	Description	Range	Remark	Default value
create.evs	boolean	Specify whether to create an Enterprise Virtual Server (EVS).	true or false	-	true
create.file.system	boolean	Specify whether to create a file system.	true or false	-	true
create.use.or.not.vivol	string	Specify whether to create new virtual volumes, use existing virtual volumes, or do not use any virtual volumes.	"Create Virtual Volume", "Use Existing Virtual Volume" or "Do Not Use Virtual Volume"	-	Create Virtual Volume
create.share	boolean	Specify whether to create a CIFS share, an NFS export, or both.	true or false	-	true
evs.security.context	string	Specify whether an EVS uses the global cluster-wide settings or uses individual security settings.	"Global" or "Individual"		Global
evs.ip.version	string	Specify the IP Version.	"IPv4" or "IPv6"	-	IPv4

keyName	Type	Description	Range	Remark	Default value
evs.ipaddress	string	Specify the IPv4 address of the Enterprise Virtual Server (EVS).	Restricted Characters: ^(([1-9]?[0-9] 1[0-9]{2} 2[0-4][0-9] 25[0-5])\.)\{3}([1-9]?[0-9] 1[0-9]{2} 2[0-4][0-9] 25[0-5])\$	-	-
evs.subnetmask	string	Specify the Subnetmask of the Enterprise Virtual Server (EVS).	Restricted Characters: ^((128 192 224 24[08] 25[245])\.)((0 128 192 224 24[08] 25[245])\.)\{2}(0 128 192 224 24[08] 25[24])\$	-	-
evs.ipaddress.for.ipv6	string	Specify the IPv6 address and prefix length of the Enterprise Virtual Server (EVS).	Restricted Characters: ^[0-9a-fA-F\\:\V]*\$ Character Length: 1-43	-	-
evs.port	string	Specify the Port of the Enterprise Virtual Server (EVS).	-	-	-
evs.label	string	Specify the Enterprise Virtual Server (EVS) label.	Restricted Characters: ^[0-9a-zA-Z\\-]*[a-zA-Z]+[0-9a-zA-Z\\-]*\$ Character Length: 1-15	-	-

keyName	Type	Description	Range	Remark	Default value
evs.smb.max.version	integer	Specify the maximum version of the SMB.	1 or 2 or 2.1 or 3	-	2
configure.dns.settings	boolean	Specify whether to configure DNS Server Settings.	true or false	-	false
dns.server.ipaddress	string	Specify the IP address (IPv4 or IPv6) of the DNS Server.	Maximum Length: 39	-	-
configure.active.directory.settings	boolean	Specify whether to configure Active Directory settings.	true or false	-	false
dc.ipaddress	string	Specify the IP address (IPv4 or IPv6) of the Domain Controller (DC).	-	-	-
dc.admin.user	string	Specify the Administrator User of the Domain Controller (DC).	-	-	-
dc.admin.password	password	Specify the Administrator Password of the Domain Controller (DC).	-	-	-

keyName	Type	Description	Range	Remark	Default value
cifs.server.account.name	string	Specify the account name of the CIFS server in Active Directory.	Restricted Characters: ^[0-9a-zA-Z\\-]*[a-zA-Z]+[0-9a-zA-Z\\-]*\$ Character Length: 1-15	-	-
new.location	string	The Active Directory folder in which to create the computer account. By default, the computer account is created in the Computers folder.	-	-	-
user.groups	string	Specify which user groups to add to the CIFS Server Administrators Group.	-	If "evs.security.context" is "Individual", activate this property.	-

keyName	Type	Description	Range	Remark	Default value
add.spn	boolean	Specify whether to modify the Service Principal Names (SPNs) directory property for the Active Directory service account.	true or false	-	false
spn	string	Specify the Service Principal Names (SPNs).	Character Length: 1-64	-	-
configure.ldap.settings	boolean	Specify whether to configure LDAP settings.	true or false	If "evs.security.context" is "Individual", activate this property.	false
ldap.servers	composite	Specify the LDAP Server settings.	-	If "evs.security.context" is "Individual", activate this property.	-

keyName	Type	Description	Range	Remark	Default value
ldap.user	string	Specify the User for the LDAP Server.	-	If "evs.security.context" is "Individual", activate this property.	-
ldap.password	password	Specify the Password for the LDAP Server.	-	If "evs.security.context" is "Individual", activate this property.	-
ldap.domain.name	string	Specify the Domain Name of the LDAP Server.	Restricted Characters: $^{?!\\S?\\.}[\S]*\$$	If "evs.security.context" is "Individual", activate this property.	-
ldap.schema	string	Select the LDAP schema.	"RFC-2307" or "MS Services for Unix" or "MS Identity Management for Unix" or "MS Active Directory"	If "evs.security.context" is "Individual", activate this property.	RFC-2307

keyName	Type	Description	Range	Remark	Default value
ldap.dns.priority	string	Select whether the priority is LDAP or DNS.	DNS or LDAP	If "evs.security.context" is "Individual", activate this property.	DNS
file.system.name	string	Specify the file system label.	Character Length: 1-255	-	-
file.system.pool.name	string	Specify the storage pool.	Character Length: 1-255	-	-
file.system.evs	string	Specify the existing Enterprise Virtual Server (EVS) label.	-	-	-
file.system.capacity	integer	Specify the amount of storage to allocate to the file system in GiB or TiB.	-	Capacity(GiB)	-
file.system.blocksize.inkib	integer	Select the Block Size of the file system.	32 or 4	-	32
file.system.allocate.on.demand	string	Select the Allocation Type for the file system.	"Allocate On Demand" or "Allocate Now"	-	Allocate On Demand
file.system.deduplication	boolean	Specify whether to enable file deduplication.	true or false	-	false

keyName	Type	Description	Range	Remark	Default value
file.system.email.contact	string	Specify the email addresses for sending email notification when the file system exceeds a size threshold. Ensure that you configure the SMTP settings on the related SMU in advance.	Restricted Characters: ^[^\\s";<>\\[\\(\\),]*\$ Maximum Length: 512		
file.system.user.quota.defaults	composite	The quota default values define a template that the system uses to automatically generate a quota in response to a file being saved on the file system. If a file is saved, and the respective defaults are set, a user quota is created for each user.			

