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Job Management Partner 1 Version 10

Job Management Partner 1/IT Desktop Management 2 - Asset Console Planning and Configuration Guide

3021-3-376(E)

Notices

■ Relevant program products

Job Management Partner 1/IT Desktop Management 2 - Manager

P-2642-78AL Job Management Partner 1/IT Desktop Management 2 - Manager version 10-50

The above product includes the following:

P-CC2642-7AAL Job Management Partner 1/IT Desktop Management 2 - Manager version 10-50 (for Windows Server 2012, Windows Server 2008, and Windows Server 2003)

P-CC2642-7BAL Job Management Partner 1/IT Desktop Management 2 - Agent version 10-50 (for Windows 8.1, Windows 8, Windows Server 2012, Windows 7, Windows Server 2008, Windows Vista, Windows Server 2003, and Windows XP)

P-CC2642-7CAL Job Management Partner 1/IT Desktop Management 2 - Network Monitor version 10-50 (for Windows 8.1 Enterprise, Windows 8.1 Pro, Windows 8 Enterprise, Windows 8 Pro, Windows Server 2012, Windows 7 Enterprise, Windows 7 Professional, Windows 7 Ultimate, Windows Server 2008, and Windows Server 2003 (x86))

P-CC2642-7DAL Job Management Partner 1/IT Desktop Management 2 - Asset Console version 10-50 (for Windows Server 2012, Windows Server 2008, and Windows Server 2003)

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Preface

This manual explains the issues you need to consider before you set up Job Management Partner 1/IT Desktop Management 2 - Asset Console (abbreviated to *Asset Console* hereafter), and describes how to install and set up Asset Console.

In this manual, *Job Management Partner 1* is abbreviated to *JP1*.

■ Intended readers

This manual is intended for system administrators who build asset information systems that use Asset Console.

■ Organization of this manual

This manual is organized into the following chapters and appendixes:

PART 1: Design

1. Design Overview

> Chapter 1 explains the design flow and the items that must be considered in the design process. It provides an overview of the work necessary for designing an asset management system that uses Asset Console.

2. Jobs To Be Executed in an Asset Management System

> Chapter 2 explains the method of selecting the jobs to be executed, when designing an asset management system.

3. Operating Method

> Chapter 3 explains how to choose the operating method when designing an asset management system.

4. Evaluating System Configuration

> Chapter 4 describes the organization of the programs for an asset management system and describes an example system configuration.

PART 2: Setup

5. Installation and Setup

> Chapter 5 explains how to install and uninstall Asset Console. It also describes how to set up the environment for using Asset Console.

6. Achieving Asset Management by Linking to Other Product

> Chapter 6 describes how to link Asset Console to other products such as JP1/IM.

7. Registration and Output of CSV Data

> Chapter 7 explains how to register CSV data into the asset management database and how to output asset information from the asset management database.

PART 3: System Definition

8. Basic Knowledge Needed to Use Asset Console

Chapter 8 describes the mechanism of an asset management database and asset statuses that constitute the basic knowledge needed in order to use Asset Console.

9. Changing the Window Operations and User Roles

Chapter 9 explains how to change window operations and user roles.

10. Item Definition

Chapter 10 describes how to define Items in order to use Items in executing asset management jobs.

PART 4: Troubleshooting

11. Troubleshooting

Chapter 11 describes the procedures for handling errors in an asset management system.

12. Maintaining the Asset Management Database

Chapter 12 describes how to maintain the asset management database.

PART 5: Reference

13. Details of Information That Can Be Acquired from Linked Products and Details of JP1 Events That Are Issued

Chapter 13 provides details of information that can be imported from other systems to the asset management database for use by applications. This chapter also provides in tabular format the details of JP1 events that are issued by Asset Console.

14. Management Information Details

Chapter 14 provides in tabular format the details of the properties of each class that is managed by Asset Console's asset management database. Additionally, this chapter explains the items that are imported or exported using the **Import** or **Export** job menu.

A. Organization of Folders

Appendix A describes in tabular format the organization of folders after Asset Console has been installed.

B. List of Processes

Appendix B provides a list of the Asset Console processes.

C. System Requirements and Estimates

Appendix C describes the memory, disk space, and CPU performance requirements for Asset Console.

D. Section and Key Names for Environment Setup Information

Appendix D provides a table that lists section and key names that are needed to add processing via an access definition file, along with the corresponding environment settings.

E. Replacing an Asset Management Server and Changing Its Settings

Appendix E explains how to replace an asset management server.

F. Notes on Using Asset Console in a 64-bit OS

Appendix F provides notes on using Asset Console in a 64-bit OS.

G. Audit Log Output

      Appendix G provides information about audit log output.

H. Reference Material for This Manual

      Appendix H provides reference material.

I. Glossary

      Appendix I defines terms used in this manual.

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1

Design Overview

This chapter explains the design flow and the items that must be considered in the design process. It provides an overview of the work necessary for designing an asset management system that uses Asset Console.

1.1 Design flow

The figure below shows the flow of designing an asset management system that uses Asset Console.

Figure 1–1: Design flow
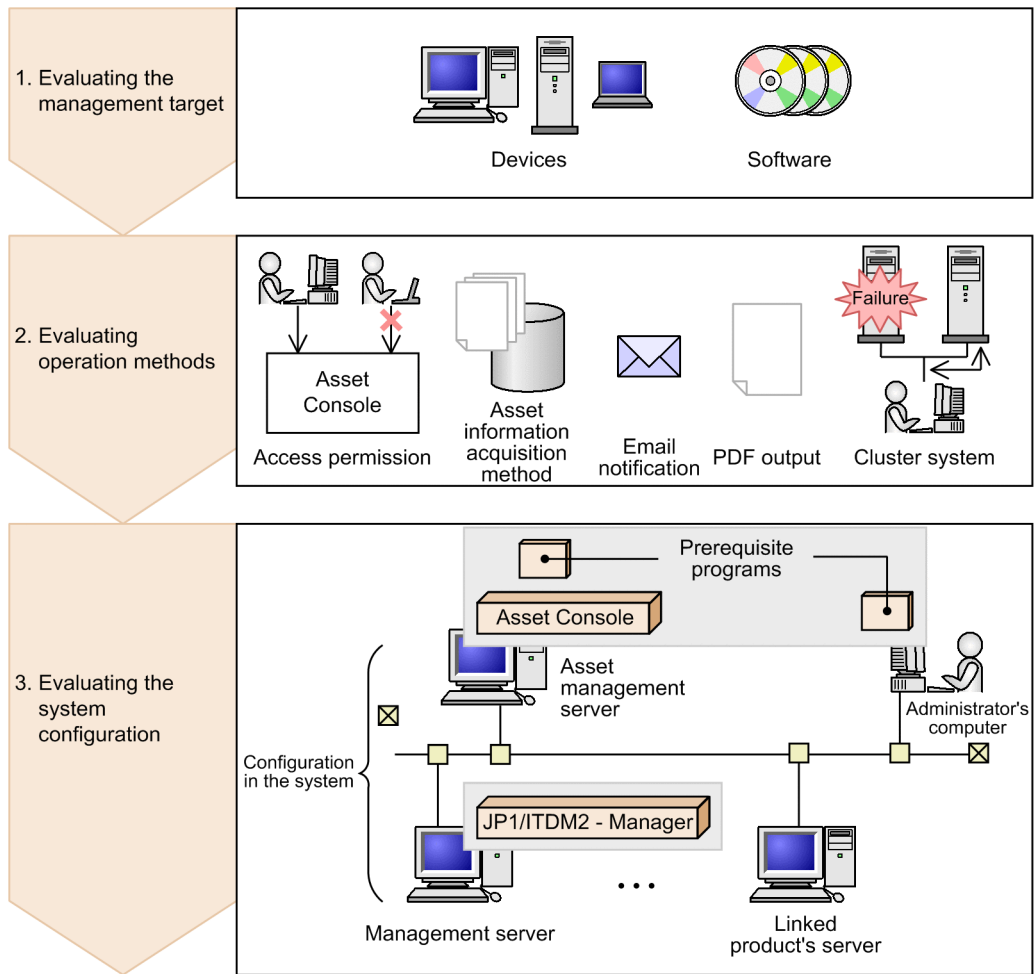
1. Decide which jobs (work) to handle using Asset Console.

   Investigate and decide what is to be managed and the types of information to be managed according to the work. Additionally, decide whether executing the target jobs requires linkage with other program products.

2. Investigate and decide how the asset management system is to be operated.

   Investigate and decide how the daily operations will be carried out, including the access permissions, the asset information acquisition method, and the need for email notification.

3. Investigate and decide the system configuration.

   Based on the decisions reached in steps 1 and 2, determine the programs needed and their positioning in the system.

1.2 List of items to consider

This section provides an overview, and explains the items that you need to consider when designing an asset management system that uses Asset Console. Use this section to get a general understanding of the items to be investigated and decided in the design phase. If you find an item you might need, consult the section indicated inside the parentheses, and decide whether to use that item.

1.2.1 Evaluating the management target

Investigate and decide the *management targets* (what is to be managed) and what information about each management target is to be managed. The parentheses following each list item indicate the section that provides a detailed explanation.

- For managing devices:
    - Types of devices such as PCs, displays, printers, and hubs (subsection *2.1.1(1)*)
    - Information to be managed that is related to devices, such as group names, contracts, and problems (subsection *2.1.1(2)*)
- For managing software:
    - Software types such as shareware and freeware (subsection *2.1.2(1)*)
    - Information to be managed that is related to software, such as the number of licenses being used and detailed licensing modes (subsection *2.1.2(2)*)

1.2.2 Evaluating operation methods

Investigate and decide how to operate the asset management system. The parentheses following each list item indicate the section that provides a detailed explanation.

- For setting up access permissions:
    - Types of user roles (subsection *3.1.1*)
    - Types of access permissions, such as login restrictions, hierarchical restrictions, and restrictions on the menus that can be used (subsection *3.1.2*)
- For selecting the method of acquiring asset information:
    - Collecting from JP1/IT Desktop Management 2 - Manager (subsection *3.2.1*)
    - Collecting from a CSV file (subsection *3.2.2*)
- For using notification by email
  Types of information to be sent via email, such as contracts nearing expiration and the number of licenses exceeded (section *3.3*)
- For outputting the search results to a PDF file
  Whether the search result needs to be output to a form (subsection *2.2.2*)
- For introducing into a cluster system
  Whether a cluster configuration is available that allows the introduction of Asset Console (section *3.4*)

1.2.3 Evaluating the system configuration

Select the programs to use and consider potential system configurations. The parentheses following each list item indicate the section that provides detailed explanation.

- Prerequisite programs for the asset management server

  Required

  - Types of OS to use, such as Windows Server 2012, Windows Server 2008, and Windows Server 2003 (subsection *4.1.1(1)*)
  - Version of the Web server to use (Microsoft Internet Information Services) (subsection *4.1.1(1)*)

  Optional

  - Whether to send notification by email (subsection *4.1.1(3)*)
  - Whether to use Active Directory to authenticate a user (subsection *4.1.1(5)*)

- Prerequisite programs for the administrator's computer

  - Required Web browser (subsection *4.1.1(2)*)

- Asset Console components

  - Positioning of the asset management server (subsection *4.2.1*)

- Linkage to other program products

  - Types of program products that can be linked (subsection *4.1.1*, subsection *4.1.2*)

2

Jobs To Be Executed in an Asset Management System

This chapter explains the method of selecting the jobs to be executed, when designing an asset management system.

2.1 Management targets

When designing an asset management system that uses Asset Console, first investigate and decide what is to be managed (the *management targets*). Asset Console can manage devices and software programs.

This section explains the information that can be managed for each management target.

Information about the management targets

- You can acquire the main information about a management target by linking Asset Console to JP1/IT Desktop Management 2 - Manager.

  To import the information collected by JP1/IT Desktop Management 2 - Manager for utilization in an asset management database, select the targets to be managed by the asset management database. This must be done based on the information collected by JP1/IT Desktop Management 2 - Manager. For details about the information that can be acquired from JP1/IT Desktop Management 2 - Manager, see *13.1 Management information that can be acquired from JP1/IT Desktop Management 2 - Manager*.

- To register information not collected by JP1/IT Desktop Management 2 - Manager or information unrelated to JP1/IT Desktop Management 2 - Manager in the asset management database, and to manage such information, use either of the following methods:

  - Register information about individual devices and software programs.

  - Acquire information from a CSV file and import the information.

  For details about how to register new information about devices and software programs, see *2.1.4 Registering device information (New Device)* and *2.4.5 Adding a license (New Software)* in the *Administration Guide*.

  For details about acquiring asset information, see *3.2 Collecting asset information*.

2.1.1 Managing devices

Asset Console can centrally manage the devices on a network. This section explains the types of devices that can be managed, and the types of information that can be managed in connection with these devices.

Device types and related information can be used as the attribute information of the devices, for stocktaking. Additionally, when managed along with contract information, device types and related information can be used in various types of work, such as troubleshooting. Therefore, investigate and decide what level of management and what information are required.

The following figure shows the concept of utilizing the device information in various types of work. In this example, the attribute information of the devices is used in contract and problem management.

Figure 2–1: Using device information in various types of work


```
Asset number: 0000001
Device type: PC
CPU: Intel Pentium 4
Memory size: 256
Host name: server01
IP address: 111.11.11.10
Group name: Section 1
Location: Building A, 2F
User name: Smith
  :
  :
```

Device management

```
Contract number: KY0001
Asset number: 0000001
Group name: Section 1
```

Contact management

```
Error detail: Failure
Asset number: 0000001
Group name: Section 1
Location: Building A, 2F
```

Error

Problem management
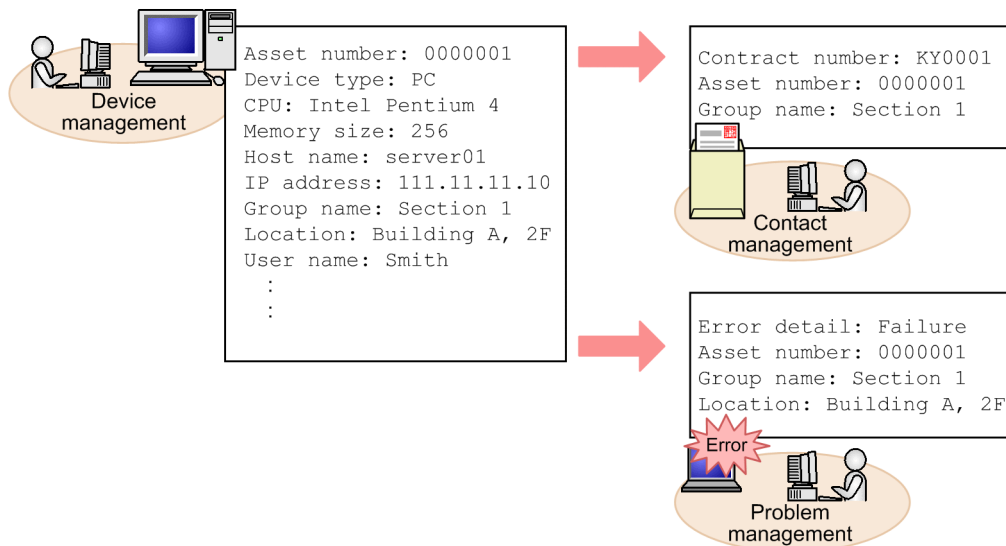
(1) Device types

Device types can be classified into the following three categories: computing, accessories, and networking, each of which can be further classified into detailed categories. The default device types are listed in the table below.

Device type	Detailed category
Computing	• PC • PC server • UNIX • UNIX server • Smart Devices • Other system devices
Accessories	• Monitor • Hard disk • CD-R • CD-R/W • DVD • DAT • MO • Printer • Peripheral Devices • USB Devices • Other storage devices
Networking	• HUB • Router • Network printer • Network devices

By precisely managing device types, you can retrieve the desired device information quickly from a device management job, and can also simplify contract and license management. Furthermore, if management history information is used for preventive maintenance, precise management of device types makes thorough security measure implementation possible.

You can use device type information to delete unnecessary types from the management targets or to add necessary types. For details about how to change the default types, see *4.8 Adding and changing types and statuses (Code)* in the *Administration Guide*.

(2) Information associated with devices

Asset Console can efficiently manage devices by associating information such as group names and location names with devices and managing such information. The following types of information can be associated with devices and managed:

- Group name, user, and location name

  You can manage the names of groups that use a device, the device users, and device locations. Group names, users, and location names can be used in all device management jobs, including stocktaking of devices and quick troubleshooting.

  Not only can you use window operations to register the group names, users, and location information, but you can also acquire this information from JP1/IT Desktop Management 2 - Manager. Furthermore, you can automatically set the corresponding group and location names from IP addresses.

- Contract information

  You can use contract information to manage device maintenance as well as lease and rental contract details. By registering the contract information, you can manage it in association with the devices covered by the contract.

- Problems

  When an error occurs in a device, you can register the error details as problems and manage them. You can use this information to devise countermeasures against the same kind of problem, or use it in device purchasing or replacement jobs.

  You can also register JP1 events of JP1/IM and share the problems on the asset management system. For details about linkage to JP1/IM, see *2.2.1 Managing problems by linking to JP1/IM*.

- Network information

  You can manage a network configuration by associating it with network information such as IP addresses, subnet masks, and default gateways.

- Related devices

  You can manage devices by establishing parent-child relationships among them. By searching for devices that are related and registering them as related devices, you can easily keep track of the devices that are related to the device of interest.

2.1.2 Managing software

Asset Console can manage the software installed in devices and the licenses owned. This section explains the types of software that can be managed, and software-related information. Information about the software installed in the devices can be used in various jobs, such as checking the number of licenses being used, thoroughly implementing anti-virus measures, and preventing illegal use. You can also manage assignment destinations according to license categories. Therefore, consider the extent of the information to be managed and, based on this consideration, determine the information that is required.

The following figure shows the concept of utilizing the information about the software installed in devices in various jobs. In this example, software information is used to manage the usage of software.

Figure 2–2: Using software information in various jobs
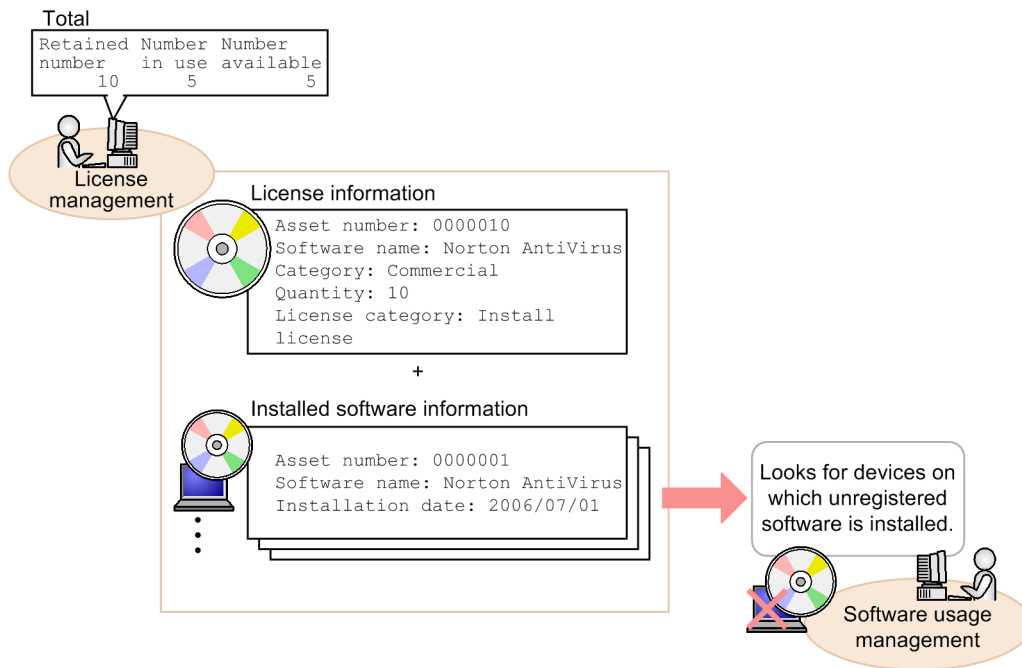
(1) Software types

Software types can be classified into the following three categories: commercial, shareware, and freeware. You can delete unneeded types from the managed target, and add required types. For details about how to change the default types, see *4.8 Adding and changing types and statuses (Code)* in the *Administration Guide*.