keyName	Type	Description	Range	Remark	Default value
file.system.group.quota.defaults	composite	<p>The quota default values define a template which the system uses to automatically generate a quota in response to a file being saved on the file system. If a file is saved, and the respective defaults are set, each group quota is created for the user's domain respectively. Group quota defaults are created with the Automatically Create Quotas for Domain Users option. Therefore, default quotas for the group Domain Users are also created automatically. By default, every NT user belongs to the group Domain Users, which includes every NT user in the</p>			

keyName	Type	Description	Range	Remark	Default value
		quota unless each user's primary group has been set explicitly. For additional information, see "Setting user/group defaults" in the <i>File Services Administration Guide</i> .			
vivol.and.quota.common.properties	composite	Specify common properties for virtual volumes and quotas.	-	If "create.use.or.not.vivol" is true, activate "vivol.and.quota.common.properties" group properties.	-

keyName	Type	Description	Range	Remark	Default value
vivol.and.quota.each.properties	array of composite	Specify properties of each virtual volume and quota.	Array Range: 1-5	If "create.use.or.not.vivol" is true, activate "vivol.and.quota.common.properties" group properties.	-
file.system.cifs.share.name	string	Specify the CIFS share name.	Restricted Characters: $^[\backslash / * \backslash: < \> \? \] *\$$ Character Length: 1-80	If "create.use.or.not.vivol" is "Do Not User Virtual Volume", show this property.	-
file.system.cifs.share.evs	string	Specify the existing Enterprise Virtual Server (EVS) label.	Restricted Characters: $^[0-9a-zA-Z\backslash]*[a-zA-Z\backslash]+[0-9a-zA-Z\backslash]*\$$ Character Length: 1-15		
file.system.cifs.share.file.system	string	Specify the existing file system name.	-	-	-

keyName	Type	Description	Range	Remark	Default value
file.system.cifs.share.qtree.directory.path	string	Specify the directory to which the CIFS share points.	Restricted Characters: ^\ [^"*\V:\<\>?\ \]]*\$ Character Length: 1-254	If "create.use.or.not.vivo!" is "Do Not User Virtual Volume", show this property.	\
file.system.cifs.share.access.configuration	composite	Specify the IP addresses (IPv4 or IPv6) of clients that can access the share (up to 950 characters are allowed in this field). Refer to the IP Address Configuration content in the "CIFS Share Detail" section of the Hitachi NAS online help.	Maximum Length: 950	If "create.use.or.not.vivo!" is "Do Not User Virtual Volume", show this property.	-

keyName	Type	Description	Range	Remark	Default value
file.system.cifs.share.permission	composite	Specify the user/group accounts and permissions for adding share access authentication entries to shares. Specify permissions as follows: ax = allow x, dx = deny x, where x is: r(Read), c(Change), cr(Change & Read) or f(Full Control). To specify two or more accounts, separate them by using line breaks for each. For example, this entry allows you to grant Change & Read rights to members of the 'EXAMPLE \Finance' group: EXAMPLE \Finance(acr)	Maximum Length: 990	Presentation is "textarea" Note: When 91 or more accounts are registered, meaning that there are 90 or more line feed codes, it causes an error.	-
file.system.cifs.share.properties	array of composite	Specify CIFS share properties.	Array Range: 1-5	-	-

keyName	Type	Description	Range	Remark	Default value
file.system.nfs.export.name	string	Specify the name of the NFS export.	Character Length: 1-79	- If "create.use.or.not.vivo!" is "Do Not User Virtual Volume", show this property.	-
file.system.cifs.share.evs	string	Specify the existing Enterprise Virtual Server (EVS) label.	Restricted Characters: $^[0-9a-zA-Z\ \-]*[a-zA-Z][0-9a-zA-Z\ \-]*$ Character Length: 1-15		
file.system.nfs.export.file.system	string	Specify the existing file system name.	-	-	-
file.system.nfs.export.qtree.directory.path	string	Specify the subpath of the shared directory.	Restricted Character: $^/\.*$ \$ Character Length: 1-255	- If "create.use.or.not.vivo!" is "Do Not User Virtual Volume", show this property.	/

keyName	Type	Description	Range	Remark	Default value
file.system.nfs.export.access.configuration	composite	Specify the IP addresses of clients that can access the share (up to 950 characters are allowed in this field). Refer to the IP Address Configuration content in the "NFS Export Detail" section of the Hitachi NAS online help.	Maximum Length: 950	- If "create.use.or.not.vivo!" is "Do Not User Virtual Volume", show this property.	-
file.system.nfs.export.properties	array of composite	Specify NFS export properties.	Array Range: 1-5	-	-

File type property list

Table 544 ldap.settings

Data nesting information	Type	Description	Range	Default Value
values				
ldap.servers	composite	-	-	-
ipaddress	string	Specify the IP address (IPv4) or host name of the LDAP Server.	-	-
port	integer	Specify the port for the LDAP Server.	0 - 65535	389

Table 545 cifs.share.settings

Data nesting information		Type	Description	Range
values				
	file.system.cifs.share.access.configuration	composite	-	Maximum Length: 950

Table 546 nfs.export.settings

Data nesting information		Type	Description	Range
values				
	file.system.nfs.export.access.configuration	composite	-	Maximum Length: 950

Table 547 external.smu.cluster.choices

Data nesting information		Type	Description	Range
values				
	external.smu.cluster.choices	composite	-	-
	clusterName	string	Specify the Server/Cluster name.	-
	clusterNodeIpAddresses	array of string	Specify the IPv4 addresses of all nodes in the cluster in case the number of maximum connections of NAS Module tasks are simultaneously running and the limit is exceeded. If this happens, and this parameter is not set, the service can simultaneously run only the maximum number of tasks and the rest of the tasks will fail with a connection error.	-

Table 548 vivol.and.quota.common.properties

Data nesting information		Type	Description	Range	Default Value
values			-	-	-
	vivol.and.quota.common.properties ¹	composite	-	-	-
	existingEvsName	string	Specify the existing Enterprise Virtual Server (EVS) label.	Restricted Characters: ^[0-9a-zA-Z\-\-]*[a-zA-Z]+[0-9a-zA-Z\-\-]*\$ Character Length: 1-15	
	existingFileSystemName ²	string	Specify the existing file system label.		-
	commonVirtualVolumesSettings		Specify common properties for virtual volumes.	-	-
	securityModeCifsAndNfs	string	Specify the virtual volume security mode to set when selecting the CIFS and NFS protocols.	"Default (Inherit the parent security)", "Unix (supports Windows)" or "Mixed (Windows and Unix)"	Default (Inherit the parent security)
	securityModeCifs	string	Specify the security mode of the virtual volumes to set when selecting the CIFS protocol only.	"Default (Inherit the parent security)", "Unix (supports Windows)" or "Mixed (Windows and Unix)"	Default (Inherit the parent security)
	securityModeNfs	string	Specify the security mode of the virtual volumes to set when selecting the NFS protocol only.	"Default (Inherit the parent security)", "Unix (supports Windows)" or "Mixed (Windows and Unix)"	Default (Inherit the parent security)

Data nesting information		Type	Description	Range	Default Value
	emailContact	string	Specify the email contact to receive information about volume usage. Ensure that you configure the SMTP settings on the related SMU in advance.	Restricted Characters: ^([\^\\ \s";<>[\]\(\),]*)\$ Character Length: 0-512	-
	quotaSettingsVivol	object	Specify the Quota Setting for virtual volumes.	-	-
	isAddingQuotaVivol ³	boolean	Specify whether to add quotas for virtual volumes.	true or false	TRUE
	hardLimitVivol	boolean	Specify whether to enable a hard limit for virtual volumes. When enabled, the amount of space and number of files specified in the usage limit and file count cannot be exceeded.	true or false	TRUE
	usageLimitVivol	integer	Specify the usage limit for virtual volumes in MiB, GiB, or TiB.	1-2199023254528 MiB	-

Data nesting information		Type	Description	Range	Default Value
	usageWarnVivol ⁴	integer	Specify the usage warning threshold for virtual volumes. (%)	5-99	75
	usageSevereVivol ⁵	integer	Specify the usage severe threshold for virtual volumes. (%)	5-99	85
	fileCountLimitVivol	string	Specify the file count limit for virtual volumes.	Restricted Characters: [0-9]	-
	fileCountWarnVivol ⁶	integer	Specify the file count warning threshold for virtual volumes. (%)	5-99	75
	fileCountSevereVivol ⁷	integer	Specify the file count severe threshold for virtual volumes. (%)	5-99	85
	quotaSettingUsersAndGroups ⁸	object	Specify the Quota Setting for users and groups.	-	-
	isAddingQuotaUsersAndGroups ⁹	boolean	Specify whether to add quotas for users and groups.	true or false	TRUE

Data nesting information		Type	Description	Range	Default Value
	hardLimitUsersAndGroups	boolean	Specify whether to enable a hard limit for users and groups. When enabled, the amount of space and number of files specified in the usage limit and count limit cannot be exceeded.	true or false	TRUE
	usageLimitUsersAndGroups	integer	Specify the usage limit for users and groups in MiB, GiB, or TiB.	1-2199023254528 MiB	-
	usageWarnUsersAndGroups ¹⁰	integer	Specify the usage warning threshold for users and groups. (%)	5-99	75
	usageSevereUsersAndGroups ¹¹	integer	Specify the usage severe threshold for users and groups. (%)	5-99	85
	fileCountLimitUsersAndGroups	string	Specify the file count limit for users and groups.	Restricted Characters: [0-9]	-
	fileCountWarnUsersAndGroups	integer	Specify the file count warning threshold for users and groups. (%)	5-99	75
	fileCountSevereUsersAndGroups	integer	Specify the file count severe threshold for users and groups. (%)	5-99	85

Data nesting information	Type	Description	Range	Default Value
<ol style="list-style-type: none"> 1. If "create.use.or.not.vivol" is true activate "vivol.and.quota.common.properties" group properties. 2. If "create.file.system" is true and "create.use.or.not.vivol" is "Create Virtual Volume" or "Use Existing Virtual Volume", show this property. 3. If this value is false, deactivate other "quotaSettingVivol" group properties. 4. When "usageSevereVivol" has a value, if "usageWarnVivol" is larger than that value, it is an error. 5. When "usageWarnVivol" has a value, if "usageSevereVivol" is larger than that value, it is an error. 6. When "fileCountSevereVivol" has a value, if "usageWarnVivol" is larger than that value, it is an error. 7. When "fileCountWarnVivol" has a value, if "fileCountSevereVivol" is larger than that value, it is an error. 8. If "create.use.or.not.vivol" is true, activate "vivol.and.quota.common.properties" group properties. 9. If this value is false, deactivate other "quotaSettingUsersAndGroups" group properties. 10. When "usageSevereUsersAndGroups" has a value, if "usageWarnUsersAndGroups" is larger than that value, it is an error. 11. When "usageWarnUsersAndGroups" has a value, if "usageSevereUsersAndGroups" is larger than that value, it is an error. 				

Table 549 vivol.and.quota.each.properties

Data nesting information	Type	Description	Range	Remarks	Default Value	Repeatable
values						-
vivol.and.quota.common.properties	composite	-	-	-	-	-

Data nesting information		Type	Description	Range	Remarks	Default Value	Repeatable
	vivolName	string	Specify the virtual volume name.	Character Length: 1-79	If the same vivol name is specified in another Virtual Volume object (vivol.and.quot a.common.properties), it is an error.	-	-
	vivolRootDirectoryPath	string	Specify the file system directory path to use as the root of the virtual volume.	Character Length: 2-255	If there is no "/" in the first character of the path, it is an error. If the same path is specified in another Virtual Volume object (vivol.and.quot a.common.properties), it is an error.	/	-

Data nesting information		Type	Description	Range	Remarks	Default Value	Repeatable
	userAccountsQuota	object	Specify one or more user accounts for which to restrict the available space or the number of files for the virtual volumes. To specify two or more accounts, separate them by using line breaks for each.	Character Length: 1-450	When 10 or more users are registered, that is, when there are nine or more line feed codes, it is an error.	-	-
	groupAccountsQuota	object	Specify one or more group accounts for which to restrict the available space or the number of files for the virtual volumes. To specify two or more accounts, separate them by using line breaks for each.	Character Length: 1-450	When 10 or more groups are registered, that is, when there are nine or more line feed codes, it is an error.	-	-

Table 550 vivol.and.quota.each.properties

Data nesting information	Type	Description	Range
values			

Data nesting information		Type	Description	Range
	vivol.and.quota.common.properties	composite	-	-
	vivolName ¹	string	Specify the virtual volume name.	Character Length: 1-79
	vivolRootDirectoryPath ²	string	Specify the file system directory path to use as the root of the virtual volume.	Character Length: 2-255
	userAccountsQuota ³	object	Specify one or more user accounts for which to restrict the available space or the number of files for the virtual volumes. To specify two or more accounts, separate them by using line breaks for each.	Character Length: 1-450
	groupAccountsQuota ⁴	object	Specify one or more group accounts for which to restrict the available space or the number of files for the virtual volumes. To specify two or more accounts, separate them by using line breaks for each.	Character Length: 1-450
<ol style="list-style-type: none"> 1. If the same vivol name is specified in another Virtual Volume object (vivol.and.quota.common.properties), it is an error. 2. If there is no "/" in the first character of the path, it is an error. If the same path is specified in another Virtual Volume object (vivol.and.quota.common.properties), it is an error. 3. When 10 or more users are registered, that is, when there are nine or more line feed codes, it is an error. 4. When 10 or more groups are registered, that is, when there are nine or more line feed codes, it is an error. 				

Table 551 file.system.cifs.share.properties

Data nesting information	Type	Description	Range
values ¹			

Data nesting information		Type	Description	Range
	file.system.cifs.share.properties ²	object	-	-
	vivolName ³	string	Select a virtual volume.	
	existingVivolName ⁴	string	Specify an existing virtual volume.	Character Length: 1-80
	accessConfiguration ⁵	object	Specify the IP addresses of clients that can access the share (up to 950 characters are allowed in this field). Refer to the IP Address Configuration content in the "NFS Export Detail" section of the Hitachi NAS online help.	Maximum Length: 950
	userAndGroupAccountforPermission ⁶	object	Specify the user/group accounts and permissions for adding share access authentication entries to shares. Specify permissions as follows: ax = allow x, dx = deny x, where x is: r(Read), c(Change), cr(Change & Read) or f(Full Control). To specify two or more accounts, separate them by using line breaks for each. For example, this entry allows you to grant Change & Read rights to members of the 'EXAMPLE\Finance' group: EXAMPLE\Finance(acr)	Maximum Length: 990
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. If "create.use.or.not.vivol" is "Create Virtual Volume" or "Use Existing Virtual Volume", show this property. If "create.share" is true, "create.use.or.not.vivol" is "Create Virtual Volume" or "Use Existing Virtual Volume", and "file.system.share.protocol" is "CIFS" or "CIFS & NFS", activate this property. 3. If the same vivol name is specified in another CIFS share object (file.system.cifs.share.properties), it is an error. 				

Data nesting information	Type	Description	Range
4.		If the same existing vivol name is specified in another CIFS export object (file.system.cifs.share.properties), it is an error.	
5.		Presentation is "textarea"	
6.		Presentation is "textarea"	
Note: When 91 or more accounts are registered, meaning that there are 90 or more line feed codes, it causes an error.			