(2) Information to be managed

Two types of software information can be managed. One type is the information related to purchased licenses. The other type is the information related to software that is installed on devices. By combining these two types of software information, you can compare the number of licensed users allowed with the actual number of users, or detect illegal installation. The following types of software-related information can be managed.

- License-related information

  - Number of licensed users

    You can use this information to manage the number of users licensed to use the software.

  - License information

    You can centrally manage detailed option information, including license categories (machine-specific or user-specific), downgrade, and upgrade assurance.

  - License keys and assignment destinations

    By comparing the license keys with license assignment destinations, you can determine which devices (or users) are using which licenses.

- Information related to the software installed in devices

  - Number of licenses being used

    You can use this information to manage the names and versions of software installed in devices, and file names.

  - Patch information

You can acquire JP1/IT Desktop Management 2 - Manager system information and manage information about patches that have been installed in the devices. You can use this information to determine whether the latest patches have been applied.

- Virus definition information

  You can acquire anti-virus product information for JP1/IT Desktop Management 2 - Manager and manage the virus definition files installed on the devices. You can use this information to determine whether the latest virus definition files have been installed.

2.2 Asset management system linked to other program products

Asset Console can be linked to various programs other than JP1/IT Desktop Management 2 - Manager to build a comprehensive asset management system. Consider linking previously purchased programs to Asset Console. For program products not yet purchased, decide whether they are necessary for achieving the objectives of the work.

This section explains the functions that can be expanded through linkage to other program products.

2.2.1 Managing problems by linking to JP1/IM

JP1/IM can acquire information on problems in the asset management system. This information can be registered in the asset management database and managed. Asset management tasks that can be achieved by linking to JP1/IM are explained below.

Linking to JP1/IM enables automatic registration of problems into the asset management system on the basis of JP1 events and SNMP trap information. In addition, problems from JP1/IM can be confirmed. Managing these problems is useful for preventive maintenance.

The figure below shows asset management tasks that can be achieved by linking to JP1/IM.

Figure 2–3: Asset management tasks performed by linkage to JP1/IM
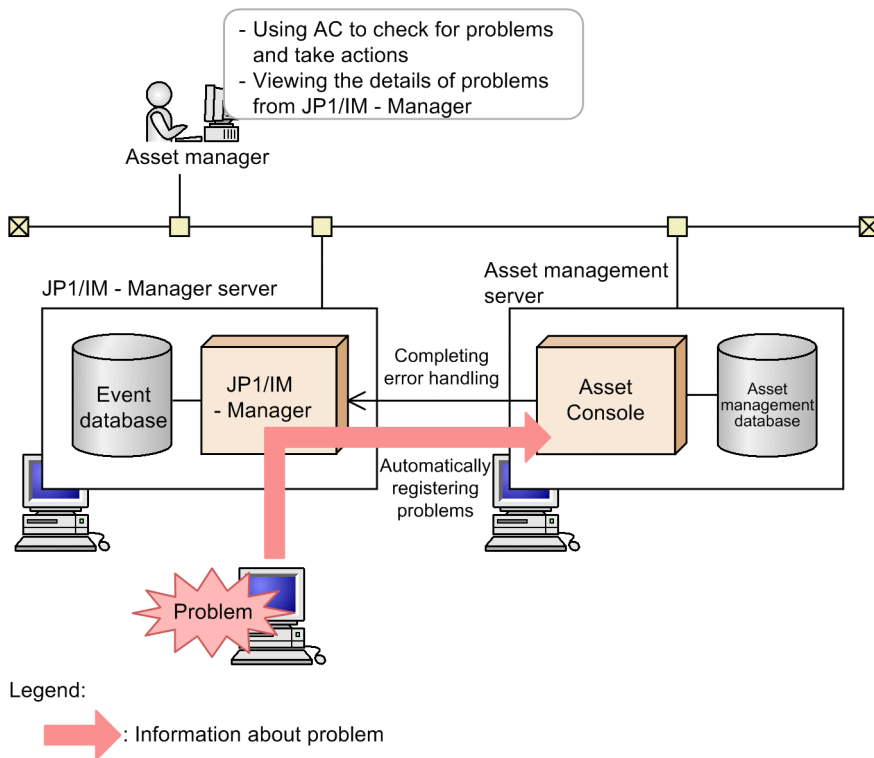
- Information on JP1 events and SNMP traps collected by JP1/IM can be used to confirm and respond to problems in the asset management system

  You can browse the problems collected by JP1/IM events from the **Problems** job menu. Also, notification can be issued that JP1/IM measures have been taken, and problem information status can be changed to *handled*.

- Displaying detailed information for problems from JP1/IM

  In the JP1/IM Event Console window, you can view detailed information for the problems registered in Asset Console from JP1 events (notifications of completed countermeasures for problems) issued by Asset Console.

For details about Asset Console JP1 events issued when you link to JP1/IM, see *13.2 Details of JP1 events issued from Asset Console*.

2.2.2 Linking to EUR and outputting the search results in PDF format

EUR is a program that prints out forms by using input data in table format. EUR provides various functions that let you design forms without creating difficult programs. Asset Console can link to EUR, and display and print out data searched by Asset Console as forms in PDF-file format. Because the searched data can be set in EUR to be displayed as bar codes, you can use the asset numbers searched in **Device List** as bar codes for stocktaking. You can also print a bar code on a seal, and put the seal on a managed device. You can output the information below as the search results in PDF format. The buttons for outputting these information items are set to be displayed by default.

- Device List
- Contract List
- Problem Details
- Owned License List - by Used
- Excess License List - by Used
- Unauthorized Usage List - by Used
- Unknown Usage List - by Used
- Software List
- Software Details
- Volume License List
- Volume License Details
- Maintenance Log Detail
- User Report

3

Operating Method

This chapter explains how to choose the operating method when designing an asset management system.

3.1 Access permissions

Asset information includes not only device and software information, such as an asset's type, name, and registration date, but also information that should be edited only by specified users. In this case, you can limit the scope of access by specifying roles for the users who use the asset information.

If only applicable asset information is to be made available to the system administrator of each group, you can limit the scope of access according to groups by specifying user roles.

This section explains the access permissions that can be set by Asset Console.

3.1.1 Types of user roles

Two user roles are supported by Asset Console, the *administrator* and the *user*. This section describes each of these roles.

Administrator

> This is a user in charge of device and network management in the asset management group (data system management department).
>
> The administrator is authorized to change the settings for the entire asset management system and acquire, remove, and select the asset information to be managed.
>
> The asset manager (user ID: `admin`) that is created when Asset Console is installed has this role.

User

> This can be a user in charge of device or network management in each group or a general user. The user can use the information managed in the asset management system to execute various asset management jobs, but cannot allocate jobs whose execution depends on the role.

You can change the details of the user roles and create new user roles. For details about changing user roles, see *9.1 Changing user roles (Role)* .

3.1.2 Types of access permissions for users

This section describes the access permissions that can be set for the Asset Console users according to their user roles.

- Availability of Asset Console login

  To use Asset Console, register each user, and assign to each user the appropriate user role. The users can then log in to Asset Console.

  During the construction of an asset management system, the administrator user (user ID and password: `admin`) is registered.

- Access permissions by group level

  Limit the asset information available to each user at the group level according to the user role. The figure below provides an overview of the access permissions by group level.

Figure 3–1: Access permissions by group level
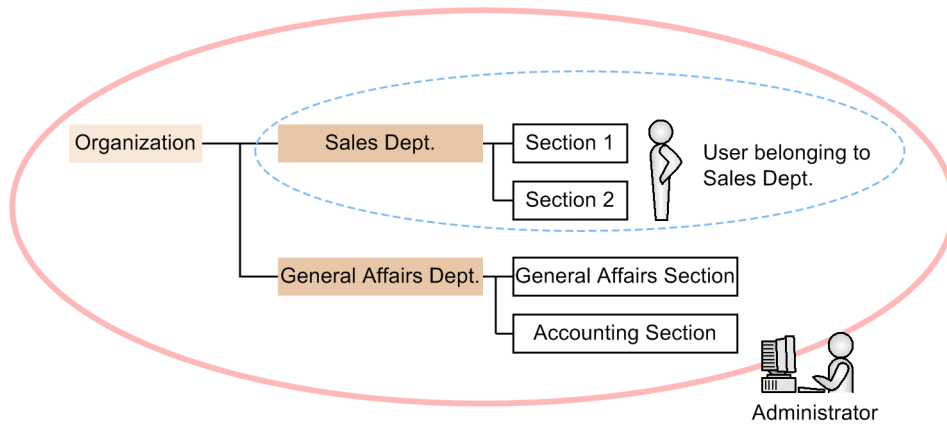
To set access permissions by group level, specify the group level that can handle asset information (managed label).

For details about how to specify managed labels for individual user roles, see *3.1.3 Assigning access permissions according to organizational hierarchy*.

- Limiting the functions that can be executed from windows

  You can customize window operations by user role by limiting the items and buttons that are displayed.

  For details about limiting the functions that can be executed from windows according to user role, see *9.3 Changing a window for a user role (Customize Job Windows)*.

  You can also display the buttons that are hidden in the default settings and use them along with the settings for the Customize Job Windows. For details about the types of buttons that are hidden in the default settings, see *9.2.4 Changing the names and view/hide settings for buttons and tabs*.

- Limiting the available menus

  You can limit the functions available to each user role and display only applicable menus.

  For details about setting the menus for each user role, see *9.4 Changing the executable jobs (Customize Job Menu)*.

3.1.3 Assigning access permissions according to organizational hierarchy

To limit accesses at the group level, you must set a **Managed label** for the desired group and then set the same **Managed label** for the user role. The example below shows the flow of limiting access by either **User** or **Manager**. The job menu selected when this is set is shown in parentheses.

Figure 3–2: Flow of setting access control

1. Set the management label in the group detail information (Group and User)

Sales Department
Management label:
Department

Section 1
Management label:
Section

Section 2
Management label:
Section

2. Set the management label in the user role detail information (Role)

Role label:
Department head
Management label:
Department

Role label: User
Management label:
Section

3. Log in as `userA` or `userB`

Member of group: Sales Department
User ID: `userB`
Role: Department head

Sales Department
Management label:
Department

User B

Member of group: Sales Department/Section 2
User ID: `userA`
Role: User

Section 1
Management label:
Section

Section 2
Management label:
Section

User A

Legend:

: Information that can be displayed when logged in as `userA`

: Information that can be displayed when logged in as `userB`

1. Set **Managed label** in the detail information for the group level whose access you wish to limit (Group and User).

   Set **Section** as the **Managed label** for Sales Section 1 and Sales Section 2, and set **Department** as the **Managed label** for the Sales Department. For details about setting **Managed label**, see *4.1.1 Adding a group* in the *Administration Guide*.

2. Set **Managed label** in the detail information for the user role (Role).

   Set the **Managed label** set for the group (**Section** or **Department**) to the user role (**User** or **Department head**) for which you wish to limit access. For details on setting user roles, see *9.1.1 Adding a new user role*.

3. Log in under the user role for which access has been limited.

   User A, who holds **User** role, can display only information for Sales Section 2, to which this user belongs. User B, who holds **Department head** role, can display information for the entire Sales Department.

The order of steps 1 and 2 can be reversed.

If you assign a division to a user for whom access control is set according to an organizational hierarchy, you can view and modify the asset information of the group belonging to the division, in addition to the access scope that is set for the user.

Note

When changing a managed label, make sure that the managed label set for the user role is also changed.

3.2 Collecting asset information

The asset information to be managed by the asset management database can be collected either from JP1/IT Desktop Management 2 - Manager or from a CSV file.

If you want to manage various types of information in a large system, Hitachi recommends that you collect asset information from JP1/IT Desktop Management 2 - Manager. However, if data already exists when Asset Console is being installed for the first time, or if there is information not being collected by JP1/IT Desktop Management 2 - Manager, you can also collect asset information from a CSV file. Choose an appropriate asset information collection method based on the application objective and timing, such as during initial installation or daily operations.

The two methods of collecting asset information, the first from JP1/IT Desktop Management 2 - Manager and the second from a CSV file, are explained below. For the collection of asset information from JP1/IT Desktop Management 2 - Manager, how to set the management information assignment method and how to set the software name assignment are also explained.

3.2.1 Collecting from JP1/IT Desktop Management 2 - Manager

JP1/IT Desktop Management 2 - Manager management information is periodically collected by a task in the Windows Task Scheduler.

The figure below shows how the management information collected by JP1/IT Desktop Management 2 - Manager is registered into the asset management database.

Figure 3–3: Registering JP1/IT Desktop Management 2 - Manager management information into the asset management database
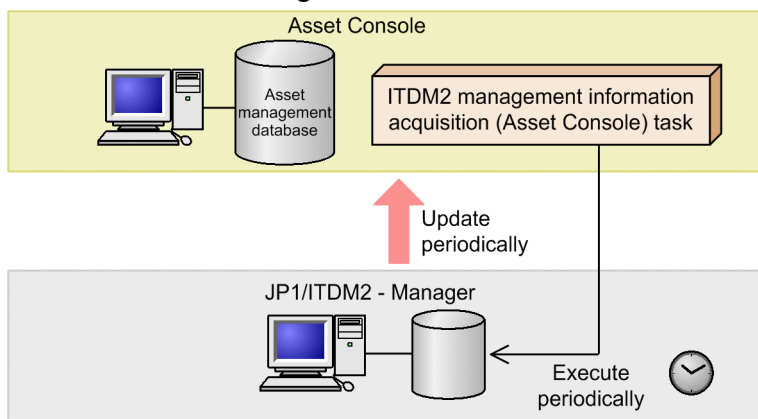
A Windows Task Scheduler task periodically executes to update the changes in the JP1/IT Desktop Management 2 - Manager management information into the asset management database. You can achieve network and asset management server operation with no workload by adjusting the execution timing of the **Acquisition of ITDM2 - Manager management information (Asset Console)** task.

For details about the information that can be collected from the JP1/IT Desktop Management 2 - Manager management information, see *13.1 Management information that can be acquired from JP1/IT Desktop Management 2 - Manager*.

Deletion of asset information that is not included in the JP1/IT Desktop Management 2 - Manager management information

Registering JP1/IT Desktop Management 2 - Manager management information does not automatically delete asset information in the asset management database. However, for network information or installed software information, asset information that is not included in the newly acquired JP1/IT Desktop Management 2 - Manager management information is assumed to have been either deleted from the network or uninstalled from a device, and can be deleted. For each device, you can set **ITDM2 management information acquisition control** on the Device Details dialog to specify whether to delete the asset information. For details about the setting of **ITDM2 management information acquisition control**, see *2.6.2 Viewing and changing network information (Network tab)* or *2.6.3 Viewing and changing installed software assets (Software tab)* in the *Administration Guide*.

3.2.2 Collecting from CSV files

Asset Console enables you to acquire asset information from CSV files and insert it into the asset management database in a batch operation. This is called *importing*.

There are three ways to perform importing:

- From the **Import** job menu
- Using `jamCsvImport.bat`
- Using the `jamimport` command

This section explains the advantages of the various methods of importing. Select the method that will give you the best efficiency on the basis of the information that you want to import.

1. Importing from the **Import** job menu

   You can create import conditions for the CSV file in order to obtain the asset information that you want to register and update the CSV file asset information in a batch operation. You can specify in the conditions the items in the CSV file that are to be assigned to the Asset Console management items.

   This method can import from anywhere, as long as it is an environment that can log in to the Asset Console.

   You do not have to have knowledge of the CSV file format or of the classes or the relationships among classes in order to update information into the asset management database.

   You can also register user reports, job window forms, JP1/IT Desktop Management 2 - Manager management information assignment settings, and import/export conditions.

   However, you cannot import multiple CSV files at the same time or both register and delete at the same time.

2. Importing using `jamCsvImport.bat`

   The same processing as when you use the **Import** job menu can be performed from the command line on the asset management server. This method is useful for automating asset information updating operations because you can update the asset information according to a job category, such as **Device information**, without being concerned about the CSV file format, the class, or the class relationship. However, processing time is greater than when you use the `jamimport` command.

   With this method, the import conditions cannot be changed or saved.

3. Importing using the `jamimport` command

   A CSV file with asset information to be updated can be created for each class, and the CSV files can be imported in a batch operation without having to accept or reject the contents of the CSV files.

   With this method, you can import all object classes and you can import multiple CSV files at the same time. Moreover, each line in a CSV file can contain a register, change, or delete specification.

Because updates can be done in units of classes, data exported for backup can be restored and pinpoint data updates can be used. However, if CSV files are created following the method for data files and there are related classes, the shared property values must be made the same and must be imported at the same time.

For details about each import method, see *7.1 Registering CSV data (importing)*. For details about the information that can be imported (classes), see *14.1 Organization of classes*.

3.2.3 Setting the management information assignment method

JP1/IT Desktop Management 2 - Manager can collect information about PCs, printers, and other devices in the network, as well as information about software installed on PCs. In order to load this collected information (management information) into the asset management database and use it for management, the devices managed by JP1/IT Desktop Management 2 - Manager and the devices managed by Asset Console must match. This is to avoid registration errors such as the information for one device being registered as information for a different device.

To accurately assign the information collected by JP1/IT Desktop Management 2 - Manager as asset information in the asset management database, you must set the key for management and the asset information.

In addition, if a communication card, such as a mobile card or wireless LAN card, is shared by multiple PCs, the information collected by JP1/IT Desktop Management 2 - Manager will contain the same MAC address assigned to multiple management-target devices. In such a case, if the MAC address is set up as the key for Asset Console to assign asset information to the asset management database, these devices will be registered as a single device. By registering MAC addresses in an assignment-exclusion MAC list, you can register and manage devices as separate assets. For details about how to define an assignment-exclusion MAC list, see *(5) Defining an assignment-exclusion MAC list*.

This section describes how management information is registered depending on the settings in the **ITDM2 management information acquisition** job menu.

The figure below shows the flow of settings and assignment in **ITDM2 management information acquisition**.