Table 552 file.system.nfs.export.properties

Data nesting information	Type	Description	Range
values ¹			
file.system.nfs.export.properties ²	object	-	-
vivolName ³	string	Select a virtual volume.	
existingVivolName ⁴	string	Specify an existing virtual volume.	Character Length: 1-79
accessConfiguration ⁵	object	Specify the IP addresses of clients that can access the share (up to 950 characters are allowed in this field). Refer to the IP Address Configuration content in the "NFS Export Detail" section of the Hitachi NAS online help.	Maximum Length: 950
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. If "create.use.or.not.vivol" is "Create Virtual Volume" or "Use Existing Virtual Volume", show this property. If "create.share" is true, "create.use.or.not.vivol" is "Create Virtual Volume" or "Use Existing Virtual Volume", and "file.system.share.protocol" is "NFS" or "CIFS & NFS", activate this property. 3. If the same vivol name is specified in another NFS export object (file.system.cifs.share.properties), it is an error. 4. If the same existing vivol name is specified in another NFS export object (file.system.cifs.share.properties), it is an error. 5. Presentation is "textarea" 			

Table 553 file.system.user.quota.defaults

Data nesting information		Type	Description	Range	Default Value
values ¹					
	isAddDefaultQuota ²	boolean	Specify whether to add user quota defaults for the file system.	true or false	false
	hardLimit	boolean	Specify whether to enable a hard limit for the user quota defaults. When enabled, the amount of space and number of files specified in the usage and file count limits cannot be exceeded.	true or false	true
	usageLimit	integer	Specify the user quota default usage limit in MiB, GiB, or TiB.	1-219902325 4528 MiB	-
	usageWarn ³	integer	Specify the user quota default usage warning threshold. (%)	5-99	75
	usageSevere ³	integer	Specify the user quota default usage severe threshold. (%)	5-99	85
	fileCountLimit	integer	Specify the user default file count limit.	Restricted Characters: [0-9]	-
	fileCountWarn ⁴	integer	Specify the user quota default file count warning threshold. (%)	5-99	75
	fileCountSevere ⁴	integer	Specify the user quota default file count severe threshold. (%)	5-99	85
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. If this value is false, deactivate other properties of "file.system.user.quota.defaults" 3. When "usageWarn" has a value, if "usageSevere" is larger than that value, it is an error. 4. When "fileCountWarn" has a value, if "fileCountSevere" is larger than that value, it is an error. 					

Table 554 file.system.group.quota.defaults

Data nesting information		Type	Description	Range	Default Value
values ¹					
	isAddDefaultQuota ²	boolean	Specify whether to add group quota defaults for the file system.	true or false	false
	hardLimit	boolean	Specify whether to enable a hard limit for the group quota defaults. When enabled, the amount of space and number of files specified in the usage and file count limits cannot be exceeded.	true or false	true
	usageLimit	integer	Specify the group quota default usage limit in MiB, GiB, or TiB.	1-2199023254528 MiB	-
	usageWarn ³	integer	Specify the group quota default usage warning threshold. (%)	5-99	75
	usageSevere ³	integer	Specify the group quota default usage severe threshold. (%)	5-99	85
	fileCountLimit	integer	Specify the group default file count limit.	Restricted Characters: [0-9]	-
	fileCountWarn ⁴	integer	Specify the group quota default file count warning threshold. (%)	5-99	75
	fileCountSevere ⁴	integer	Specify the group quota default file count severe threshold. (%)	5-99	85

Data nesting information	Type	Description	Range	Default Value
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.				
2. If this value is false, deactivate other properties of "file.system.user.quota.defaults"				
3. When "usageWarn" has a value, if "usageSevere" is larger than that value, it is an error.				
4. When "fileCountWarn" has a value, if "fileCountSevere" is larger than that value, it is an error.				

Configure CIFS/NFS for Hitachi (task details)

Use the following information to show the task details for the Configure CIFS/NFS for Hitachi service.

KeyName	Type	Description	Range
result.server.name	string	-	-
result.server.address	string	-	-
result.evs.id	string	-	-
result.evs.type	string	-	-
result.evs.name	string	-	-
result.evs.enabled	string	-	-
result.evs.status	string	-	-
result.evs.ipAddress	string	-	-
result.evs.subnetmask	string	-	-
result.evs.port	string	-	-
result.evs.nodeld	string	-	-
result.activeDirectory.cifs.server.account.name	string	-	-
result.activeDirectory.folder	string	-	-
result.activeDirectory.Spns	composite	-	-
result.ldap.domain.name	string	-	-
result.file.system.deviceId	string	-	-

KeyName	Type	Description	Range
result.file.system.name	string	-	-
result.file.system.storagePool	string	-	-
result.file.system.size	string	-	-
result.file.system.used	string	-	-
result.file.system.deduped	string	-	-
result.file.system.fsType	string	-	-
result.file.system.user.quota.defaults.created	string	-	-
result.file.system.group.quota.defaults.created	string	-	-
result.create.vivol	array of composite	-	-
result.quota.addition	array of composite	-	-
result.cifs.share.name	string	-	-
result.cifs.share.path	string	-	-
result.cifs.share.users	string	-	-
result.cifs.share.creation.vivol	array of composite	-	-
result.nfs.export.name	string	-	-
result.nfs.export.path	string	-	-
result.nfs.export.creation.vivol	string	-	-

File type property list

Table 555 result.activeDirectory.Spns

Data nesting information		Type	Description	Range
value ¹				
	result.activeDirectory.Spns	composite	-	-
	spn	string	-	-

Data nesting information		Type	Description	Range
	message	string	-	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.				

Table 556 result.create.vivol

Data nesting information		Type	Description	Range
value ¹				
	result.create.vivol	array of composite	-	-
	createdVivolName	string	-	-
	path	string	-	-
	email	string	-	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.				

Table 557 result.quota.addition

Data nesting information		Type	Description	Range
value ¹				
	result.quota.addition	array of composite	-	-
	vivolName	string	-	-
	account	string	-	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.				

Table 558 result.cifs.share.creation.vivol

Data nesting information		Type	Description	Range
value ¹				

Data nesting information		Type	Description	Range
	result.cifs.share.creation.vivol ²	array of composite	-	-
	cifsShareName	string	-	-
	cifsSharePath	string	-	-
	vivolName	string	-	-
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. If "result.use.vivol.or.not" is true, show this property group. 				

Table 559 result.nfs.export.creation.vivol

Data nesting information		Type	Description	Range
value ¹				
	result.nfs.export.creation.vivol ²	array of composite	-	-
	nfsExportName	string	-	-
	nfsExportPath	string	-	-
	vivolName	string	-	-
<ol style="list-style-type: none"> 1. Repeatable. Repeatable items must be repeated and must include all lower layer tags. 2. If "result.use.vivol.or.not" is true, show this property group. 				

Smart Allocation for Oracle Databases service properties

Use the following properties to modify or create values for the Smart Allocation for Oracle databases service.

Smart Allocation for Oracle Databases (edit)

KeyName	Type	Description	Range	Default
OracleType	string	Specify the Oracle configuration type.	Single Instance,Oracle RAC	Single Instance
Oracle.primaryServerName	string	In an Oracle RAC configuration , specify the host name of a primary database server. In a Single Instance configuration , specify the host name of an Oracle database server. Specify the host name that is registered in Oracle database.	-	-

KeyName	Type	Description	Range	Default
Oracle.memberServerName	string	In an Oracle RAC configuration , specify the host name of a member database server. In a Single Instance configuration , you do not need to specify. Specify the host name that is registered in Oracle database.	-	-
Oracle.asmInstanceID	string	Specify the Oracle ASM instance ID.	-	-
Oracle.gridHomePath	string	Specify the path of the home directory of Oracle Grid Infrastructure .	-	-
Oracle.gridUserID	string	Specify the user ID for the Oracle Grid Infrastructure .	-	-

KeyName	Type	Description	Range	Default
Oracle.gridUserPassword	password	Enter a character string of no more than 255 characters. The string must not include the following characters: < > ; &	-	-
Oracle.diskGroupName	string	Specify the Oracle ASM disk group to which a volume is to be added.	-	-
HostMode	file	Specify the parameters for creating a new host group.	See the following File type property list	-
NumberOfHosts	string	Select the number of hosts to allocate volume.	Single, Multiple	Single
MultipleHostsPerStoragePort	boolean	Select if you want to share storage ports with multiple hosts.	-	true
MultipleHostsPerHostGroup	boolean	Select if you want to share host groups with multiple hosts.	-	true

KeyName	Type	Description	Range	Default
HostSettingsForSingleHost	file	Specify information about the hosts where the volumes will be allocated.	See the following File type property list	-
HostSettingsForMultiHost	file	Specify information about the hosts where the volumes will be allocated.	See the following File type property list	-
ConfigurationManagerConnection	file	Specify the Configuration Manager Connection.	See the following File type property list	-
StorageSelection	string	Specify whether to select storage system at volume allocation. If you select 'Automatic', then a storage system will be selected automatically.	Automatic,Manual	Automatic
StorageSystem	file	Specify the Storage System.	See the following File type property list	

KeyName	Type	Description	Range	Default
ResourceGroupSelection	string	Specify whether to select resource group at volume allocation. If you select 'Meta resource', then the meta resource group will be selected.	Meta resource, Manual	Meta resource
ResourceGroup	file	Specify the Resource Group.	See the following File type property list	
PoolSelection	string	Specify whether to select pool at volume allocation. If you select 'Automatic', then a pool will be selected automatically.	Automatic, Manual	Automatic
Pool	file	Specify the pool.	See the following File type property list	
CapacityFormat	string	Select the volume capacity format.	Byte, Block	Byte
VolumeSettings	file	Specify the parameters for creating new volumes.	See the following File type property list	

KeyName	Type	Description	Range	Default
ResourceCriteria	file	Specify the resource criteria.	See the following File type property list	-
OS.priviOwner	string	Specify the owner information set for the volume.	-	-
OS.priviGroupName	string	Specify the group name set for the volume.	-	-
owner.permisson	string	This property is the access permission information by owner user to be set for the volume.	Read, Write, Execute	Read, Write
group.permisson	string	This property is the access permission information by group user to be set for the volume.	Read, Write, Execute	Read, Write
other.permisson	string	This property is the access permission information by other user to be set for the volume.	Read,Write,Execute	-

KeyName	Type	Description	Range	Default
linux.multipathConfPath	string	Specify the path that contains the multipath.conf. This parameter can be omitted. If you do not specify a value, the directory /etc" or "/usr/share/dec/device-mapper-multipath-0.4.9" is searched. If the file is not in the directory	An error occurs	-
Oracle.directoryPathRemote	string	Specify the directory for work on the database server.	-	/tmp/Oracle_logs
Oracle.folderPathLocal	string	Specify the output directory for log files on the service execution server.	-	C:\Oracle_logs

KeyName	Type	Description	Range	Default
UserResponsePlugin.to Address	string	Specify the email addresses to enter in the TO field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	-	-
UserResponsePlugin.cc Address	string	Specify the email addresses to enter in the CC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	-	-

KeyName	Type	Description	Range	Default
UserResponsePlugin.bccAddress	string	Specify the email addresses to enter in the BCC field of notification emails sent when the service is waiting for a user response. Separate multiple addresses with commas. Example: mailA,mailB	-	-
UserResponsePlugin.encodingType	string	Specify the encoding of notification emails sent when the service is waiting for a user response. The encodings you can specify are us-ascii, iso-2022-jp, shift_jis, euc-jp, and utf-8. If you omit this property, utf-8 is set.	us-ascii, iso-2022-jp, shift_jis, euc-jp, utf-8	utf-8

KeyName	Type	Description	Range	Default
UserResponsePlugin.mailSubject	string	Specify the subject line of notification emails sent when the service is waiting for a user response.	-	Allocate Volumes and Add to Oracle Database Task Pending
UserResponsePlugin.mailBody	string	Allocate Volumes and Add to Oracle Database is pending. Specify the body text of notification emails sent when the service is waiting for a user response.	-	Allocate Volumes and Add to Oracle Database is pending regarding Oracle configuration .

KeyName	Type	Description	Range	Default
UserResponsePlugin.dialogText	string	Enter additional text to appear in the response input dialog box, in text or HTML format. Supported HTML tags are anchor tags, bold tags, break tags, font tags, italics tags, and underline tags.	-	A device is not recognized by the OS. Executions of the service are temporarily disabled. Make sure that the volume on the storage system can be recognized by the OS, or check the path settings. If the path settings are valid, restart the OS or perform processing to make the OS recognize the device. After the processing to recognize the device finishes, click the OK button. The service resumes when you click the OK button.

KeyName	Type	Description	Range	Default
UserResponsePlugin.responseTimeOut	integer	Specify how long (in minutes) the service waits for a user response before timing out. In the event of a response timeout, the service will terminate abnormally.	1-20160	1440
FabricSettingEnabled	boolean	Select this option to enable fabric information collection.	-	false
FabricConnections	file	Specify the connection defined in the Web Service Connections on the Administration Tab. If this value is omitted, the system uses all connections that are defined for the product name listed in the Web Service Connections.	See the following File type property list	-

KeyName	Type	Description	Range	Default
FabricResourcegroups	string	Specify the switch management server resource group. Separate multiple values by commas.	-	All
TargetFabrics	string	Specify the fabric name. Separate multiple values by commas. If this value is omitted, the system uses all the fabrics that the BNA monitors.	-	-

KeyName	Type	Description	Range	Default
UsingExistingZone	boolean	Specifies whether to select a predefined zone or any connectable path. If you select this option, the system selects paths within the range of the existing Zone setting. If you do not select this option, the system selects connectable paths regardless of the existing Zone setting.	-	true
FabricHopsRestriction	boolean	Determines whether the service will fail if there is no path that matches the specified collection range.	-	false
FabricHopsRange	integer	When using the Number of Hops Restriction option, specify the collection range by the number of hops.	0-0	0