Figure 3–4: Flow of settings and assignment in ITDM2 management information acquisition
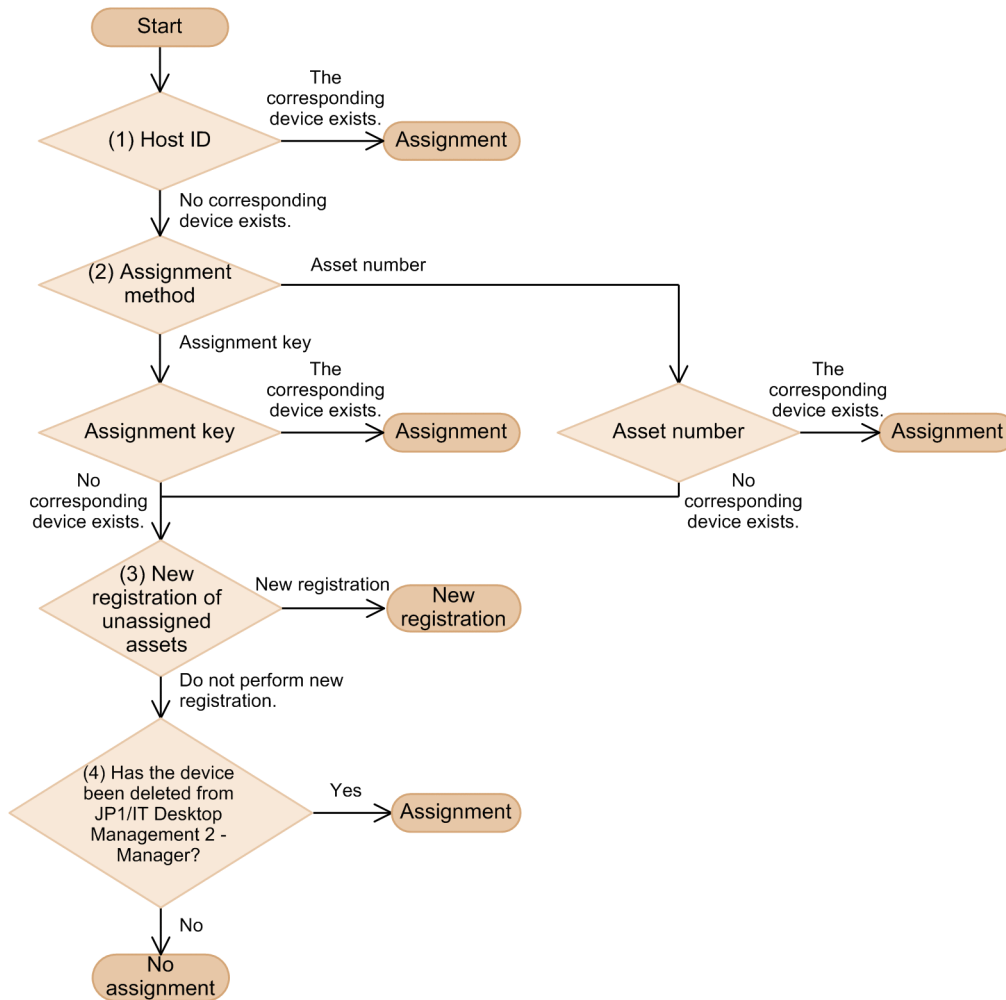
Numbers (1) through (4) in the figure correspond to the headings for the explanations provided below.

Note

> If the device type of the target asset information is not **Computing** (the **Device type** code is between 100 and 199), the new asset is registered.

(1) Host IDs

Host IDs, each of which has a unique value in the JP1/IT Desktop Management 2 - Manager system, are used to identify individual devices. Host IDs are generated when JP1/IT Desktop Management 2 - Agent is installed, and automatically reported to the JP1/IT Desktop Management 2 - Manager server. The host IDs are used in Asset Console to assign devices.

(2) Assigning management information

There are two ways to assign management information to asset information. One is to use the asset number, and the other is to use the assigned key.

Using the asset number

> Assign management information sets collected by JP1/IT Desktop Management 2 - Manager to asset numbers.

> For details about the settings for assigning management information to asset numbers, see *4.14.1 Setting an assigned item for asset numbers* in the *Administration Guide*.

Using the assigned key

An assigned key is set for each device type. The following table shows the types of devices and assigned keys.

Table 3–1: Device types

Device type	Contents
Computing	PCs, PC servers, UNIX, UNIX servers, Smart Devices, Other system devices
Accessories	Monitors, Hard disks, CD-Rs, CD-RWs, DVDs, DATs, MOs, Printers, Peripheral Devices, USB Devices, Other storage devices
Networking	HUBs, Routers, Network printers, Network devices

Table 3–2: Types of assigned keys

Assigned key[1], [3]	Remarks
Not set	--
Serial number of the machine	--
MAC address[2]	The following classes are subject to assignment:
IP address (default)	1. *14.2.10 HardwareInfo (hardware information)* 2. *14.2.21 NetworkInfo (network information)*
Host name	In the target class, devices are searched for in the above order.

Legend:

--: Not applicable.

#1

Multiple assigned keys can be combined and specified.

#2

The MAC addresses registered in the assignment-exception MAC list (*(5) Defining an assignment-exclusion MAC list*) are excluded.

#3

Only when all items specified as assigned keys exist in the management information collected from JP1/IT Desktop Management 2 - Manager, the management information is assigned to the assets managed by Asset Console.

(3) New registration of unassigned assets

If there is no corresponding asset information, whether the asset is to be registered depends on the **Register information** in the **ITDM2 management information acquisition** job menu. If **Register new information** is specified, the asset will be newly registered. If **Do not register new information** is specified, the asset will not be registered.

(4) Status of the deleted asset devices

If asset devices are deleted from JP1/IT Desktop Management 2 - Manager, the status of the deleted asset devices can be changed in Asset Console. For details about how to change the device status, see *4.8 Adding and changing types and statuses (Code)* in the *Administration Guide*.

(5) Defining an assignment-exclusion MAC list

Assume that multiple management-target devices have the same MAC address assigned to them when MAC addresses are set up as the key for Asset Console to assign asset information to the asset management database. In this case, to register these devices as separate assets, you must create an assignment-exception MAC list (MacListOfOmitMatching.ini).

The storage destination, the description method, and a description example of the assignment-exception MAC list are as follows:

- Assignment-exception MAC list storage destination

  Asset-Console-installation-folder\env

  A sample file of the assignment-exception MAC list (`MacListOfOmitMatching.ini.org`) is provided in the aforementioned storage destination for use as a reference when creating an assignment-exception MAC list. View this sample when creating an assignment-exception MAC list.

  Note

    When assigning keys, Asset Console checks the file in the aforementioned storage destination. If no file is found in this storage destination, it is assumed that there are no MAC addresses to be excluded from assignment.

- Assignment-exception MAC list (`MacListOfOmitMatching.ini`) entry method

```
; MAC Address List of Omit Matching.
[OMIT_MAC]
OMIT_MAC = 00:11:22:33:44:55
```

[OMIT_MAC]

  Specifies the MAC address to be registered in the assignment-exception MAC list.

  Specify the MAC address to be excluded from assignment in the `OMIT_MAC` = *MAC-address* format.

When specifying a MAC address to be excluded from assignment, note the following points:

- Do not specify an abbreviation.
- The delimiter for MAC addresses is the colon (`:`).
- Specify 17 characters. Note that MAC addresses are not case-sensitive.
- Specifying the same value more than once does not cause an error.
- You can specify a maximum of 1,000 MAC addresses. However, if a large number of unnecessary key names or values are entered, errors might occur, even if the number of addresses does not exceed 1,000.

- Assignment-exception MAC list definition example

```
;
; MAC Address List of Omit Matching.
;
[OMIT_MAC]
OMIT_MAC = 11:22:33:44:55:66
OMIT_MAC = aa:bb:cc:dd:ee:ff
```

In the above example, `11:22:33:44:55:66` and `aa:bb:cc:dd:ee:ff` are set as MAC addresses to be excluded from assignment. If there are multiple devices with these addresses, they are registered as separate devices (assets) in the asset management database.

3.2.4 Setting the software name assignment method

To manage software licenses, it is necessary to assign the name of the software installed in each device (*installed software name*) to the name of the software (*software name*) whose license is being managed.

If Asset Console is set to collect installed software information from JP1/IT Desktop Management 2 - Manager, installed software names can be automatically assigned to software names.

1. Select the **ITDM2 management information acquisition** job menu, **Action settings**, and then **Acquisition target**. Then in **Software information**, select the following check boxes.

Automatically assign software

When management information is acquired from JP1/IT Desktop Management 2 - Manager, if the same software is already registered in the install software list, you can specify whether to add the assignment to the same software name.

You can specify either of the following two values for **Automatically assign software**:

- **Do not assign automatically** (default)

- **Assign automatically**

Automatically register software

When acquiring management information from JP1/IT Desktop Management 2 - Manager, choose whether to register a software name using the same name as the installed software name and assign them to each other.

If **Do not automatically register new information** (default) is chosen, only the installed software name is registered, and software name registration or assignment are not executed. If an installed software name not registered in the asset management database is contained in the acquired management information, assign a software name using the **Software Name** job menu.

If **Automatically register new information** is specified, an installed software name having the same name in the management information acquired from JP1/IT Desktop Management 2 - Manager and the software name is registered and automatically assigned. Note that `Commercial` is registered as the software type. For the procedure for changing the software type, see *4.6.4 Changing a software name and attributes* in the *Administration Guide*.

2. Click the **Set** button.

Note

If software with a software type of Commercial is already registered in the asset management database, the software is registered under a name with an _X suffix (where X is a number between 1 and 99) and is assigned to an installed software name. The number is sequentially assigned, beginning with 1 to 99. If numbers up to 99 are already registered, no assignment is executed, and the fact that the software name was not registered because it had already been registered is output to the log.

3.3 Notification by email to the asset manager

Asset Console can use the Windows task scheduler function to send email notification to the asset manager when it detects contract expiration, an excess number of licenses, unauthorized installation, or a change to device information. Additionally, when an Item is sent to another worker, Asset Console can send an email notification to that worker.

This section explains the environment necessary for using notification by email and the content that is sent, so that you can decide whether to use notification by email and for what jobs.

To use notification by email, you must specify it in both Asset Console and Microsoft Internet Information Services.

Settings in Asset Console

- **Notification by e-mail**

  In the Server Setup dialog box, under **Mail Notification Information**, set **Notification by e-mail** to **Notify**.

- **Address to e-mail**

  In the Server Setup dialog box, under **Mail Notification Information**, for **Address to e-mail**, set the email address of the asset manager to which email notification is to be sent.

  For details about specifying the settings in the Server Setup dialog box, see *5.3.5 Setting Mail Notification Information*.

Settings in Microsoft Internet Information Services

- SMTP virtual server execution

  Make sure that the SMTP virtual server is running.

  For details about setting up the SMTP virtual server, see *5.10.1 Executing the SMTP virtual server*.

- Relay of received email to a remote domain

  Add a remote domain to the SMTP virtual server and specify the settings in such a manner that received email will be relayed to that remote domain.

  For details about the settings for relaying received email to a remote domain, see *5.10.2 Adding a remote domain*.

3.3.1 Notification of invalid contract information

You can use the **Notification of invalid contract information (Asset Console)** task to periodically send email notifications regarding maintenance, lease, and rental contracts that have expired.

The email sent by this task lists the category, end date, and contract number of each contract, as shown in the figure below.

Figure 3–5: End date notification email


```
From:manager@asset.message
To:user1@system.xxxx.co.jp                          Email address of asset
Subject: Contract expiration notification (2003/02/01)   manager


Type                    Contract expiration date   Contract number
Lease contract          2003/03/31                 LPCP-1234-1234-0001      Contracts to expire at the
Maintenance contract    2003/03/31                 MTUO-1369-1369-0001      specified time
Rental contract         2003/03/31                 RENT-1369-1369-0001
```

The task also sends CSV files as email attachments. These files contain lists of the assets corresponding to the contracts that are about to expire. If no lease or maintenance contracts are about to expire, the task does not attach any files.

The following table describes the names and contents of the files that can be attached.

File name	Contents
jamexpiration_A.csv	List of assets corresponding to lease contracts that are about to expire
jamexpiration_B.csv	List of assets corresponding to maintenance contracts that are about to expire
jamexpiration_C.csv	List of assets corresponding to rental contracts that are about to expire

The figure below shows an example of the contents of a file attached to an email notification of expiring lease contracts.

Figure 3–6: File attachment to email notification of expiring lease contracts

```
"Display value", "End date",  "Contract No.", "Asset No.",  "Group", "Username", "Location"
"Lease",         "2003/07/01","00000006",     "0000000018", "Sales","Smith",     "HQ/4F"
"Lease",         "2003/07/01","00000236",     "0000000020", "Sales","Johnson",   "HQ/5F"
```

In the default setting for the **Notification of invalid contract information (Asset Console)** task, the task is executed at 6:00 am on the first day of every month, and it sends a notification by email about any contract that will expire within two months. For details about how to change the date and time and the frequency of task execution, see *5.9.2 Task setup procedure*.

Note

Because the task is set to execute only once a month, a short contract whose duration is less than one month might not be included in the notification under the default settings. For example, if a contract is in effect from March 20 through March 30 and was not registered on March 1, it will never be subject to notification by the task.

If such short-time contracts might be common, you should add a schedule for sending email notifications that will include them. For details about the procedure for adding schedules, see *5.9.2(2) Changing a task schedule*.

3.3.2 Notice of license excess

You can use the **Notice of license excess (Asset Console)** task to periodically total up the numbers of licenses owned and used. Based on the results, license usage status can be managed from each license management job menu.

If the totaled results show any licenses that exceed the owned numbers, a list can be sent by email. If email notification is not needed, use the **Totals number of licenses (Asset Console)** task. The totals given in **Notice of license excess (Asset Console)** and **Totals number of licenses (Asset Console)** are the same. If email notification is required, use **Notice of license excess (Asset Console)**. If it is not required, use **Totals number of licenses (Asset Console)**. Because these tasks take some time to execute, it is recommended that you not use **Totals number of licenses (Asset Console)** together with **Notice of license excess (Asset Console)**.

This task is created when Asset Console is installed.

As shown in the figure below, the notification email includes an explanation that the number of use licenses exceeds the threshold value of the number of retained licenses.

Figure 3–7: Notification email about excessive number of licenses

```
From:manager@asset.message
To:user1@system.xxxx.co.jp ●────── Email address of asset
Subject: Notification of license excess (2004/04/01)      manager

The number of use license exceeds the threshold ──── Email text
values of the number of retained licenses.
```
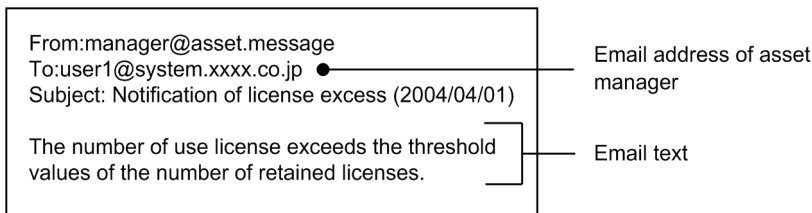
A list of licenses exceeding the number of retained licenses is attached to the email as a CSV file.

The figure below shows the contents of the email attachment.

Figure 3–8: File attached to an email sent regarding the licenses exceeding the number of retained licenses

```
"Group","Software name","Ratained","Used","Category","Difference"
"IT Management Section","SoftwareA","100","105","","-5"
"General Affairs Dept.","SoftwareA","50","51","Install license","-1"
"General Affairs Dept.","SoftwareA","20","22","User license","-2"
```
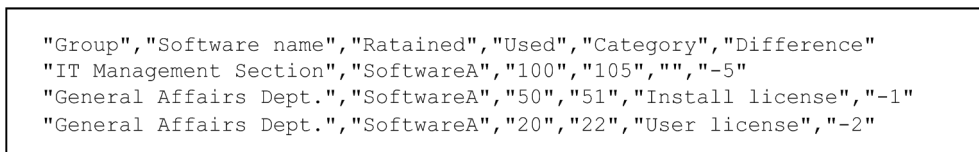
With the default setting for the **Notice of license excess (Asset Console)** task, the task is executed at 5:30 am every week on Monday. For details about the procedure for changing the date and time and the frequency of task execution, see *5.9.2(2) Changing a task schedule*.

Notes

- This task sends notifications only for licenses that are being managed as assets. Even if unregistered licenses are being used, no email notification is sent.

- This task sends notification by email when the licenses exceed the number of retained licenses when the task is executed. Consequently, if the number of licenses exceeds the number of retained licenses during a week, and additional licenses are obtained, the task sends no notification by email. To increase the frequency of monitoring from the default setting, reduce the execution interval of email notification schedule.

- If totaling is executed multiple times in a large system with several thousand devices, then a large amount of old totals results data remaining in the database increases the time required for searches, additions, and deletions, reducing the performance of totaling.

  If you have a large asset management system with several thousand devices, it is important to delete old totals results periodically.

- By changing the threshold value of the number of retained licenses, which is set to 100% by default, notification by email can be sent for licenses that are about to exceed their threshold values. To change the threshold value for each license, use the Software Name window. If no threshold value has been set, use the Server Setup dialog box.

  For details about how to change the threshold value in the Software Name window, see *4.6 Establishing correspondence between software names (Software Name)* in the *Administration Guide*. For details about how to change the threshold value in the Server Setup dialog box, see *5.3.4 Setting Basic Information*.

3.3.3 Notification of unauthorized install

You can use the **Notification of unauthorized install (Asset Console)** task to automatically send email notification about devices on which unauthorized software is installed.

An email notification sent by this task describes the devices on which unauthorized software is installed, as shown in the figure below.

Figure 3–9: Email notification of unauthorized software

```
From:manager@asset.message
To:user1@system.xxxx.co.jp  ●───────── Asset manager's email
Subject: Notification of unauthorized software        address
installation (2003/06/01)

The unauthorized software is installed. ─────── Email text
```
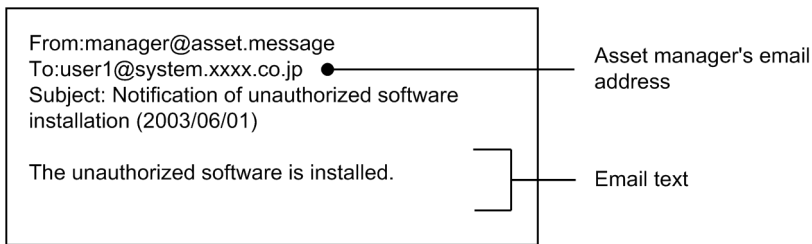
The task also sends a CSV file as attachment to the email. This file contains a list of the devices on which the unauthorized software is installed.

The following figure shows the contents of the email attachment.

Figure 3–10: Email attachment to the notification of unauthorized software
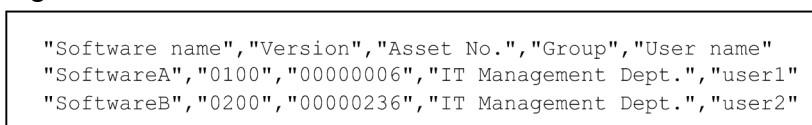
```
"Software name","Version","Asset No.","Group","User name"
"SoftwareA","0100","00000006","IT Management Dept.","user1"
"SoftwareB","0200","00000236","IT Management Dept.","user2"
```

With the default setting for the **Notification of unauthorized install (Asset Console)** task, the task is executed every week at 5:30 am on Tuesday. For details about the procedure for changing the date and time and the frequency of task execution, see *5.9.2(2) Changing a task schedule*.