KeyName	Type	Description	Range	Default
ZoneSettingEnabled	boolean	Select this option to enable the modification of zone settings.	-	false
UseExistingZoneAliases	boolean	Select this option to use predefined Zone Aliases regardless of the naming conventions the user specifies. If you do not select this option, the system selects Zone Aliases that follow the naming conventions. In either case, if there are no existing Zone Aliases, the system creates new Zone Aliases that follow the naming conventions.	-	false
UpdateActiveZoneConfiguration	boolean	Select this option to add a Zone to the active Zone Configuration.	-	true

KeyName	Type	Description	Range	Default
ZoneConfigurationNameToUpdate	string	To add a zone to a Zone Configuration other than the active configuration , specify the name of the Zone Configuration in which to add the zone.	-	-
NamingScriptZone	file	Specify the naming convention script that determines the Zone name for the path.	See the following File type property list	-
NamingScriptHostZoneAlias	file	Specify the naming convention script that determines the Zone Alias name for the host port.	See the following File type property list	-
NamingScriptStorageZoneAlias	file	Specify the zone information.	See the following File type property list	-

File type property list

Table 560 HostMode

Data nesting information		Description	Range
value			

Data nesting information		Description	Range
	hostMode	Host Mode	["HP-UX","SOLARIS","AIX","LINUX/IRIX","TRU64","OVMS","NETWARE","VMWARE_EX","WIN_EX"]
	hostModeOption	Host Mode Options	

Table 561 HostSettingsForSingleHost

Data nesting information		Description	Range
value			
	hostName	Host Name	^[A-Za-z0-9\.\:@_][A-Za-z0-9\.\:@_]*\$
	wwnSettings	WWN Settings	-
		wwnSettings	WWN Setting
	iScsiSettings	iSCSI Settings	-
		iScsiSettings	iSCSI Setting

Table 562 HostSettingsForMultiHost

Data nesting information		Description	Range
value			
	hostName	Host Name	^[A-Za-z0-9\.\:@_][A-Za-z0-9\.\:@_]*\$
	wwnSettings	WWN Settings	-
		wwnSettings	WWN Setting
	iScsiSettings	iSCSI Settings	-
		iScsiSettings	iSCSI Setting

Table 563 ConfigurationManagerConnection

Data nesting information		Description	Range
value			

Data nesting information		Description	Range
	productName	Category	-
	name	Name	-
	ipAddress	IP Address/Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-
	connectedTime	Connected Time	-

Table 564 StorageSystem

Data nesting information		Description	Range
value ¹			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 565 ResourceGroup

Data nesting information		Description	Range
value			
	resourceGroupId	Resource group ID	-
	resourceGroupName	Resource group name	-
	virtualStorageId	Virtual storage system ID	-
	virtualStorageMachine	Virtual storage system	-

Table 566 Pool

Data nesting information		Description	Range
value ¹			
	poolId	Pool ID	-
	poolName	Pool Name	-
	poolType	Pool Type	-
	usedCapacityRate	Used Capacity Rate(%)	-
	availableVolumeCapacity	Available Capacity	-
	totalPoolCapacity	Total Capacity	-
	numOfLdevs	Number of Volumes	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 567 VolumeSettings

Data nesting information		Description	Range
value ¹			
	volumeUsage	Volume Usage	-
	numberOfVolumes	Number of Volumes	-
	volumeCapacityInMiB	Volume Capacity	-
	blockCapacity	Volume Capacity	-
	volumeLabel	Volume Label	-
	ldevSetting	LDEV Setting	-
	lunSetting	LUN Setting	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 568 ResourceCriteria

Data nesting information		Description	Range
value ¹			
	volumeUsage	Volume Usage	-

Data nesting information		Description	Range
	storagePortCriteria	Storage Port	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 569 FabricConnections

Data nesting information		Description	Range
value			
	productName	Category	-
	name	Name	-
	ipAddress	IP Address/Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-
	connectedTime	Connected Time	-

Table 570 NamingScriptZone

Specifications of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	arguments[0]: The object with the following properties is passed as an argument: <ul style="list-style-type: none"> ▪ mold: The ID of the host (Managed Object ID in vCenter) ▪ name: The name of the host. ▪ clusterName: The name of the cluster to which the host belongs. ▪ clusterMold: The ID of the cluster to which the host belongs.(Managed Object ID in vCenter)

Specifications of the script	Description
	<ul style="list-style-type: none"> ▪ ipAddresses: The IP addresses for management of the host. ▪ wwns: The WWNs of the host (: separated hex value)
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and “_” 2. The first character is alphabetic 3. Host Group Name is up to 64 characters
example	<pre> if (PortName === null !(typeof (PortName) == "string" PortName instanceof String)) { throw new Error("Port Name must be a string: " + PortName); } PortName = PortName.replace(/[^A- Za-z0-9_]/g, '_'); name = name + '_' + PortName; if (name.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must start with a alphabet: " + name); } var ARRAYALIAS = name; var name1 = SERVERALIAS + '_' + ARRAYALIAS; if (name1.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name1); } if (/^[A-Z]/i.test(name1) === false) { throw new Error("Zone alias name must start with a alphabet: " + name1); } </pre>

Specifications of the script	Description
	<pre>return name1; }</pre>

Table 571 NamingScriptZoneAlias

Specifications of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument.</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage ▪ system storageSystemName: Name of physical storage system on Configuration Manager ▪ storageSystemSerialNumber: Serial number of physical storage ▪ system storagePortName: Display port name of the storage system ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-") ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-")

Specifications of the script	Description
	<ul style="list-style-type: none"> ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-") ▪ serviceProperties: List of the service properties passed to the plug-in
return	<p>Script must return the string that satisfies the following conditions.</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters 4. About Zone, strings starting with "LSAN_", "TI_", "QOSHn+", "QOSMn+", or "QOSLn_" are not allowed (case ignored. "n" is number)
example	<pre>function nameHostZoneAlias(args) { var name = args.hostName; if (name === null !(typeof (name) == "string" name instanceof String)) { throw new Error("Host name must be a string: " + name); } name = name.replace(/^[A-Za-z0- 9_]/g, '_'); var wwn = args.hostPortWorldWideName; if (wwn === null !(typeof (wwn) == "string" wwn instanceof String)) { throw new Error("Host port WWN must be a string: " + wwn); } name = name + '_' + wwn.replace(/:/g, '').slice(-4); if (name.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must</pre>

Specifications of the script	Description
	<pre>start with a alphabet: " + name); } return name; }</pre>

Table 572 NamingScriptStorageZoneAlias

Specifications of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument.</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage ▪ system storageSystemName: Name of physical storage system on Configuration Manager ▪ storageSystemSerialNumber: Serial number of physical storage ▪ system storagePortName: Display port name of the storage system ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-") ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-") ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-") ▪ serviceProperties: List of the service properties passed to the plug-in
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters 4. About Zone, strings starting with "LSAN_", "TI_", "QOSHn+_", "QOSMn+_", or "QOSLn_" are not allowed (case ignored. "n" is number)