Note

This task includes in the email notification any device it detects during execution on which unauthorized software is installed. It does not provide notification of a device on which unauthorized software was installed and uninstalled within the preceding week. To increase the frequency of monitoring from the default setting, reduce the execution interval of the email notification schedule.

3.3.4 Notification of Item arrival

When application and approval jobs are executed using Items, you can send notification by email when an Item arrives (submitted for approval or rejected). You can edit the text of the email when sending it. The figure below shows the email that is sent when a sample Item called *Problem Report Form* is submitted.

Figure 3–11: Item arrival notification email

```
From:jiro_sisan@xxxxx.co.jp  ●───────── Sender of the Item
To:taro_sisan@xxxxx.co.jp  ●───────── Recipient of the Item
Subject:1000000019: Error notification request

I'm sending an email regarding error notification.
Please handle. ─────── Email text
```
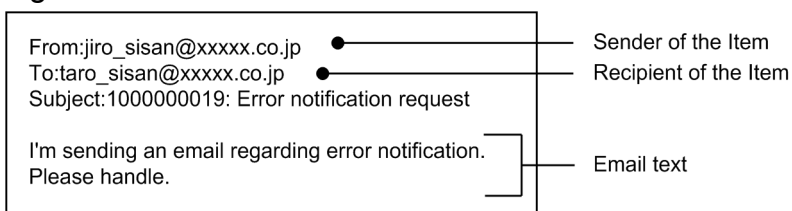
Item arrival notification is sent to the email addresses provided in the user information. Therefore, when using notification of Item arrival, you need to manage the email addresses in the user information.

3.3.5 Notification of hardware change

You can send email notifications when device information is updated.

The email reports the number of devices that have been changed, as shown in the following figure.

Figure 3–12: Hardware change notification email
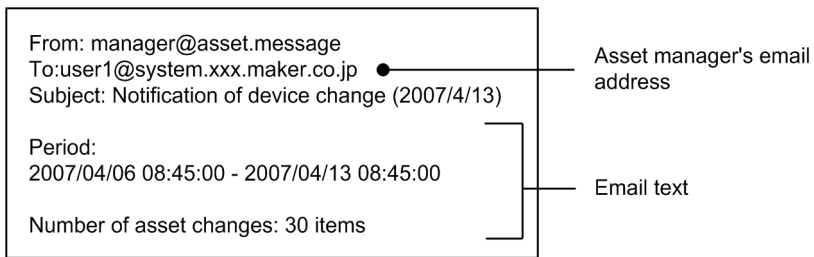
To send email notification about updated device information, you must register the task after installing Asset Console. For details about how to register the task, see *5.9.8 Notification of device information change*.

3.4 Installation in a cluster system

You can also install Asset Console in a cluster system that uses cluster software. A cluster system links multiple servers and runs them as a single system. If there is a problem on one of the systems, applications can be inherited by another server (this is called *failover*), which saves the entire system from being shut down.

Asset Console supports *active-standby configuration*, which is one of the operation modes for cluster systems. The active-standby configuration is a two-node cluster system in which one server is set as the executing system and the other as the standby system.

The following figure provides an overview of a cluster system that uses Asset Console.

Figure 3–13: Overview of cluster system using Asset Console
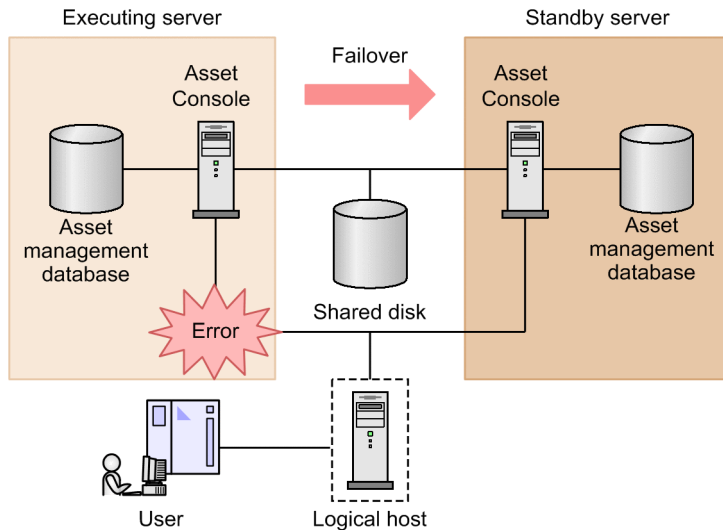
Separately from the physical host name and IP address of the asset management server, a logical host name or logical IP address is used to connect to the logical server. This enables the user to establish connection without having to know which server is actually executing the processing.

The following OSs are supported as the OS required for the asset management server when a cluster system is established:

- Microsoft Windows Server 2012 R2 Datacenter
- Microsoft Windows Server 2012 R2 Standard
- Microsoft Windows Server 2012 Datacenter
- Microsoft Windows Server 2012 Standard
- Microsoft Windows Server 2008 R2 Datacenter
- Microsoft Windows Server 2008 R2 Enterprise
- Microsoft Windows Server 2008 Enterprise
- Microsoft Windows Server 2003 R2, Enterprise x64 Edition
- Microsoft Windows Server 2003 R2, Enterprise Edition
- Microsoft Windows Server 2003, Enterprise x64 Edition
- Microsoft Windows Server 2003, Enterprise Edition

3.5 Linking to Active Directory

By linking to Active Directory, you can, for example, authenticate attempts to log in to Asset Console and import user information managed by Active Directory into the asset management database.

For details about the prerequisite programs for linking to Active Directory, see *4.1.1(5) Prerequisite programs for linking to Active Directory*.

This section explains the settings necessary for linking to Active Directory and the procedure for importing user organization information.

3.5.1 Login authentication

To authenticate Asset Console logins by linking to Active Directory, you must specify the necessary settings in **Directory server usage** in the Server Setup dialog box. For details about the settings in the Server Setup dialog box, see *5.3.6 Setting Link with Directory Server*.

Be sure to gather in advance the information necessary for the settings in the Server Setup dialog box.

> **Reference note**
>
> To gather the necessary information in advance:
>
> 1. Use administrator permissions to log in to the computer that Active Directory is running on.
> 2. Execute the `LDIFDE` command of Active Directory and output the DN information of users who are permitted to log on.
>   The following is the command to be executed:
>    ```
>    ldifde -u -p Subtree -r "objectclass=user" -l dn -f out1.txt
>    ```
>   The following information is output to `out1.txt`:
>
>    ```
>    dn: CN=Administrator,CN=Users,DC=Sample,DC=co,DC=jp
>    changetype: add
>    dn: CN=Guest,CN=Users,CN=Users,DC=Sample,DC=co,DC=jp
>    changetype: add
>    :
>    ```
>
>   Based on the output information, set the user DN to be used for connecting to Asset Console in **Access user** in the Server Setup dialog box.
> 3. Execute the `LDIFDE` command of Active Directory and output the DN information of the organization from which to search for users during Asset Console login authentication.
>   The following is the command to be executed:
>    ```
>    ldifde -u -p SUBTree -r "(objectclass=organizationalUnit)" -l dn -f
>    out2.txt
>    ```
>   The following information is output to `out2.txt`:
>
>    ```
>    dn: OU=Domain Controllers, DC=Sample,DC=co,DC=jp
>    changetype: add
>    dn: OU=people, DC=Sample,DC=co,DC=jp
>    changetype: add
>    ```

```
dn: OU=hitachi,OU=people, DC=Sample,DC=co,DC=jp
changetype: add
 :
```

Based on the output information, set the DN of the organization from which to search for users during Asset Console login authentication in **User information DN** in the Server Setup dialog box.

4. Output the attribute information of the user information to be used during Asset Console login authentication.

The following is the command to be executed:

```
ldifde -u -p Subtree -r "cn=Administrator" -f out3.txt
```

The following information is output to `out3.txt`:

```
dn: CN=user1,OU=Design3,OU=hitachi,OU=people, DC=Sample,DC=co,DC=jp
changetype: add
objectClass: top
objectClass: person
objectClass: organizationalPerson
objectClass: user
cn: user1
son: customerA
telephoneNumber: 030303
givenName: user1
distinguishedName:
CN=user1,OU= Design3,OU=hitachi,OU=people, DC=Sample,DC=co,DC=jp
instanceType: 4
 :
displayName: customerAuser1
uSNCreated: 376915
uSNChanged: 487476
name: user1
uid: user1
mail: a-user1@sample.co.jp
 :
```

Based on the output information, set the attribute name to be used as the user ID during Asset Console login authentication in **User ID attribute name** in the Server Setup dialog box. Additionally, specify the attribute name to be recognized as a user name by Asset Console in **User name attribute name** in the Server Setup dialog box.

3.5.2 Acquiring user organization information

To update the asset management database (user management information) with user information managed by the Active Directory services, you must create an Asset Console script and execute it on a regular basis. Asset Console provides a sample script. This sample script updates the following items:

- Post

- Email address

- Telephone number

The sample scripts (files) are located in the following folder:

```
Asset-Console-installation-folder\sample\AD\
```

In addition to the sample script, a document providing a sample script explanation and usage example is also provided. Make sure to read this document before executing the sample script.

The following table explains the sample scripts (files).

Table 3–3: Sample script explanations

File name	Explanation
ADImport.txt	This sample script imports property values from the Active Directory information entries into the user management information of Asset Console.
ADImportExtend.txt	This subroutine group sample script is called from ADImport.txt and imports property values from the Active Directory information entry attributes into the user management information of Asset Console. To customize this script, modify the file directly.
ADImportCustomize.txt	This document provides explanations and usage examples of ADImport.txt and ADImportExtend.txt.

4

Evaluating System Configuration

This chapter describes the organization of the programs for an asset management system and describes an example system configuration.

4.1 Organization of programs

This section describes the programs that constitute the asset management system and the prerequisite and related programs.

The figure below shows the organization of the programs that constitute the asset management system.

Figure 4–1: Organization of programs that constitute the asset management system (Asset management server)

Figure 4–2: Organization of programs that constitute the asset management system (Directory server)

Figure 4–3: Organization of programs that constitute the asset management system (Agent)
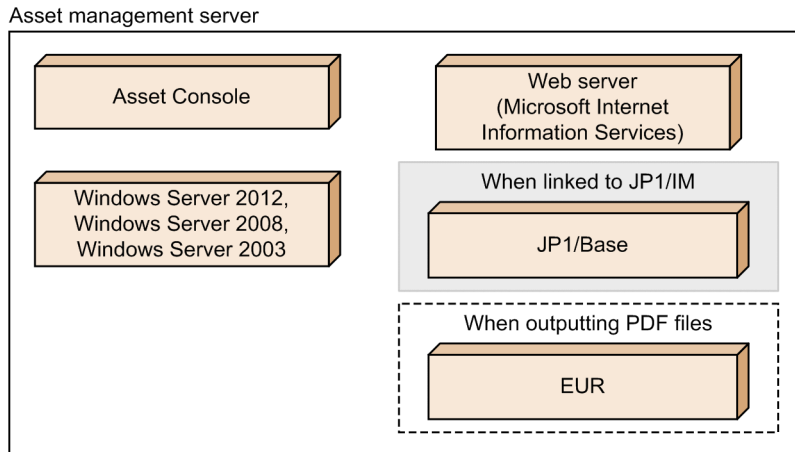
Administrator's computer
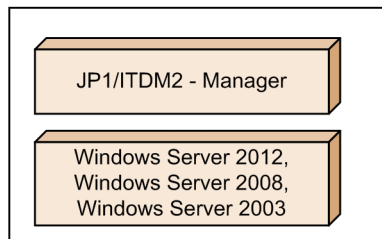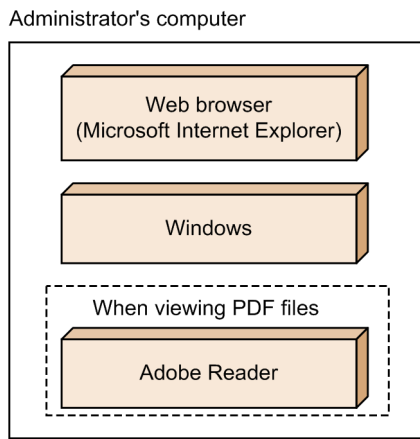
Legend:

┌─ ─ ─┐
└─ ─ ─┘ : Program required when linked to EUR

4.1.1 Prerequisite programs

This section describes the programs that are required on the server and administrator's computer in order to run Asset Console.

(1) Prerequisite server programs

* OS

  Use Windows Server 2012, Windows Server 2008, or Windows Server 2003. If you use Windows Server 2012 or Windows Server 2008, Server Core installation is not supported. Also, operations in an environment in which OneDrive is used are not supported.

  When using a 64-bit OS, some work must be performed before installing and while setting up Asset Console. For details about the pre-installation work, see *5.2.2(2) Pre-installation work*. For details about the tasks to be performed during setup, see *5.5 Creating a data source*. In addition, if a program related to Asset Console also uses a 64-bit OS, the functions available might be severely restricted. Therefore, make sure to check the manual of the related program for restrictions applicable when using a 64-bit OS.

* Web server

  Use Microsoft Internet Information Services 6.0, 7.0, 7.5, 8.0, or 8.5.

  You must also install the Web service as a Windows component.

(2) Prerequisite programs on the administrator's computer

* OS

  Use an OS (Windows) that supports Windows Internet Explorer 7, Windows Internet Explorer 8, Windows Internet Explorer 9, Windows Internet Explorer 10, or Windows Internet Explorer 11.

* Web browser

  This is an administrator's computer used for the asset management server to register and reference asset information. Use Windows Internet Explorer 7, Windows Internet Explorer 8, Windows Internet Explorer 9, Windows Internet Explorer 10, or Windows Internet Explorer 11.

  Note that the Metro version of Windows Internet Explorer is not supported.

(3) Prerequisite programs for using notification by email

You may want to use the task scheduler function to automatically send information via email about contracts with approaching expiration dates and licenses that exceed the threshold value of the number of retained licenses. In this case, you need an environment in which Microsoft Windows Script Host Version 5.1 or later and Microsoft Internet Information Services 6.0 or later are both installed.

You must also install SMTP, which is a subcomponent of the Internet Information Service (IIS) Windows component.

For details about setting up email notification, see *5.10 Settings for using notification by email*.

(4) Prerequisite programs for displaying PDF files

Asset Console must link with EUR (uCosminexus EUR Server Enterprise 09-00 or later) to display and print out the searched asset information as a PDF file form.

(5) Prerequisite programs for linking to Active Directory

Active Directory that can be linked with can operate on the following OSs:

- Windows Server 2012 R2
- Windows Server 2012
- Windows Server 2008 R2
- Windows Server 2008
- Windows Server 2003 R2
- Windows Server 2003

Hitachi recommends that you operate the asset management server and directory server on different machines.

4.1.2 Related programs

Besides the linkage programs products described as the prerequisite programs, the following programs can be linked to the asset management system and used for operation:

- JP1/IM - Manager

  Asset Console can link with JP1/IM - Manager 10-00 or later.

  JP1/IM - Manager is a product that achieves integrated management of an entire corporate information system.

  Linked with JP1-series products that manage diverse system operations, JP1/IM - Manager uses JP1 events to achieve integrated management of the events that occur in the system. In the event of an error, JP1/IM - Manager promptly notifies the administrator and provides the infrastructure for operations needed to locate the error and investigate its cause.

  Asset Console can share information about JP1 events that are managed by JP1/IM - Manager and manage the events that have occurred in the asset management system.

  For an overview of the JP1/IM - Manager functions, see the *JP1/Integrated Management - Manager Overview and System Design Guide*.

- JP1/Base

  Asset Console can link with JP1/Base 10-00 or later.

  JP1/Base provides the basic functions of JP1/IM - Manager.

By using the JP1/Base functions, you can manage the events (JP1 events) that are reported when they occur in the system and exchange JP1 events with other hosts.

Asset Console uses the functions provided by JP1/Base to transfer JP1 events managed by JP1/IM - Manager.

For details about the functions of JP1/Base, see the *JP1/Base Administration Guide*.

- JP1/IM - Service Support

  Asset Console can link with AJP1/IM - Service Support 09-00 or later.

  JP1/IM - Service Support provides functions to promptly check the contents of an Item that occurs and needs to be solved (for example, a query or system failure) and take actions.

  By linking JP1/IM - Service Support with Asset Console, you can view information about the device corresponding to an Item from a JP1/IM - Service Support window.

  For details about the JP1/IM - Service Support functions, see the *JP1/Integrated Management - Service Support Configuration and Administration Guide*.

4.2 Example of a system configuration

This section provides examples of system configurations for running an asset management system linked with JP1/IT Desktop Management 2 - Manager.

You can implement more efficient single-source management for the networked IT assets within your enterprise by linking Asset Console to JP1/IT Desktop Management 2 - Manager to run asset management jobs. Therefore, for the explanation below, the basic configuration will be a system configuration linked to JP1/IT Desktop Management 2 - Manager.

4.2.1 Basic system configuration

The figure below shows an example of the basic system configuration for an asset management system linked to JP1/IT Desktop Management 2 - Manager. This example shows a basic configuration where the asset management server connects to the JP1/IT Desktop Management 2 - Manager server and acquires the asset information on the administrator's computer. The examples shown in 4.2.2 through 4.2.6 are also based on this system configuration.

Figure 4–4: Example of the basic system configuration of an asset management system

#: IE: Windows Internet Explorer
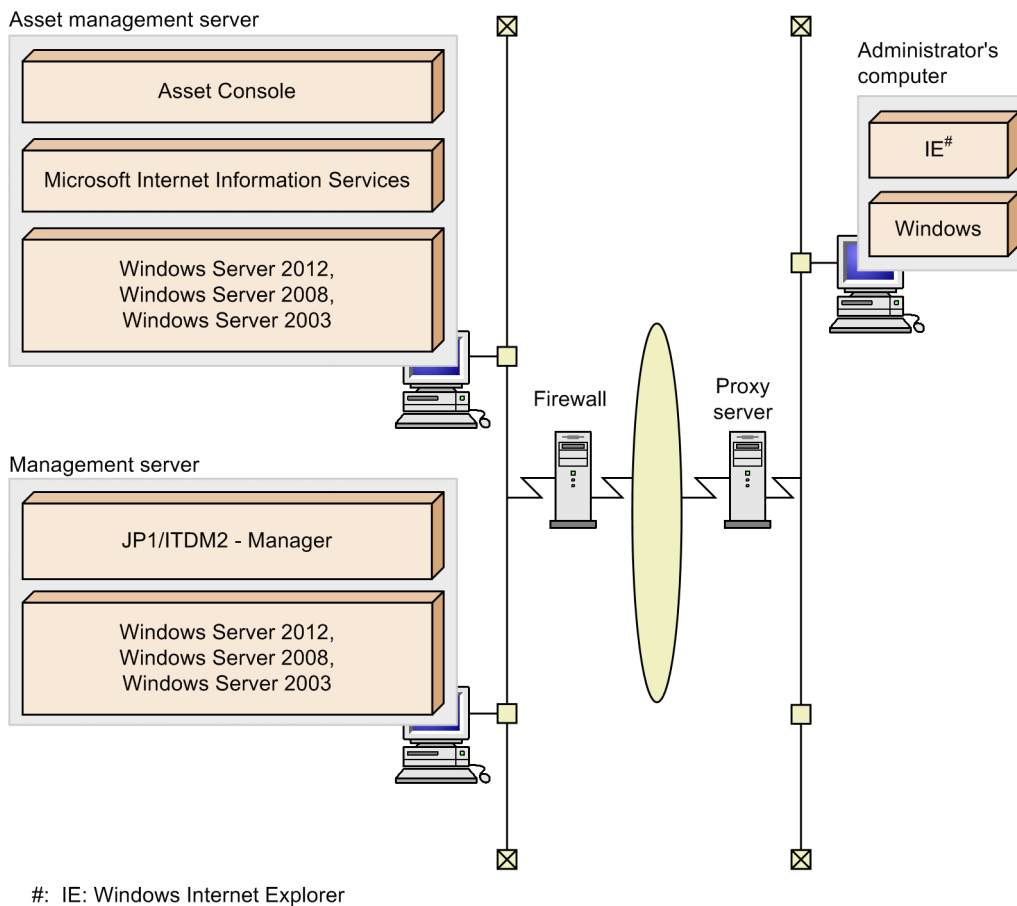
The following points should be noted about your system configuration:

Asset management server

- Asset Console cannot be installed on a machine on which JP1/NETM/Asset Information Manager, JP1/Asset Manager, or JP1/NETM/Asset Manager is installed.

- The network must be configured so that the asset management server and JP1/IT Desktop Management 2 - Manager can view each other's host names and IP addresses.

- Only one asset management server can be connected to one JP1/IT Desktop Management 2 - Manager program.

JP1/IT Desktop Management 2 - Manager server

You can place Asset Console and the JP1/IT Desktop Management 2 - Manager server on the same machine. However, if there are many devices to be managed and the machine will be accessed frequently from the administrator's computer, Hitachi recommends that you place the asset management server and the asset management database server on different machines.

Administrator's computer

If the environment supports Windows Internet Explorer 7, Windows Internet Explorer 8, Windows Internet Explorer 9, Windows Internet Explorer 10, or Windows Internet Explorer 11, no programs are required.

4.2.2 System configuration linked to JP1/IM - Manager

The figure below shows an example of asset management system configuration linked to JP1/IM - Manager. In this system configuration, the asset management server connects to the JP1/IM - Manager server and acquires the managed computer's program information.

Figure 4–5: System configuration example linked to JP1/IM - Manager
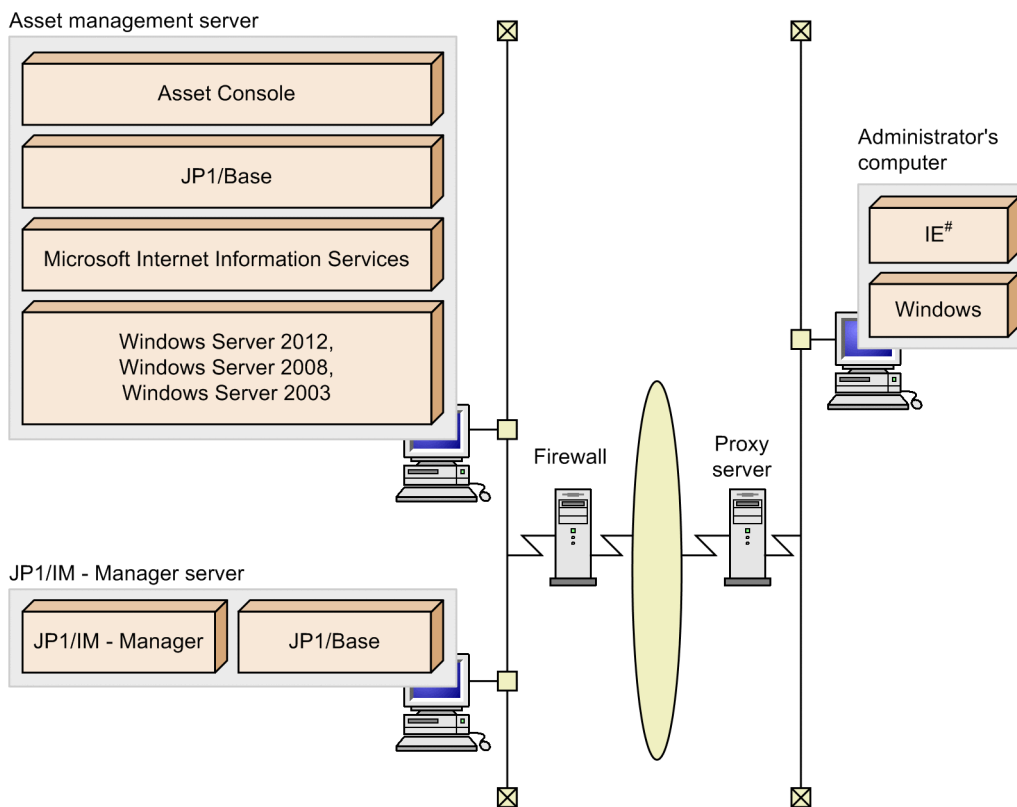
#: IE: Windows Internet Explorer

4.2.3 System configuration linked to JP1/IM - Service Support

The figure below shows an example of asset management system configuration linked to JP1/IM - Service Support. In this system configuration, the asset management server connects to the JP1/IM - Service Support server and views the device information managed by Asset Console from JP1/IM - Service Support.

Figure 4–6: System configuration example linked to JP1/IM - Service Support
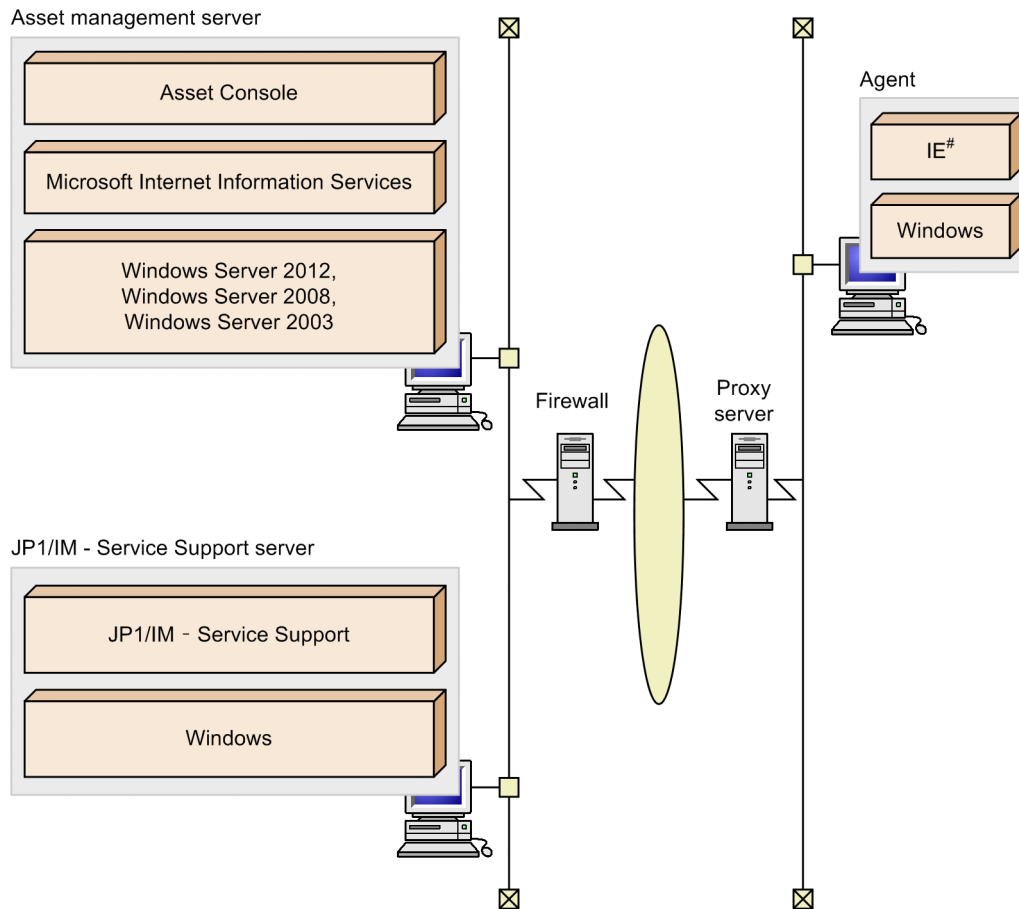
#: IE: Windows Internet Explorer

4.2.4 System configuration linked to EUR

The figure below shows an example of asset management system configuration linked to EUR. In this system configuration, the search results in Asset Console are output as a PDF file, and displayed and printed.

Figure 4–7: System configuration example linked to EUR
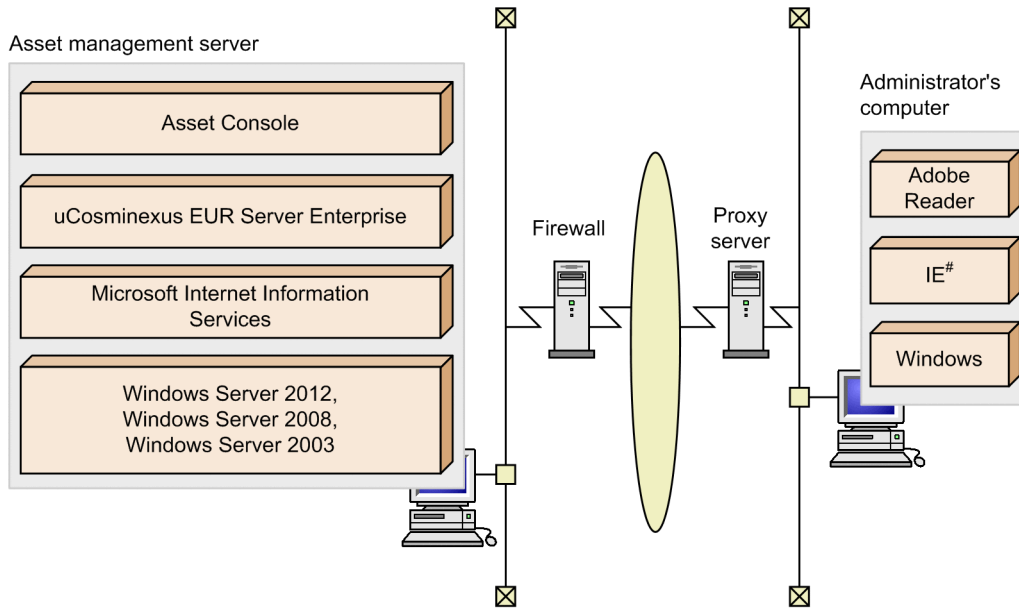
#: IE: Windows Internet Explorer

To output a PDF-file form in the window created as a user report, uCosminexus EUR Server Enterprise is required to create a form.

In addition, the Japanese version of Adobe Reader 7.0 or later must be installed on the administrator's computer.

4.2.5 System configuration linked to Active Directory

The figure below shows an example of asset management system configuration linked to Active Directory. In this system configuration, the asset management server connects to the directory server for Asset Console login authentication or for importing user information managed by Active Directory to the asset management database.

Figure 4–8: System configuration example linked to Active Directory
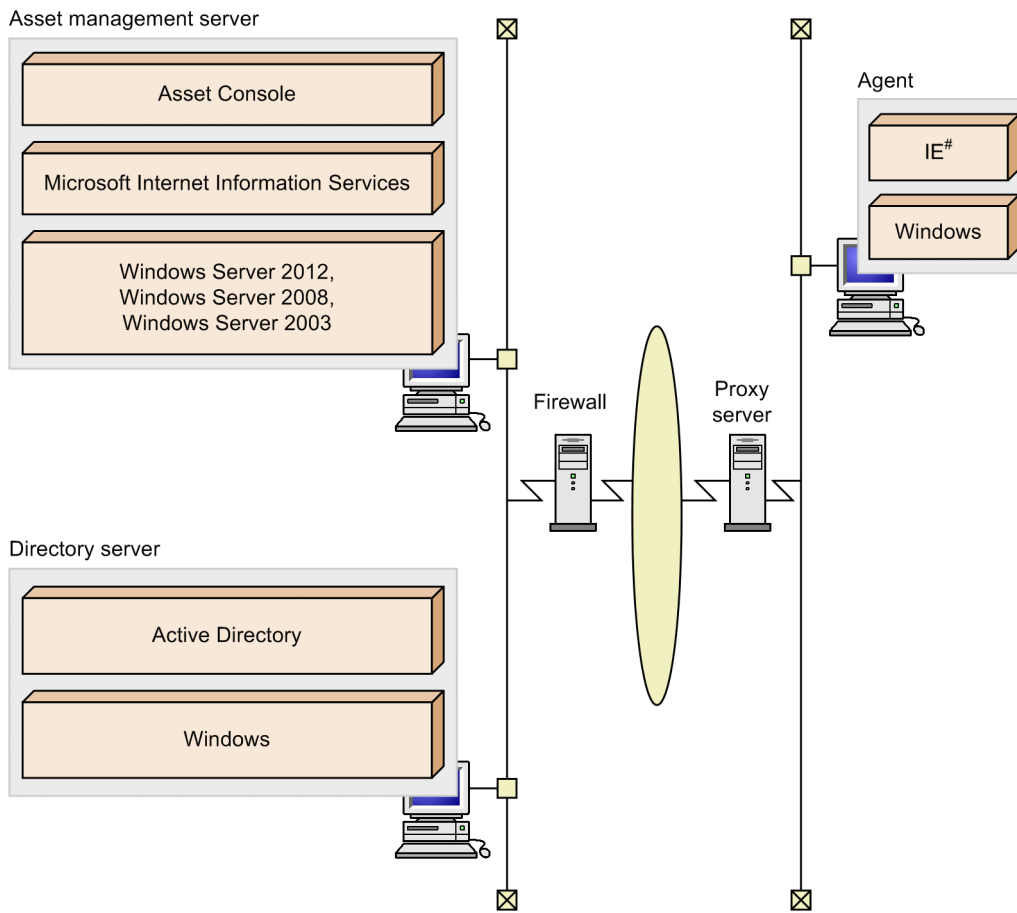
#: IE: Windows Internet Explorer

4.2.6 System configuration in a cluster system

This subsection describes examples of cluster system configurations that support failover of Asset Console.

Set the higher connection destination as follows when you set up Asset Console programs:

`http://`*logical-host-name-or-logical-IP-address*`/jp1asset/login.htm`

You must also store the following files on a shared disk:

- DBMS database files
- Transaction log files
- Files under the asset management server's virtual directory

If the Asset Console service is set to use the failover facility in a cluster environment using cluster software, hardware problems and Asset Console service problems are automatically detected. Then the active server is automatically switched to the standby server.

You can set the asset management database server in the same cluster group, or you can use the asset management database server set in a different cluster group.

The following figure provides an example of a cluster system configuration.

Figure 4–9: Example of a cluster system configuration

5
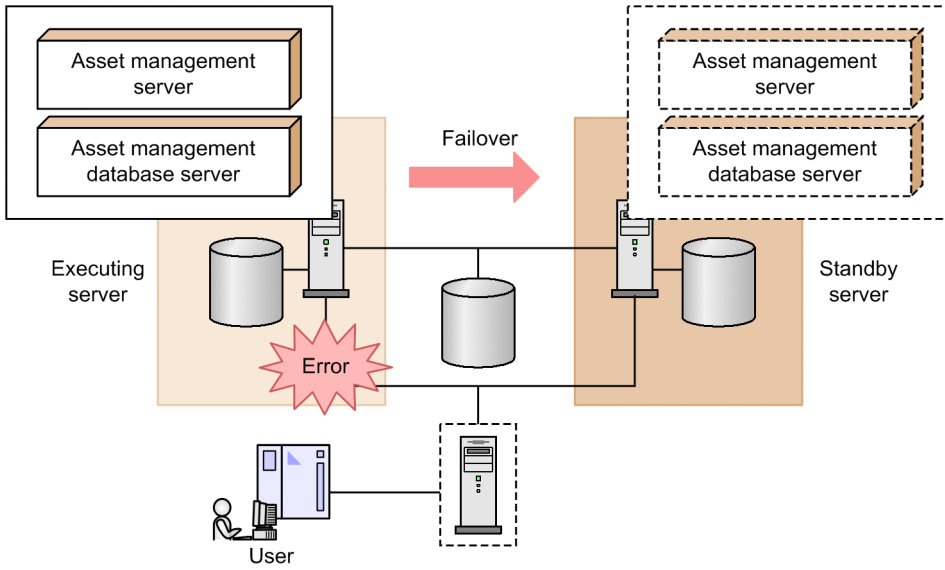
Installation and Setup

This chapter explains how to install and uninstall Asset Console. It also describes how to set up the environment for using Asset Console.

5.1 Setup procedure for Asset Console

This section describes the procedure for setting up the environment for the asset management system. The figure below shows the setup procedure.

Figure 5–1: Setup procedure

Installation of the WWW (World Wide Web) service of the Microsoft Internet Information Services component	See 5.2.1
Installation of the SMTP Service of the Microsoft Internet Information Services components (applicable when the email notification function is used)	See 5.2.1
Installation of Asset Console	See 5.2.2
Setup of the asset management server	See 5.3
Creation of an asset management database	See 5.4
Settings for connecting the asset management server to the asset management database	See 5.5
Settings for connecting the asset management server to the JP1/ITDM2 - Manager database	See 5.5
Creation of a virtual directory	See 5.6
Setup of the services to be used by the asset management servert	See 5.7
Settings for using Microsoft Internet Information Service	See 5.8
Setup of the tasks to be registered in Task Scheduler	See 5.9

Legend:

☐ : Required task

┆┄┄┄┄┆ : Task executed as needed

The subsequent sections describe the setup method by following the procedure shown in Figure 5-1.

Note

> After setting up the asset management server, you must enable the Data maintenance task that is created in Windows Task Scheduler. For details about the task and its setup method, see *5.9 Setting the tasks that are registered in Task Scheduler*.

> **┃ Tip**
>
> To move the data registered in a test environment or the settings made in the system definition, first use the **Export** job menu and output the information registered in the asset management database and the settings information to a CSV file, and then use the **Import** job menu to import the information into the target environment. For the operating procedure for the **Export** and **Import** job menus, see *4.11 Exporting asset information in CSV format (Export)* and *4.10 Changing asset information in a batch operation (Import)* in the *Administration Guide*.

5.1.1 Workflow necessary for acquiring JP1/IT Desktop Management 2 - Manager management information

For linking to JP1/IT Desktop Management 2 - Manager, certain settings are necessary when Asset Console is being installed. Therefore, when setting up Asset Console, also make sure to prepare for linking it to JP1/IT Desktop Management 2 - Manager as follows.

1. Setting various items necessary for linking to JP1/IT Desktop Management 2 - Manager

   Use the Server Setup dialog box to set the login ID and service name for connecting to the JP1/IT Desktop Management 2 - Manager database.