Specifications of the script	Description
example	<pre>function nameStorageZoneAlias(args) { var name = args.storageSystemName; if (name) { if (!(typeof (name) == "string" name instanceof String)) { throw new Error("Storage system name must be a string or null: " + name); } name = name.replace(/^[A-Za-z0-9_]/g, '_'); } var serial = args.storageSystemSerialNumber; if (serial === null !(typeof (serial) == "string" serial instanceof String)) { throw new Error("Storage System Serial Number must be a string: " + serial); } var PortName = args.storagePortName; if (PortName === null !(typeof (PortName) == "string" PortName instanceof String)) { throw new Error("Port Name must be a string: " + PortName); } PortName = PortName.replace(/^[A-Za-z0-9_]/g, '_'); if (name) { name = name + '_' + serial.replace(/:/g, '').slice(-4) + '_' + PortName; } else { name = 'SN' + serial.replace(/:/g, '') + '_' + PortName; } if (name.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must start with a alphabet: " + name); } return name; }</pre>

Smart Allocation for Oracle Databases (submit)

KeyName	Type	Description	Range	Default
OracleType	string	Specify the Oracle configuration type.	Single Instance,Oracle RAC	Single Instance
Oracle.primaryServerName	string	In an Oracle RAC configuration, specify the host name of a primary database server. In a Single Instance configuration, specify the host name of an Oracle database server. Specify the host name that is registered in Oracle database.	-	-
Oracle.memberServerName	string	In an Oracle RAC configuration, specify the host name of a member database server. In a Single Instance configuration, you do not need to specify. Specify the host name that is registered in Oracle database.	-	-
Oracle.asmlInstanceID	string	Specify the Oracle ASM instance ID.	-	-

KeyName	Type	Description	Range	Default
Oracle.gridHomePath	string	Specify the path of the home directory of Oracle Grid Infrastructure.	-	-
Oracle.gridUserID	string	Specify the user ID for the Oracle Grid Infrastructure.	-	-
Oracle.gridUserPassword	password	Enter a character string of no more than 255 characters. The string must not include the following characters: < > ; &	-	-
Oracle.diskGroupName	string	Specify the Oracle ASM disk group to which a volume is to be added.	-	-
HostMode	file	Specify the parameters for creating a new host group.	See the following File type property list	-
NumberOfHosts	string	Select the number of hosts to allocate volume.	Single, Multiple	Single
MultipleHostsPerStoragePort	boolean	Select if you want to share storage ports with multiple hosts.		true

KeyName	Type	Description	Range	Default
MultipleHostsPerHostGroup	boolean	Select if you want to share host groups with multiple hosts.		true
HostSettingsForSingleHost	file	Specify information about the hosts where the volumes will be allocated.	See the following File type property list	
HostSettingsForMultiHost	file	Specify information about the hosts where the volumes will be allocated.	See the following File type property list	
ConfigurationManagerConnection	file	Specify the Configuration Manager Connection.	See the following File type property list	
StorageSelection	string	Specify whether to select storage system at volume allocation. If you select 'Automatic', then a storage system will be selected automatically.	Automatic,Manual	Automatic
StorageSystem	file	Specify the Storage System.	See the following File type property list	

KeyName	Type	Description	Range	Default
ResourceGroupSelection	string	Specify whether to select resource group at volume allocation. If you select 'Meta resource', then the meta resource group will be selected.	Meta resource,Manual	Meta resource
ResourceGroup	file	Specify the Resource Group.	See the following File type property list	
PoolSelection	string	Specify whether to select pool at volume allocation. If you select 'Automatic', then a pool will be selected automatically.	Automatic,Manual	Automatic
Pool	file	Specify the pool.	See the following File type property list	
CapacityFormat	string	Select the volume capacity format.	Byte, Block	Byte
VolumeSettings	file	Specify the parameters for creating new volumes.	See the following File type property list	
ResourceCriteria	file	Specify the resource criteria.	See the following File type property list	-
OS.priviOwner	string	Specify the owner information set for the volume.	-	-

KeyName	Type	Description	Range	Default
OS.priviGroupName	string	Specify the group name set for the volume.	-	-
linux.multipathConfPath	string	Specify the path that contains the multipath.conf. This parameter can be omitted. If you do not specify a value, the directory / etc" or "/usr/ share/dec/ device-mapper-multipath-0.4.9" is searched. If the file is not in the directory	An error occurs	-
Oracle.directoryPathRemote	string	Specify the directory for work on the database server.	-	/tmp/ Oracle_logs
Oracle.folderPathLocal	string	Specify the output directory for log files on the service execution server.	-	C:\Oracle_lo gs
ZoneConfigurationNameToUpdate	string	To add a zone to a Zone Configuration other than the active configuration, specify the name of the Zone Configuration in which to add the zone.	-	-

KeyName	Type	Description	Range	Default
NamingScriptZone	file	Specify the naming convention script that determines the Zone name for the path.	See the following File type property list	-
NamingScriptHostZoneAlias	file	Specify the naming convention script that determines the Zone Alias name for the host port.	See the following File type property list	-
NamingScriptStorageZoneAlias	file	Specify the zone information.	See the following File type property list	-

File type property list

Table 573 HostMode

Data nesting information		Description	Range
value			
	hostMode	Host Mode	["HP-UX","SOLARIS","AIX","LINUX/IRIX","TRU64","OVMS","NETWARE","VMWARE_EX","WIN_EX"]
	hostModeOption	Host Mode Options	

Table 574 HostSettingsForSingleHost

Data nesting information		Description	Range
value			
	hostName	Host Name	^[A-Za-z0-9\.\:@_][A-Za-z0-9\.\:@_]*\$
	wwnSettings	WWN Settings	-

Data nesting information		Description	Range
	wwnSettings	WWN Setting	-
	iScsiSettings	iSCSI Settings	-
	iScsiSettings	iSCSI Setting	-

Table 575 HostSettingsForMultiHost

Data nesting information		Description	Range
value			
	hostName	Host Name	^[A-Za-z0-9\.\:@_][A-Za-z0-9\.\:@_]*\$
	wwnSettings	WWN Settings	-
	wwnSettings	WWN Setting	-
	iScsiSettings	iSCSI Settings	-
	iScsiSettings	iSCSI Setting	-

Table 576 ConfigurationManagerConnection

Data nesting information		Description	Range
value			
	productName	Category	-
	name	Name	-
	ipAddress	IP Address/Host Name	-
	port	Port	-
	protocol	Protocol	-
	userID	User ID	-
	status	Status	-
	connectedTime	Connected Time	-

Table 577 StorageSystem

Data nesting information		Description	Range
value ¹			
	storageDeviceId	Storage Device ID	-
	model	Model	-
	serialNumber	Serial Number	-
	svplp	SVP IP Address	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 578 ResourceGroup

Data nesting information		Description	Range
value			
	resourceGroupId	Resource group ID	-
	resourceGroupName	Resource group name	-
	virtualStorageId	Virtual storage system ID	-
	virtualStorageMachine	Virtual storage system	-

Table 579 Pool

Data nesting information		Description	Range
value ¹			
	poolId	Pool ID	-
	poolName	Pool Name	-
	poolType	Pool Type	-
	usedCapacityRate	Used Capacity Rate(%)	-
	availableVolumeCapacity	Available Capacity	-
	totalPoolCapacity	Total Capacity	-
	numOfLdevs	Number of Volumes	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 580 VolumeSettings

Data nesting information		Description	Range
value ¹			
	volumeUsage	Volume Usage	-
	numberOfVolumes	Number of Volumes	-
	volumeCapacityInMiB	Volume Capacity	-
	blockCapacity	Volume Capacity	-
	volumeLabel	Volume Label	-
	ldevSetting	LDEV Setting	-
	lunSetting	LUN Setting	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 581 ResourceCriteria

Data nesting information		Description	Range
value ¹			
	volumeUsage	Volume Usage	-
	storagePortCriteria	Storage Port	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 582 NamingScriptZone

Specifications of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	arguments[0]: The object with the following properties is passed as an argument: <ul style="list-style-type: none"> ▪ mold: The ID of the host (Managed Object ID in vCenter) ▪ name: The name of the host.