   For details about these settings, see *5.3.7 Setting JP1/IT Desktop Management 2 - Manager management information acquisition*.

   Use the ITDM2 management information acquisition window to set the assignment method for management information and the software name assignment method.

2. Creating a data source

   To connect to the JP1/IT Desktop Management 2 - Manager database, create a data source during setup. For details about how to create a data source, see *5.5 Creating a data source*.

3. Settings for acquiring the asset number, user name, group, and location information

   Specify the JP1/IT Desktop Management 2- management information set that is to be assigned to an item (asset number, user name, group name, or location). This is required when you assign a JP1/IT Desktop Management 2- management information set to an asset number, or when you acquire information about the user name, group name, and location from management information.

   You can also change assigned items and add information to be acquired from the JP1/IT Desktop Management 2 - Manager management information.

   For details about how to assign JP1/IT Desktop Management 2 - Manager management information to managed items, see *4.14 Setting assigned items (ITDM2 Management Information Acquisition)* in the *Administration Guide*.

4. Task settings

   To use a task registered in Windows Task Scheduler to periodically collect JP1/IT Desktop Management 2 - Manager management information, enable the **Acquisition of ITDM2 - Manager management information (Asset Console)** task. This task is disabled by default.

   For details about setting tasks, see *5.9 Setting the tasks that are registered in Task Scheduler*.

5.2 Installing and uninstalling Asset Console

This section explains how to install the programs that are used to run the asset management system. It also explains how to uninstall Asset Console.

5.2.1 Installing the prerequisite programs

This subsection describes how to install the prerequisite programs for the asset management server and administrator's computer.

(1) Installing the prerequisite programs required for the asset management server

- Windows Server 2012, Windows Server 2008, or Windows Server 2003

  For details about how to install Windows Server 2012, Windows Server 2008, and Windows Server 2003, see the applicable installation manual and Help.

- Microsoft Internet Information Services

  For details about how to install Microsoft Internet Information Services, see the Windows documentation.

- Simple Mail Transport Protocol (SMTP)

  Install this program when the execution results of the tasks registered in Windows Task Scheduler are to be sent to the asset manager via email or when the next worker is to be notified via email when an Item has been set. For details about how to install Simple Mail Transport Protocol (SMTP), see the Windows documentation.

(2) Installing the prerequisite programs for the administrator's computer

- Windows Internet Explorer 7, Windows Internet Explorer 8, Windows Internet Explorer 9, Windows Internet Explorer 10, or Windows Internet Explorer 11

  For details about how to install the Web browser to be used, see the instructions for installing Microsoft Internet Explorer.

  In the language setting for the browser, set either of the following languages that corresponds to the system locale of the machine on which the asset management server is installed. The operation cannot be performed if other settings are applied.

  - Japanese: [ja] as the first preference
  - English: [en] as the first preference
  - Chinese: [zh] as the first preference

5.2.2 Installing Asset Console

This section explains how to install Asset Console.

(1) Installation notes

Note the following items when installing Asset Console:

- You cannot install Asset Console on a machine on which one of the following products has been installed:

- JP1/NETM/Asset Information Manager

  - JP1/Asset Manager and JP1/NETM/Asset Manager

  - JP1/NETM/Asset Information Manager Smart Edition

  - JP1/NETM/Asset Information Manager for Blade PC

  - JP1/NETM/DM Asset Information Manager Limited

- When you specify the Asset Console installation folder, the folder path must not include double-byte characters.

- For the Asset Console installation folder, do not specify a folder directly under the drive root or a folder used for other applications. This is because Asset Console files might overwrite other files. Create a folder dedicated to Asset Console, and then install Asset Console in that folder.

- When the component that has already been installed is reinstalled, select Repair from the maintenance window.

- The following settings cannot be changed during reinstallation:

  - Program folders

  - Virtual directory of the asset management server

- When adding or deleting a component, if you cancel installation by clicking the **Cancel** button during installation, you must re-install Asset Console.

- A `tmp` folder is created directly under the installation drive root. Do not delete the `tmp` folder.

- You must be careful when specifying the drive name or installation folder when restoring the database backup following installation. If you specify an incorrect name or folder, you cannot restore the backup. To use the backed-up database on another machine, install it using the same path that was used for acquiring the backup.

- If restart of the computer is required, a dialog box requesting a restart appears. You should restart the computer. If you do not restart the computer, necessary environment information will not be set and an error will occur when the asset management server is started.

- Asset Console cannot be installed on a computer on which software that requires the 64-bit Microsoft Internet Information Service has been installed.

(2) Pre-installation work

The following jobs must be completed prior to installing Asset Console. When Asset Console is installed in a 64-bit OS, settings for running 32-bit applications are required. For details about how to specify the settings, see *F.1 Notes on installing Asset Console in a 64-bit OS*.

- Log on to Windows Server 2012, Windows Server 2008, or Windows Server 2003 as a user with administrator permissions.

- Exit all Windows applications.

- Start the Task Scheduler service.

  To register the tasks provided by Asset Console in Windows Task Scheduler, the **Task Scheduler** task must be active.

- Stop services, commands, and tasks.

  When you reinstall the components, stop all Asset Console services, commands, and tasks.

  Before you perform a new installation of Asset Console, stop World Wide Web Publishing Service or World Wide Web Publishing.

  Before you perform an overwrite installation of Asset Console, stop the services, commands, and tasks in the following order:

  1. World Wide Web Publishing Service or World Wide Web Publishing

2. Asset Console commands and tasks

To run Asset Console following an overwrite installation, start the services in the reverse of the order in which they were stopped.

If a connection pool is set in an ODBC data source, the connected state continues after an Asset Console job is stopped until the timeout time set in the connection pool expires. Therefore, wait for the connected state to be released before installing Asset Console.

• When using Microsoft Internet Information Services version 7.0, 7.5, 8.0, or 8.5, Hitachi recommends that you install the required role services before installing Asset Console so that the virtual directory is automatically generated. The virtual directory is not created automatically if the required role services are installed after Asset Console has been installed. For details about how to install role services, see *5.8.2(1) Installing the role services*.

(3) Installation procedure

To install Asset Console:

1. Insert the provided media in to the CD-ROM drive.
   Install the program by following the installer's instructions. During installation, set up the installation folder.
   When the installer starts, a dialog box appears for selecting the component to be installed. Select the Asset Console component.

2. Click the **Install** button.
   A dialog box appears for confirming that you wish to start installation.

3. Click the **OK** button.
   A dialog box for starting installation of Asset Console appears.

4. Click the **Next** button.
   A dialog box for entering user information appears.

5. Enter your user name and company name.

6. Click the **Next** button.
   A dialog box for specifying the installation folder appears.

7. Specify the installation folder.
   The program is installed in the specified folder. The default installation folder is as follows:

   For an x86 environment:
   ```
   C:\Program Files\Hitachi\jp1asset
   ```

   For an x64 environment:
   ```
   C:\Program Files (x86)\Hitachi\jp1asset
   ```

   In the above folder path, `C:` is the drive where the OS is installed.

8. Click the **Next** button.
   A dialog box for setting the virtual directory of the asset management server appears. When you need to upload a large volume of files or to make the virtual directory into a shared folder in a cluster configuration, change the virtual directory. Specify the folder to be used as the virtual directory.

9. Click the **Next** button.
   A dialog box appears for you to confirm the program folder. Check the folder to which the program icon is to be added. The default folder name is `JP1_IT Desktop Management 2 - Asset Console`.

10. Click the **Next** button.

A dialog box appears for confirming the current settings. Check the settings.

11. Click the **Next** button.

Installation begins.

When installation is completed, a dialog box to that effect appears.

If a dialog box opens, asking whether to restart the computer, restart it. If you do not restart the computer, environment information required for operations will not be set, and the asset management server will not operate correctly.

5.2.3 Uninstalling Asset Console

This subsection describes how to uninstall Asset Console.

Before you start this procedure, stop all the following services, commands, and tasks in the following order:

1. World Wide Web Publishing Service or World Wide Web Publishing

2. Asset Console commands and tasks

Notes

- Uninstallation does not necessarily delete the installation folders and files or the Microsoft Internet Information Services virtual directory, and these might remain on the computer. When reinstalling, delete any remaining folders.

- Uninstalling Asset Console also deletes the tables inside the asset management database. If you need to use these tables after uninstallation, back up these tables before uninstallation.

  For details about how to acquire a database backup, see *12.1.2(1) Backing up the asset management database from the Database Manager dialog box*.

To uninstall Asset Console:

1. On Windows **Control Panel**, select **Add/Remove Programs**, **JP1/IT Desktop Management 2 - Asset Console**, and then click the **Uninstall** button.

A dialog box appears confirming the deletion.

2. Click the **Yes** button.

Asset Console is uninstalled. Note that files and folders that were created after Asset Console was installed are not deleted.

When uninstallation is completed, a dialog box to that effect appears.

5.3 Setting up the asset management server

In Asset Console, you specify the information necessary for setup by using the Server Setup dialog box. This section explains the items that need to be specified in the Server Setup dialog box, and the setup procedure.

In the Server Setup dialog box, specify the following settings:

- Database Information
  Specifies information such as the login ID and service name to be used to connect to the asset management database.

- Session Information
  Specifies the forced logout time and the number of users that can be logged in concurrently.

- Basic Information
  Specifies information such as the items displayed in windows and the maximum values during operation.

- Mail Notification Information
  Specifies information such as the recipient's email address.

- Link with Directory Server
  Specifies the character encoding type to be used by Directory Server as well as the server name and port number necessary for linking with Directory Server. These settings are required only when Directory Server is used.

- Link with ITDM2
  Specifies information such as the login ID and service name to be used to collect management information from the linked JP1/IT Desktop Management 2 - Manager. This setting is required only when linking with JP1/IT Desktop Management 2 - Manager.

5.3.1 Settings in the Server Setup dialog box

This section describes the specification of each setting in the Server Setup dialog box.

1. Click the Start button and point to **Programs**, **JP1_IT Desktop Management 2 - Asset Console**, and then select **Setup**.
   The Setup dialog box appears.

2. Click the **Server Setup** icon.
   The Server Setup dialog box appears

3. From the list, select a desired item.
   An input field with a drop-down list for entering an appropriate value for the chosen item appears under the list.

Figure 5–2: Server Setup dialog box
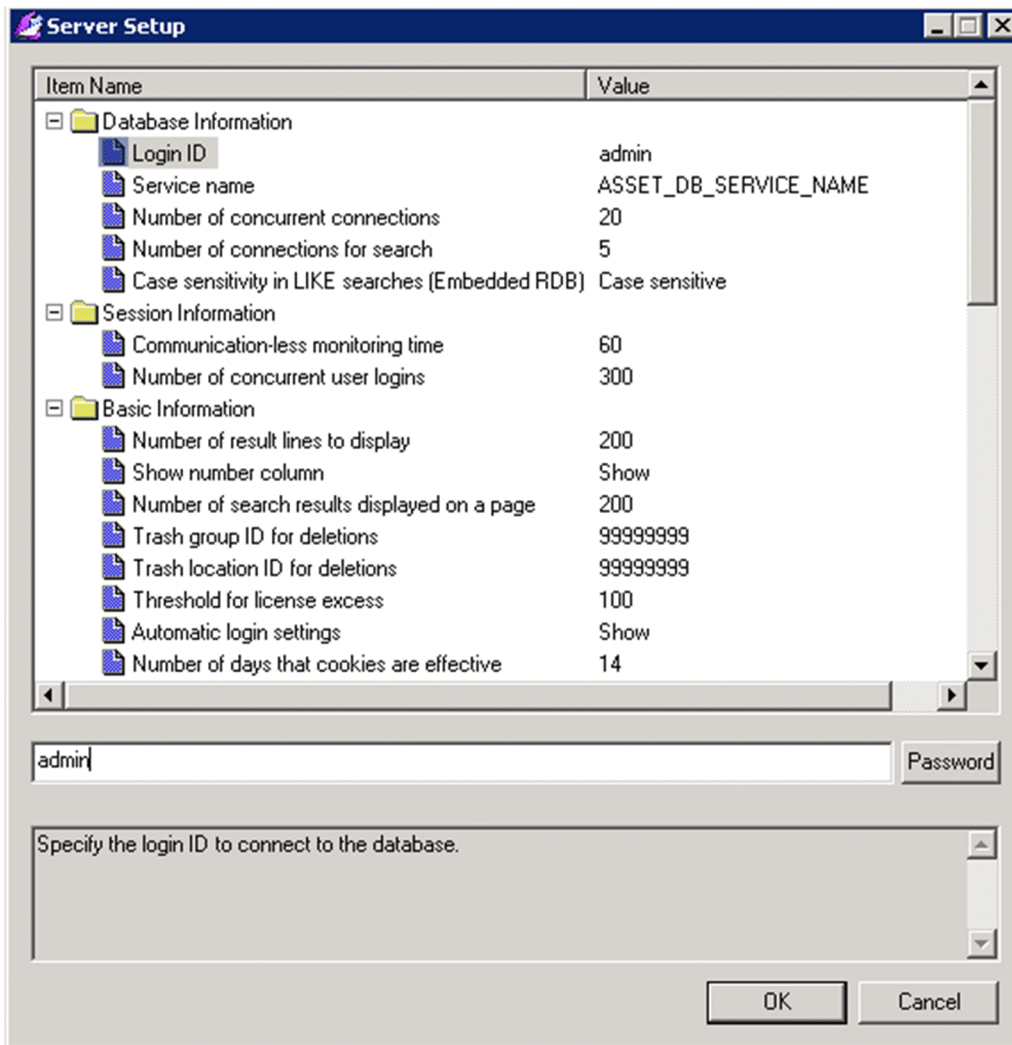
4. Set the appropriate values for your environment.

To set the items listed below, specify a password in the Set Password dialog box, which opens when you click the **Password** button.

- **Login ID** in **Database Information**
- **Access user** in **Link with Directory Server**
- **JP1/ITDM2-Manager database login ID** in **Linkage with JP1/ITDM2**

5. Click the **OK** button.

The asset management server is set up based on the information you have provided, and the Server Setup dialog box is closed.

To close the Server Setup dialog box without setting up the environment, click the **Cancel** button.

5.3.2 Setting Database Information

Database Information specifies information such as the login ID and service name to be used to connect to the asset management database.

This section describes the settings for **Database Information**.

(1) Login ID

Login ID specifies the login ID of the user who will be connecting to the database. For details about creating a database field, see *5.4 Creating an asset management database*.

In the Set Password dialog box, set the password.

This setting is mandatory.

- Permitted value

  For **Login ID** and password, specify from 1 to 8 characters. By default, both **Login ID** and the password are admin. Only the following single-byte characters can be used for **Login ID** and password:

  - Letters (A to Z and a to z)

  - Numeric values (0 to 9)

  A letter must be specified for the first character.

This value is applied to **Connection user ID** in the dialog boxes listed below. If you change the value after creating a new asset management database, re-create the data source.

- Basic Database Settings dialog box

- Dialog box for creating a data source

(2) Service name

Service name specifies the service name for asset management.

Specification of this item is mandatory.

- Permitted value

  1-63 bytes of alphanumeric and special characters. The default is ASSET_DB_SERVICE_NAME.

  !, (,), *, ,, ;, =, ?, @, [,], {, }, and spaces cannot be specified for **Service name**.

This value is applied to **ODBC data source name** in the dialog boxes listed below. If you change the value after creating a new asset management database, re-create the data source.

- Basic Database Settings dialog box

- Dialog box for creating a data source

(3) Number of concurrent connections

Number of concurrent connections specifies the number of connections that can be established with the database at the same time.

Specification of this item is optional.

- Permitted value

  1 to 64. The default is 20. Specify a value that is greater than the value of **Number of connections** for search in **Database Information**.

(4) Number of connections for search

Number of connections for search specifies the number of concurrent connections that can be established by transactions that use the database for an extended period of time. By specifying this setting, you can prevent the database from being locked by a long-running transaction such as a search request.

Specification of this item is optional.

- Permitted value

  1 to 64. The default is 5. The value of this item must be less than the value of **Number of concurrent connections** in **Database Information**.

(5) Case sensitivity in LIKE searches

Case sensitivity in LIKE searches specifies whether the search is to be case-sensitive when searching for a partial match, including a leading or trailing match.

- Permitted value
  - **Case sensitive** (default)

    The search is case-sensitive.
  - **Case insensitive**

    The search is not case-sensitive.

5.3.3 Setting Session Information

Session Information specifies the forced logout time and the number of users that can be logged in concurrently.

This section describes the settings for **Session Information**.

(1) Communication-less monitoring time

Communication-less monitoring time specifies the length of time before the session is forcibly logged out if no action is requested from the Web browser.

Specification of this item is optional.

- Permitted value

  5 to 2,880 minutes. The default is 60 minutes.

(2) Number of concurrent user logins

Number of concurrent user logins specifies the number of logged-in users that can use Asset Console concurrently.

This setting is mandatory.

- Permitted value

  1-100,000. The default is 300.

5.3.4 Setting Basic Information

Basic Information specifies information such as the items that are displayed in windows and the maximum values during operation.

This section describes the settings for **Basic Information**.

(1) Show PDF button

Show PDF button specifies whether to link with EUR and use the **PDF** button to display PDF files.

Specify **Show** to link Asset Console with EUR.

- Permitted value
  - **Show** (Default)
    Display the PDF button.
  - **Hide**
    Do not display the PDF button.

(2) Time-out time for PDF file creation

Time-out time for PDF file creation specifies the time until creation of a PDF file (by linkage with EUR) must finish. If creation of a PDF file exceeds the specified time, it will be canceled.

If 0 is set for this item, PDF file creation basically continues until it finishes.

However, if the processing takes longer than the timeout time of the Web browser waiting for the response, connection to the Web browser will be disconnected, and creation of the PDF file might stop.

Specification of this item can be omitted.

- Permitted value
  0 to 99,999 seconds. The default is `300` seconds.

(3) Number of result lines to display

Number of result lines to display specifies the number of items to be listed as search results in a window. This setting is applicable to windows in which search results are not divided into pages. For the names of windows whose search results are divided into pages, see *Asset-Console-installation-folder*\help\ScreenWithPage.pdf. This setting is applicable to all windows not listed in ScreenWithPage.pdf.

Specification of this item is optional.

- Permitted value
  1 to 1,000 items. The default is `200` items.

(4) Show number column

Show number column specifies whether to display the **Display nnnn results per page** column on the window. This specifies the number of search results to display per page. This setting is applicable to windows used to execute searches and that divide the search results into pages. For the names of windows whose search results are divided into pages, see *Asset-Console-installation-folder*\help\ScreenWithPage.pdf.

- Permitted value
  - **Show** (default)

    Display the **Display nnnn results per page** column.
  - **Hide**

    Do not display the **Display nnnn results per page** column. The number of search results that displays per page becomes the number specified in the Server Setup dialog box, **Basic Information**, **Number of search results displayed on a page**.

(5) Number of search results displayed on a page

Number of search results displayed on a page specifies the number of search results to be displayed per page on a window. This setting is applicable to windows in which search results are divided into pages. For the names of windows whose search results are divided into pages, see *Asset-Console-installation-folder*\help\ScreenWithPage.pdf.

Specification of this item can be omitted.

- Permitted value

  1 to 1,000 items. The default is 200 items.

(6) Trash group ID for deletions

When a group is deleted, a group called Trash is created automatically in order to save temporarily the user information that was registered for the deleted group. **Trash group ID for deletions** specifies the group ID for Trash.

Specification of this item is optional.

- Permitted value

  Between 0 and 64 alphanumeric characters. The default is 99999999.

(7) Trash location ID for deletions

When a location is deleted, a location called Trash is created automatically to save the deleted location temporarily. **Trash location ID for deletion**s specifies the location ID for Trash.

The setting for this item can be omitted.

- Permitted value

  Between 0 and 64 alphanumeric characters. The default is 99999999.

(8) Threshold for license excess

Threshold for license excess specifies the threshold value for sending a warning about software being used in excess of its valid number of licenses. Express the threshold value as a percentage (%) of the valid licenses. For details about how to send a warning about software being used in excess of its valid number of licenses, see *5.9.1 Types of tasks*.

If you use Task Scheduler to send email about excess licenses being used, make sure that this setting is specified.

- Permitted value

  0 to 100%. The default is 100%.

(9) Automatic login settings

In **Automatic login settings**, specify whether to display the **Log in automatically from next time** check box in the login window when referencing the Asset Console information from the following linkage products:

- JP1/IM
- JP1/IM - Service Support

If you log in with **Log in automatically from next time** selected, the user ID and password do not need to be subsequently entered again on the login window during the period set for **Number of days that cookies are effective**.

- Permitted value
  - **Show** (default)
    Display the **Log in automatically from next time** check box.
  - **Hide**
    Do not display the **Log in automatically from next time** check box.

(10) Number of days that cookies are effective

Number of days that cookies are effective specifies the number of days to save the user ID and password to enable automatic login the next time when referencing Asset Console information from the following linkage products:

- JP1/IM
- JP1/IM - Service Support

Specification of this item is optional.

- Permitted value
  1 to 365 days. The default is `14` days.

(11) Settings for a group that uses a group-specific IP group

Settings for a group that uses a group-specific IP group specifies whether to set up IP address-specific groups that are using devices. To register IP address-specific groups, use the **IP Group** job menu. Groups are set according to the IP addresses of the hardware asset information.

This setting is enabled when you execute the **Data maintenance (Asset Console)** task. To enable the setting when executing the **Data maintenance (Asset Console)** task, you must modify the settings file (`taskopt.ini`). For details about how to modify the settings file, see *5.9.3(3) Changing the tasks to be executed*.

- Permitted value
  - **Do not set** (default)
    Does not set up an IP address-specific device group.
  - **Set**
    Sets up an IP address-specific device group. Even if a value is already specified, it is overwritten with the new group-specific IP group value.
    Specify this value if you need to update groups according to the setting in the **IP Group** job menu.
  - **To only set a location that has not been set**
    Sets up an IP address-specific location only when no device location has been registered.
    Specify this option mainly when you need to set up a location for a newly registered device.

Note

Even when **Set** is selected, the existing value is not overwritten if it is a value acquired from the JP1/IT Desktop Management 2 - Manager management information or a value entered from the New Device window or the Device Details dialog box. Therefore, to set location-specific IP groups for all devices, first use the **Batch Update** job menu to delete the values for all locations. Also make sure that **Overwrite setting** for *asset-information.location-name* in the **ITDM2 management information acquisition** job menu is set to **Overwrite (Do not overwrite when there is no data.)**.

> **Reference note**
>
> You can use the **Data maintenance (Asset Console)** task to reliably update the locations according to the settings in the **IP Group** job menu, even when a value acquired from the JP1/IT Desktop Management 2 - Manager management information or a value entered from the New Device window or the Device Details dialog box is set. For details about how to set the **Data maintenance (Asset Console)** task, see *5.9.3 Specifying the task to be executed in the Data maintenance (Asset Console) task*.

(12) Settings for a location that uses a location-specific IP group

Settings for a location that uses a location-specific IP group specifies whether to set up IP address-specific locations as device locations. To register IP address-specific locations, use the **IP Group** job menu. Locations are set according to the IP addresses of the hardware asset information.

This setting is enabled when you execute the **Data maintenance (Asset Console)** task. To enable the setting when executing the **Data maintenance (Asset Console) task**, you must modify the settings file (`taskopt.ini`). For details about how to modify the settings file, see *5.9.3(3) Changing the tasks to be executed*.

- Permitted value

  - **Do not set** (default)

    Does not set up an IP address-specific device location.

  - **Set**

    Sets up an IP address-specific location as the device location. Even if a value is already specified, it is overwritten with the new location-specific IP group value.

    Specify this value if you need to update locations according to the setting in the **IP Group** job menu.

  - **To only set a location that has not been set**

    Sets up an IP address-specific location only when no device location has been registered.

    Specify this option mainly when you need to set up a location for a newly registered device.

Note

Even when **Set** is selected, the existing value is not overwritten if it is a value acquired from the JP1/IT Desktop Management 2 - Manager management information or a value entered from the New Device window or the Device Details dialog box. Therefore, to set location-specific IP groups for all devices, first use the **Batch Update** job menu to delete the values for all locations. Also make sure that **Overwrite setting** for asset-information.location-name in the **ITDM2 management information acquisition** job menu is set to **Overwrite (Do not overwrite when there is no data.)**.

> **Reference note**
>
> You can use the **Data maintenance (Asset Console)** task to reliably update the locations according to the settings in the **IP Group** job menu, even when a value acquired from the JP1/IT Desktop Management 2 - Manager management information or a value entered from the New Device window or the Device Details

dialog box is set. For details about how to set the **Data maintenance (Asset Console)** task, see *5.9.3 Specifying the task to be executed in the Data maintenance (Asset Console) task*.

(13) Acquisition of DHCP address update log

Acquisition of DHCP address update log specifies whether log information about a change to the IP address allocated by DHCP is to be acquired in the change logs that are acquired when a device's IP address is changed.

- Permitted value

  - **Acquire**

    Acquires all changes to device's IP address as change log.

  - **Do not acquire** (default)

    Does not acquire a change to the IP address allocated by DHCP. In the case of the addition or deletion of a MAC address resulting from the addition or deletion of a network card, the change log is acquired even if this operation is selected.

The device is treated as using the DHCP server when one of the following is true:

- The network information set for the corresponding device contains **DHCP server name**.
- The IP address is included in the range of IP addresses that has been defined as DHCP operation group in the **IP Group** job menu.
- The IP address has been assigned to the MAC address of a device for which DHCP is enabled in the management information acquired from JP1/IT Desktop Management 2 - Manager.

(14) Sort key for the group-specific tree display

In **Sort key for the group-specific tree display**, specify the key for sorting the group names displayed in the group-specific tree or group list from the group information (GroupInfo) property. This sort key is applied to the following windows and dialog boxes:

- Each operation window (simple search condition)
- Browse Groups dialog box
- **Division group** in the Browse Groups dialog box (list)
- Browse Users dialog box
- Substitute Settings dialog box
- Register Divisions dialog box
- Refresh Divisions dialog box
- Assign Divisions dialog box
- Select Destination dialog box

- Permitted values

  - **Group ID**
  - **Group name**
  - **Group name** (English)
  - **Group** (default)

- **User property field 128-1**
- **User property field 128-2**
- **User property field 255-1**
- **User property field 255-2**

(15) Acquisition of contract history

Acquisition of contract history specifies whether to manage the registered content of the contract information as contract history.

- Permitted value

  - **Acquire**

    Acquires contract history when a contract is being registered in the new contract registration window or when contract information is being updated in the Contract Details dialog box. When updating contract information in the Contract Details dialog box, you can choose whether to register the information as contract history. You can also use the **History Information** button displayed in the Contract Details dialog box to view the history information.

  - **Do not acquire** (default)

    Does not acquire contract history even when contract information is registered or updated. The **History Information** button is not displayed in the Contract Details dialog box, either.

(16) Display substitute items by default

Display substitute items by default specifies whether substitute Items are displayed by default, by setting the default status of the **Display substitute items as well** check box in the Inbox window.

- Permitted value

  - **Show**

    Displays substitute Items by default when the Inbox window is displayed.

  - **Hide** (default)

    Hides substitute Items by default when the Inbox window is displayed.

(17) Create new Item from Item outbox

Create new Item from Item outbox specifies whether to allow an Item to be created by copying an existing one.

- Permitted value

  - **Create**

    The **Copy and Create New** button is displayed in the Outbox window in the **Outbox** job menu and the Item window that is displayed when you click the **Item name** anchor in **Outbox**. As a result, you can copy and create a new Item.

  - **Do not create** (default)

    The **Copy and Create New** button is not displayed.

(18) Status to display in device search windows

In **Status to display in device search windows**, specify the device status to be displayed for the **Status** search condition in the Device Totals, Device List, and Add Related Device windows.

- Permitted value

  - **Display only active codes** (default)

    Displays the statuses whose codes are in the range from 0 to 499. By default, **Active** and **Stock** are displayed.

  - **Display all codes**

    Displays the statuses whose codes are in the range from 0 to 999. By default, **Active**, **Stock**, **Restore**, **Scrap**, **Pre-Scrap**, and **Erase** are displayed.

(19) Device log management

In **Device log management**, specify whether to manage the initial device change log of the management-target device. Hitachi recommends that you select **Do not manage** if you want to improve the performance of importing management information from JP1/IT Desktop Management 2 - Manager.

- Permitted value

  - **Manage**

    When you execute the **Delete change log (Asset Console)** task, the initial device change log is saved.

  - **Do not manage** (default)

    When you execute the **Delete change log (Asset Console)** task, the initial device change log is deleted.

(20) Audit log entry output

In **Audit log entry outpu**t, specify whether to output audit log entries.

- Permitted value

  - **Do not output audit log entries** (default)

    Audit log entries are not output.

  - **Output audit log entries**

    Audit log entries are output to the folder specified in **Audit log entry output folder**.

(21) Audit log entry output folder

Audit log entry output folder specifies the folder to which audit log entries are to be output.

- Permitted value

  From 3 to 240 bytes of characters. The following symbols cannot be used:

  #, /, ,, ;, *, ?, ", <, >, |

  Specify a full path for the folder.

  The default is the *Asset-Console-installation-folder*\auditlog.

5.3.5 Setting Mail Notification Information

Mail Notification Information specifies whether you wish to have Task Scheduler use email to report on asset status. If so, you can specify the report recipient's email address. For details about setting the tasks registered in Task Scheduler, see *5.9 Setting the tasks that are registered in Task Scheduler*.

Also specifies whether to send an email notification to a user who is set up as an Item agent when an Item is executed. For details about setting up an Item agent, see *3.2.2 Specifying a substitute* in the *Administration Guide*.

This section describes the settings for **Mail Notification Information**.

(1) Notification by e-mail

Notification by e-mail specifies whether you wish to have Task Scheduler automatically send an email notification.

To send an email notification, specify **Notify**.

- Permitted value
  - **Notify**
    Sends an email notification.
  - **Do not notify** (default)
    Does not send an email notification.

(2) Email notification to Item agents

When an Item agent is set up, **Email notification to Item agents** specifies whether to send an email notification to the Item agent.

To send an email notification, specify **Email**. In this case, the user who is set up as the Item agent receives a copy of the notification (CC).

- Permitted value
  - **Email**
    Sends email notifications also to the Item agent.
  - **Do not email** (default)
    Does not send email notifications to the Item agent.

(3) Address to e-mail

Address to e-mail specifies the destination address when you wish to send email notification of the execution results of a task registered in the Task Scheduler. To specify multiple destination addresses, use commas (,) as the delimiter.

If you wish email notification to be sent, make sure that you specify this item.

- Permitted value
  String of 5-160 alphanumeric characters, the underscore (_), hyphen (-), and
  period (.), delimited by the at mark (@). The default is a space.

(4) Sender's e-mail address

Sender's e-mail address specifies the sender's address when you wish to send email notification of the execution results of a task registered in the Task Scheduler. To specify multiple sender's addresses, use commas (,) as the delimiter.

- Permitted value
  String of 5-160 alphanumeric characters, the underscore (_), hyphen (-), and
  period (.), delimited by the at mark (@). The default is `manager@asset.message`.

5.3.6 Setting Link with Directory Server

Link with Directory Server specifies the server name, port number, or other information necessary for authenticating login by linking with a directory server. It also specifies the type of character encoding that is used by the directory server when an access definition file is created to link with the directory server.

Link with Directory Server specifies the following items:

(1) Directory server usage

In **Directory server usage**, specify whether to use a directory server for login authentication.

To use a directory server for login authentication, select **Use for authentication only**.

- Permitted value
  - **Use for authentication only**
    Uses a directory server for login authentication.
  - **Do not use** (default)
    Does not use a directory server for login authentication.

(2) Code set

In **Code set**, specify the type of character encoding to be used. You must specify this item if you are creating an access definition file to link with a directory server.

- Permitted value
  - **SHIFT-JIS**
    Sets SHIFT-JIS encoding.
  - **UTF-8** (default)
    Sets UTF-8 encoding.

(3) Server name

Server name specifies the host name or IP address of the directory server. You must specify this item if you plan to perform login authentication by linking with a directory server.

- Permitted value
  The permitted value is 1 to 255 bytes of alphanumeric characters and symbols. The default is `AssetHost`.

(4) Port number

Port number specifies the port number of the directory server. You must specify this item if you plan to perform login authentication by linking with a directory server.

- Permitted value
  A value between 1 and 65,535. The default is `389`.

(5) Access user

Access user specifies the DN of the user who will access the directory server's information entries. You must specify this item if you plan to perform login authentication by linking with a directory server.

You must execute the LDIFDE command of Active Directory in advance and output a user information list to investigate the DN of the user whom you wish to use as an access user. For details about the investigation method, see *3.5.1 Login authentication*.

Additionally, specify a password in the Set Password dialog box.

- Permitted value

  The permitted value for an access user is 1 to 255 bytes of alphanumeric characters, symbols, and kanji characters. By default, this item is left blank.

  The permitted value for a password is 1 to 255 bytes of alphanumeric characters, symbols ,and single-byte katakana characters. By default, this item is left blank.

(6) Response monitoring time

Response monitoring time specifies the time in seconds to monitor for the directory server to respond to a search request. If the directory server does not return a response within the monitoring time, a communication error is considered to have occurred and the processing is terminated. If a large number of processes use the directory server service and communication errors occur frequently during login authentication, specify a large value for the monitoring time. You must specify this item if you plan to perform login authentication by linking with a directory server.

- Permitted value

  The permitted value is 1 to 65,535 seconds. The default is 60 seconds.

(7) User information DN

User information DN specifies the DN that becomes the basis for user information search. You must specify this item if you plan to perform login authentication by linking with a directory server.

You must execute the `LDIFDE` command of Active Directory in advance and output a user information list to investigate the DN of the organization from which to search for users during Asset Console login authentication. For details about the investigation method, see *3.5.1 Login authentication*.

- Permitted value

  The permitted value is 1 to 255 bytes of alphanumeric characters , single-byte katakana characters, symbols, and kanji characters. The default is `ou=people,o=xxxxxxx.com`.

(8) User ID attribute name

User ID attribute name specifies the attribute name of the user information to be used as the user ID for logging in to Asset Console. You must specify this item if you plan to perform login authentication by linking with a directory server.

You must execute the `LDIFDE` command of Active Directory in advance and output a user information list to investigate the attribute name of the user ID to be used during Asset Console login authentication. For details about the investigation method, see *3.5.1 Login authentication*.

- Permitted value

  The permitted value for a user ID attribute name is 1 to 255 bytes of alphanumeric characters, symbols, single-byte katakana characters, and kanji characters. The default is `uid`.

  Note that an attribute called `uid` is not provided in the directory server's standard user object. Therefore, add the `uid` attribute to the directory server's user object as needed and specify the user ID to be used for login authentication. Alternatively, instead of `uid`, specify an attribute name under which a user ID to be used for Asset Console login authentication is stored.

(9) User name attribute name

User name attribute name specifies the attribute name of the user information to be used as the Asset Console user name.

You must execute the `LDIFDE` command of Active Directory in advance and output a user information list to investigate the attribute name to be used as the Asset Console user name. For details about the investigation method, see *3.5.1 Login authentication*.

- Permitted value

  The permitted value for a user ID attribute name is 1 to 255 bytes of alphanumeric characters, symbols, single-byte katakana characters, and kanji characters. The default is `cn`.

5.3.7 Setting JP1/IT Desktop Management 2 - Manager management information acquisition

ITDM2 linkage specifies the login ID and service name that are used to collect management information by linking with JP1/IT Desktop Management 2 - Manager. This setting is required only when you link Asset Console with JP1/IT Desktop Management 2 - Manager. For **ITDM2 linkage**, enter the values set in the JP1/IT Desktop Management 2 - Manager setup window.

The following items can be set in **ITDM2 linkage**.

(1) JP1/ITDM2-Manager database login ID

JP1/ITDM2-Manager database login ID specifies the login ID to be used to connect to the JP1/IT Desktop Management 2 - Manager database.

Specify the password in the Set Password dialog box.

If you are linking JP1/IT Desktop Management 2 - Manager, this setting must be specified. The value cannot be left blank even when JP1/IT Desktop Management 2 - Manager is not linked.

- Permitted value

  From 1 to 28 bytes of characters (**JP1/ITDM2-Manager database login ID** and password). By default, both **JP1/ITDM2-Manager database login ID** and the password is `itdm2m`.
  The values for **JP1/ITDM2-Manager database login ID** and the password must begin with alphabetical characters.

The values specified here are applied to **Connection user ID** in the dialog box used for creating a data source.

(2) Name of the service connecting to the JP1/ITDM2-Manager database

Name of the service connecting to the JP1/ITDM2-Manager database specifies the service name to be used to connect to the P1/IT Desktop Management 2 - Manager database. Specify the ODBC data source name that is to be set at the JP1/IT Desktop Management 2 - Manager database connection setup. For details about setup of the database connection, see *5.5 Creating a data source*.

If you will be linking JP1/IT Desktop Management 2 - Manager, this setting must be specified.

- Permitted value

  1 to 63 bytes of alphanumeric and special characters. The default is `ITDM2_DB_SERVICE_NAME`.

!, (,), *, ,, ;, =, ?, @, [,], {, }, and spaces cannot be specified for **Name of the service connecting to the JP1/ITDM2-Manager database**.

This value is applied to **ODBC data source name** in the dialog box used to create a data source

(3) Multiplex

Multiplex specifies the multiplex (the number of threads) for acquisition processing.

- Permitted value
  1 to 16. The default is 4.

5.4 Creating an asset management database

This section explains how to create an environment for an asset management database.

To create an environment for an asset management database, use the Database Manager dialog box. After you have created an asset management database, perform the following tasks:

- Create an ODBC data source name
- Create a database
- Create a user for database access
- Initialize the database

Hitachi recommends that you establish an asset management server environment after confirming the local database connection to avoid problems related to the database connection.

While Database Manager is running, do not execute other programs.

To create an asset management database:

1. Click the **Start** button and select **Programs**, **JP1_IT Desktop Management 2 - Asset Console**, and then **Setup**. The Setup dialog box appears.