Specifications of the script	Description
	<ul style="list-style-type: none"> ▪ clusterName: The name of the cluster to which the host belongs. ▪ clusterMold: The ID of the cluster to which the host belongs.(Managed Object ID in vCenter) ▪ ipAddresses: The IP addresses for management of the host. ▪ wwns: The WWNs of the host (: separated hex value)
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and “_” 2. The first character is alphabetic 3. Host Group Name is up to 64 characters
example	<pre> if (PortName === null !(typeof (PortName) == "string" PortName instanceof String)) { throw new Error("Port Name must be a string: " + PortName); } PortName = PortName.replace(/^[A- Za-z0-9_]/g, '_'); name = name + '_' + PortName; if (name.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must start with a alphabet: " + name); } var ARRAYALIAS = name; var name1 = SERVERALIAS + '_' + ARRAYALIAS; if (name1.length > 64) { throw new Error(</pre>

Specifications of the script	Description
	<pre> "Zone alias name must be within 64 characters: " + name1); } if (/^[A-Z]/i.test(name1) === false) { throw new Error("Zone alias name must start with a alphabet: " + name1); } return name1; } </pre>

Table 583 NamingScriptZoneAlias

Specifications of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument.</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage ▪ system storageSystemName: Name of physical storage system on Configuration Manager ▪ storageSystemSerialNumber: Serial number of physical storage ▪ system storagePortName: Display port name of the storage system ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-")

Specifications of the script	Description
	<ul style="list-style-type: none"> ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-") ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-") ▪ serviceProperties: List of the service properties passed to the plug-in
return	<p>Script must return the string that satisfies the following conditions.</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic 3. Zone is up to 60 characters, Zone Alias is up to 64 characters 4. About Zone, strings starting with "LSAN_", "TI_", "QOSHn+", "QOSMn+", or "QOSLn_" are not allowed (case ignored. "n" is number)
example	<pre>function nameHostZoneAlias(args) { var name = args.hostName; if (name === null !(typeof (name) == "string" name instanceof String)) { throw new Error("Host name must be a string: " + name); } name = name.replace(/[^A-Za-z0- 9_]/g, '_'); var wwn = args.hostPortWorldWideName; if (wwn === null !(typeof (wwn) == "string" wwn instanceof String)) { throw new Error("Host port WWN must be a string: " + wwn); } name = name + '_' + wwn.replace(/:/g, '_').slice(-4); if (name.length > 64) { throw new Error("Zone alias name must be</pre>

Specifications of the script	Description
	<pre> within 64 characters: " + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must start with a alphabet: " + name); } return name; } </pre>

Table 584 NamingScriptStorageZoneAlias

Specifications of the script	Description
script	Function that is written in the syntax of ECMAScript 5. The following conditions of arguments and return must be satisfied.
arguments	<p>arguments[0]: The object with the following properties is passed as an argument.</p> <ul style="list-style-type: none"> ▪ hostname: Host name ▪ hostPortWorldWideName: WWN of HBA. Separator notation is based on BNA. ▪ storagePortWorldWideName: WWN of CHA. Separator notation is based on BNA. ▪ storageSystemFamily: Display model name of the physical storage ▪ system storageSystemName: Name of physical storage system on Configuration Manager ▪ storageSystemSerialNumber: Serial number of physical storage ▪ system storagePortName: Display port name of the storage system ▪ virtualStorageArrayFamily: Display model name of virtual storage (if non-virtual, "-") ▪ virtualStorageSystemName: Name of virtual storage on Configuration Manager (if non-virtual, "-") ▪ virtualSerialNumber: Serial number of virtual storage (if non-virtual, "-") ▪ serviceProperties: List of the service properties passed to the plug-in
return	<p>Script must return the string that satisfies the following conditions:</p> <ol style="list-style-type: none"> 1. Available characters: Only alphanumeric characters and "_" 2. The first character is alphabetic

Specifications of the script	Description
	<p>3. Zone is up to 60 characters, Zone Alias is up to 64 characters</p> <p>4. About Zone, strings starting with "LSAN_", "TL_", "QOSHn+_ ", "QOSMn+_ ", or "QOSLn_" are not allowed (case ignored. "n" is number</p>
example	<pre>function nameStorageZoneAlias(args) { var name = args.storageSystemName; if (name) { if (!(typeof (name) == "string" name instanceof String)) { throw new Error("Storage system name must be a string or null: " + name); } name = name.replace(/[^A-Za-z0-9_]/g, '_'); } var serial = args.storageSystemSerialNumber; if (serial === null !(typeof (serial) == "string" serial instanceof String)) { throw new Error("Storage System Serial Number must be a string: " + serial); } var PortName = args.storagePortName; if (PortName === null !(typeof (PortName) == "string" PortName instanceof String)) { throw new Error("Port Name must be a string: " + PortName); } PortName = PortName.replace(/[^A-Za-z0-9_]/g, '_'); if (name) { name = name + '_' + serial.replace(/:/g, '').slice(-4) + '_' + PortName; } else { name = 'SN' + serial.replace(/:/g, '') + '_' + PortName; } if (name.length > 64) { throw new Error("Zone alias name must be within 64 characters: " + name); } if (/^[A-Z]/i.test(name) === false) { throw new Error("Zone alias name must start with a alphabet: " + name); } return name; }</pre>

Smart Allocation for Oracle Databases (task details)

KeyName	Type	Description	Range
LUNPathConfigurationInformation	file	Stores the allocated LUN path information from the volume allocation results.	See the following File type property list
Oracle.deviceInfos	file	Stores the device name and the LDEV number of the allocated volumes.	See the following File type property list

File type property list

Table 585 LUNPathConfigurationInformation

Data nesting information		Description	Range
value ¹			
	hostName	Host Name	-
	volumeUsage	Volume Usage	-
	hostPort	Host Port	-
	storagePort	Storage Port	-
	lun	LUN	-
	portType	Port Type	-
	capacity	Capacity	-
	provisionedCapacity	Provisioned Capacity	-
	ldevId	Volume	-
	hostGroupNameOrIscsiTarget	Host Group Name/iSCSI Target	-
	model	Model	-
	serialNumber	Serial No.	-
	ldevLabel	LDEV Label	-
	resourceGroupName	Resource Group	-
	virtualLdevId	Virtual LDEV ID	-
	virtualSerialNumber	Virtual Serial No.	-
	virtualModel	Virtual Model	-

Data nesting information		Description	Range
	configurationManager	Configuration Manager	-
	poolId	Pool	-
	poolName	Pool Name	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

Table 586 Oracle.devInfos

Data nesting information		Description	Range
value ¹			
	deviceId	Device name	-
	ldevId	Volume	-
1. Repeatable. Repeatable items must be repeated and must include all lower layer tags.			

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