2. Click the **Database Manager** icon.
   The following Database Manager dialog box appears.

   Figure 5–3: Database Manager dialog box
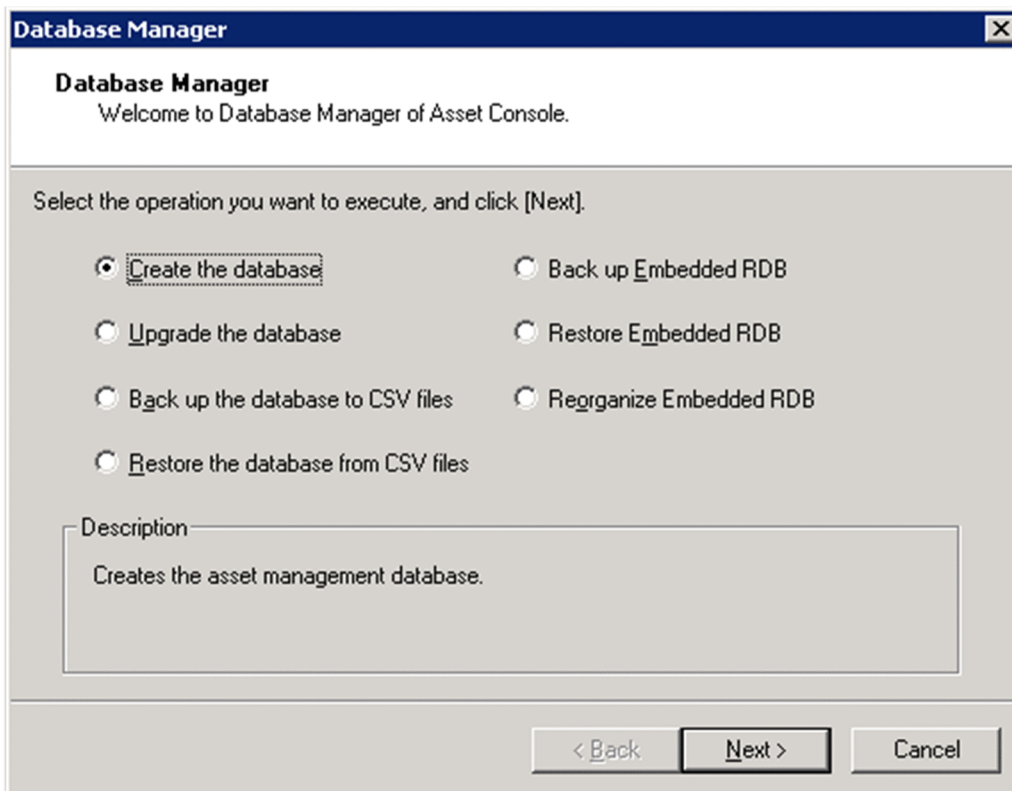
3. Select **Create the database**, and then click the **Next** button.
   The dialog box used to set cluster system information appears.

4. Set the cluster system information.

5. Set the database connection information and database area.

6. Create a database.

The setting of cluster system information in step 4 and the setting of database connection information and database area in step 5 are described in section 5.4.1.

5.4.1 How to create an asset management database

To create an asset management database:

1. Specify necessary information in the dialog box for setting information about the cluster system.
   To specify necessary information, use the following dialog box for setting cluster system information.

   Figure 5–4: Dialog box for setting cluster system information

   If you do not use Asset Console in a cluster environment, do not specify anything here and go to step 2.
   If you use Asset Console in a cluster environment, select the **Used in cluster system environment** check box. The following describes each item to be specified for both executing and standby databases.
   For the executing database

   - **Execution mode / Standby mode**
     Select **Execution mode**. By default this item is selected.

   - **Logical host name**
     Specifies the name of a logical host created in the cluster system. The permitted value is 1 to 64 bytes of alphanumeric characters, double-byte characters, and %, -, and _.

   For the standby database

   - **Execution mode / Standby mode**
     Select **Standby mode**.

- **Logical host name**

  Specifies the name of a logical host created in the cluster system. The permitted value is 1 to 64 bytes of alphanumeric characters, double-byte characters, and %, -, and _.

- **Execution system host name**

  Specifies the name of an executing host created in the cluster system. The permitted value is 1 to 64 bytes of alphanumeric characters, double-byte characters, and %, -, and _.

For details about how to rename logical hosts, see *E.3 Renaming the host*. For details about how to rename the executing host, see *5.12.6(1)(b) How to rename the executing host*.

2. Click the **Next** button.

   The following Basic Database Settings dialog box appears.

   Figure 5–5: Basic Database Settings dialog box
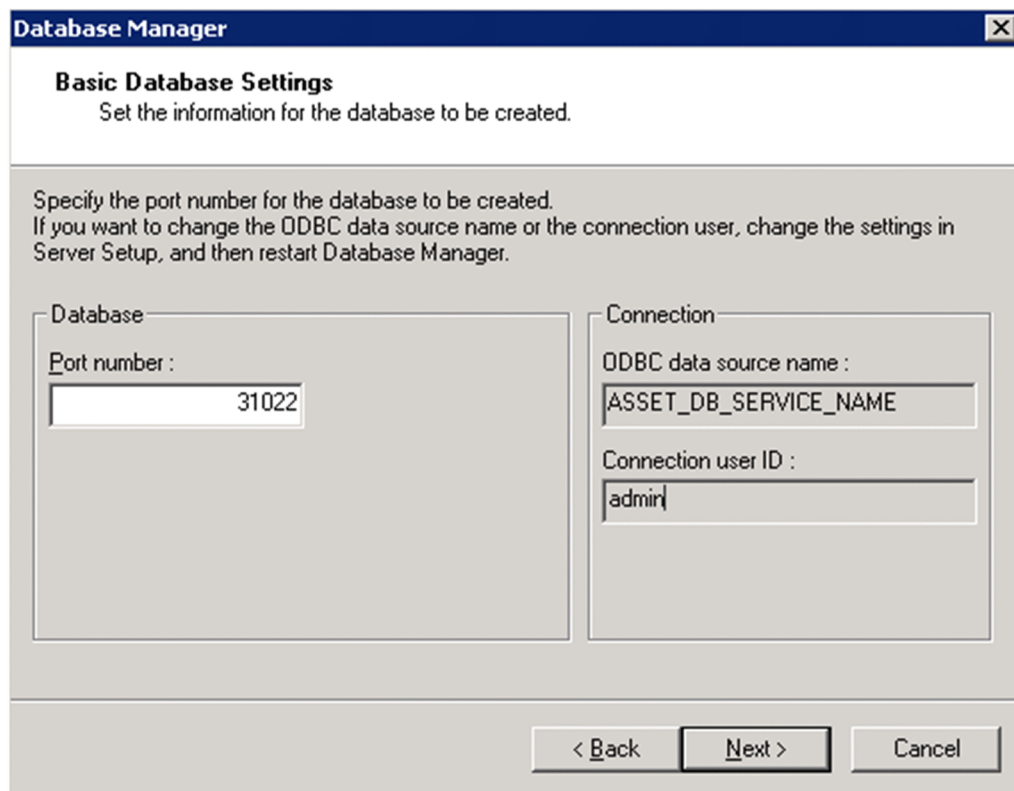
3. In the Basic Database Settings dialog box, specify **Port number**.

   The following describes each item in the dialog box.

   - **Port number**

     Specify the port number of the database server to be connected. Specify a port number that is not used as an integer from 5001 to 65535. By default, 31022 is specified.

   - **ODBC data source name**

     Displays the value specified for **Service name** in the Server Setup dialog box. This item cannot be changed.

   - **Connection user ID**

     Displays the value specified for **Login ID** in the Server Setup dialog box. This item cannot be changed.

4. Click the **Next** button.

   The following Detailed Database Settings dialog box appears.

Figure 5–6: Detailed Database Settings dialog box
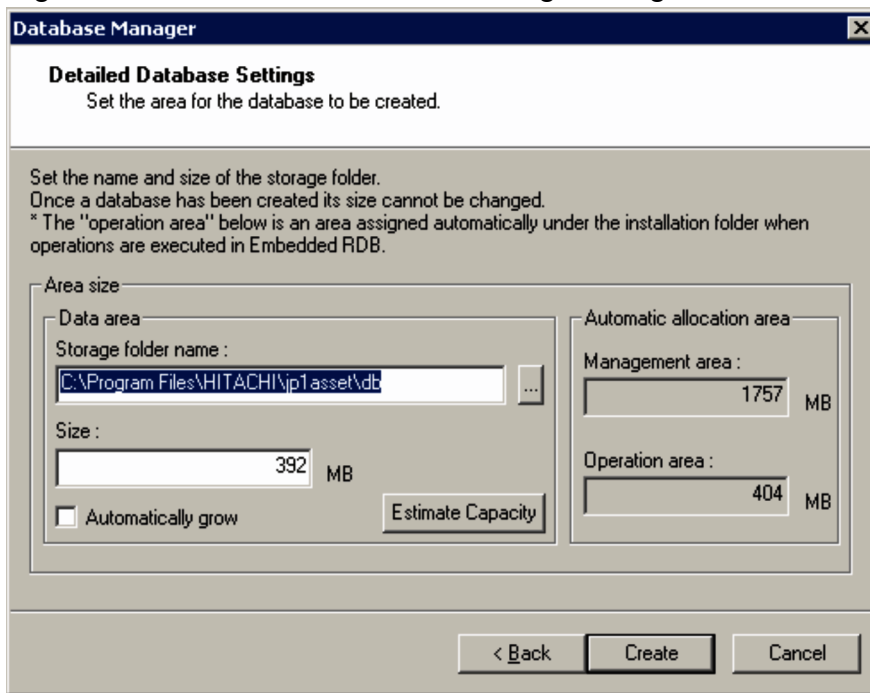
5. Specify **Storage folder name** and **Size**.

   The following describes each item in the dialog box.

   - **Storage folder name**

     In **Storage folder name**, specify the name of the folder for storing the database. Clicking the **...** button displays a dialog box in which you can browse folders and specify a desired folder name. The permitted value is 1 to 125 bytes of alphanumeric characters and _, \, :, ., (,), and the space.

     By default, *Asset Console-installation-folder*\db is specified.

     If you use Database Manager to specify the path, do not specify a device name such as CON or NUL.

   - **Size**

     Specifies the maximum size of the database. By default, the estimated value obtained in the Estimate Capacity dialog box is specified. Specify 100 or a greater integer.

     If the **Automatically increase size** check box is selected, the initial value of the database is used as the maximum size. Specify an integer between 100 and 65,535.

   - **Estimate Capacity** button

     Enables you to estimate the database capacity. The estimated value is reflected in **Size**. For details about how to estimate the database capacity, see *5.4.2 Estimating the database capacity*.

   - **Automatically increase size**

     Select this checkbox to set the database to automatically increase in size. By default, this check box is cleared. If this check box is selected, the database size is automatically increased to a maximum value of 65,535 megabytes.

   - **Management area**

     Displays the size required for the management area. This item cannot be changed.

   - **Operation area**

     Displays the size that is automatically allocated under the Asset Console installation folder when the database is running. This item cannot be changed.

6. Click the **Create** button.

The asset management database is created. When database creation is completed, a message indicating the completion of setup is displayed and the Database Manager dialog box closes. If database creation fails, a message to that effect is displayed, in which case, take an appropriate action according to the displayed message.

For the temporary area of the database, use an area other than the data area. If you specify the same table area for the temporary area and the data area, search and deletion will not be available if the table area is insufficient.

5.4.2 Estimating the database capacity

You can estimate the database capacity using the Estimate Capacity dialog box that is displayed by clicking the **Estimate Capacity** button in the Detailed Database Settings dialog box. The following figure shows the Estimate Capacity dialog box.

Figure 5–7: Estimate Capacity dialog box
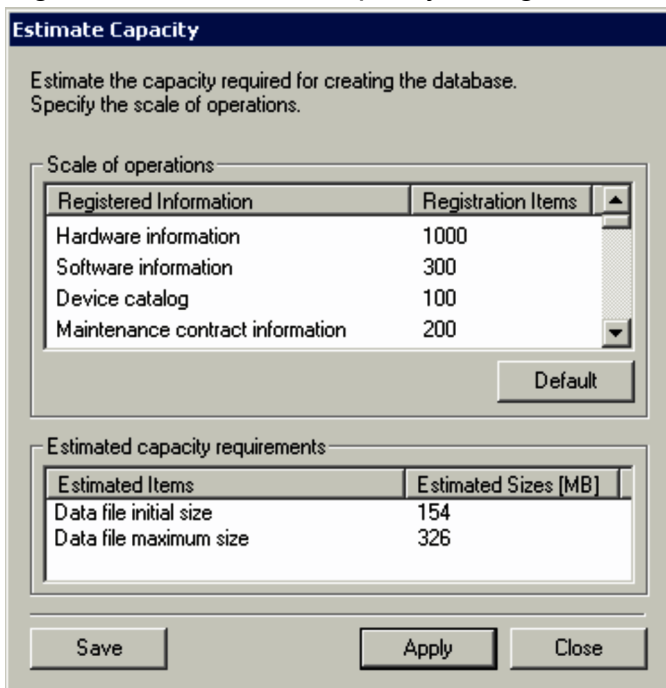
To estimate the database capacity and apply the obtained value to the Detailed Database Settings dialog box:

1. In **Registration Items** under **Scale of operations**, specify the number of items to be registered for each type of information.

   Select information from the list in **Scale of operations** and then specify the number of items to be registered. In **Estimated Sizes [MB]** under **Estimated capacity requirements**; capacity is estimated in megabytes. For details about the formula for estimating the capacity, see *C.2(1) Disk space required for the asset management database*. To reset information to the default value for a selected item, click the **Default** button.

2. Click the **Apply** button.

   The estimated value is applied to the Detailed Database Settings dialog box. To save the registered information and registration items displayed in **Scale of operations**, click the **Save** button.

3. Click the **Close** button.

   The Estimate Capacity dialog box closes.

5.5 Creating a data source

To link to JP1/IT Desktop Management 2 - Manager, you must create a data source in order to connect to the database used in JP1/IT Desktop Management 2 - Manager. You must also re-create the data source if you have changed **Login ID** or **Service name** in the Server Setup dialog box after creating the asset management database.

Before creating the data source, you must use the Asset Console's Server Setup dialog box to specify the settings required during creation of the data source. For details about the settings in the Server Setup dialog box, see *5.3 Setting up the asset management server*.

Notes on using a 64-bit OS

When installing Asset Console in a 64-bit OS, use the following method to set up the database connection:

From the Windows **Start** menu, select **Run**. Specify `%windir%\syswow64\odbcad32.exe` and execute it.

Notes

- Before you start creating a data source, stop all Asset Console services, commands, and tasks in the following order:

    1. World Wide Web Publishing Service or World Wide Web Publishing

    2. Asset Console commands, and tasks

    To run Asset Console after having created a data source, start the services in the reverse of the order in which they were stopped.

- If a connection pool is set in an ODBC data source, the connected state will continue after an Asset Console job is stopped until the timeout time set in the connection pool expires. Therefore, wait for the connected state to be released before creating a data source.

To connect to the asset management database and a linked product's database:

1. Click the **Start** button and select **Programs**, **JP1_IT Desktop Management 2 - Asset Console**, and then **Setup**. The Setup dialog box appears.

2. Click the **Create Data Source** icon. The Create Data Source dialog box appears.

3. From **Products for connection**, select the name of the database product to be connected and then click the **Next** button. A dialog box for creating a data source appears.

4. Enter the required items and then click the **OK** button. Details about the settings during data source creation are provided in section 5.5.1. The data source is created and the asset management database and linked product's database can now be connected.

5.5.1 Creating a data source

To create a data source, specify information about the database to be connected.

The following shows the dialog box for creating a data source.

Figure 5–8: Dialog box for creating a data source
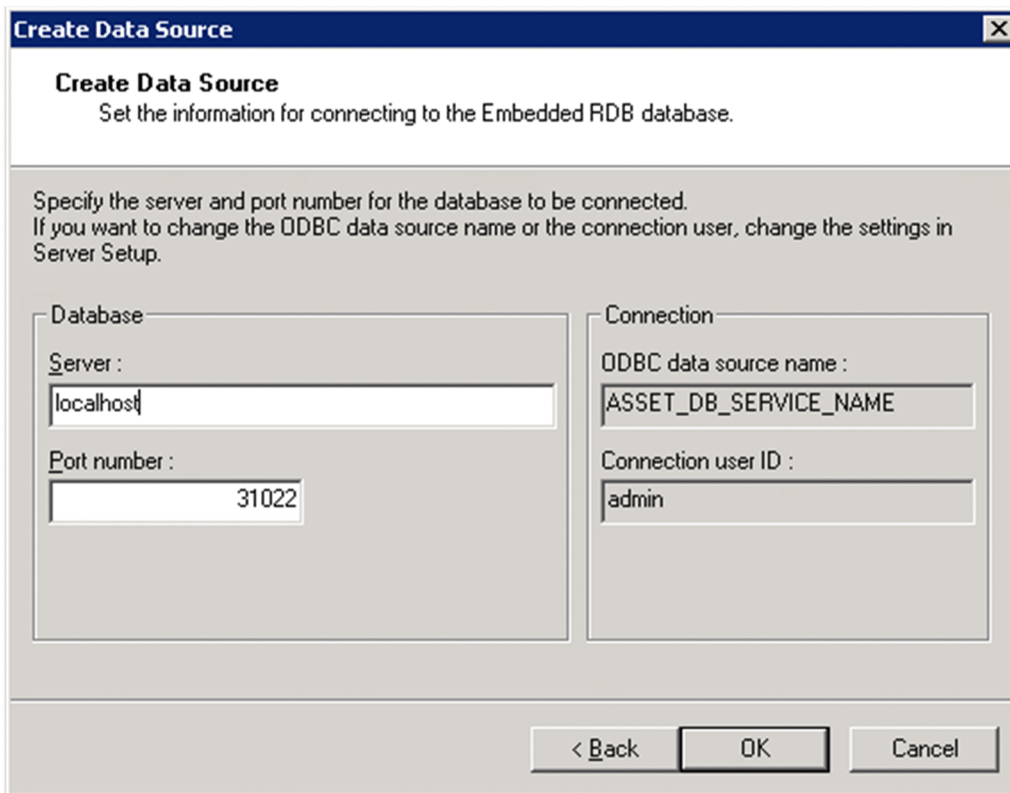
To return to the list of connection targets, click the **Back** button.

To create a data source:

1. In the dialog box for creating a data source, specify **Server** and **Port number**.

   The following describes each item in the dialog box.

   - **Server**

     Specifies the host name of the database to be connected. The permitted value is 1 to 63 bytes of alphanumeric characters, double-byte characters, and %, ~, −, _, ., /, and \. If the connection target is Asset Console, localhost is specified by default. For JP1/IT Desktop Management 2 - Manager, a space is specified by default.

   - **Port number**

     Specify the port number of the database server to be connected. Specify an integer from 5001 to 65535. By default, 31022 is specified if the connection target is Asset Console and 31010 if the connection target is JP1/IT Desktop Management 2 - Manager.

   - **ODBC data source name**

     Displays the value specified in the Server Setup dialog box. This item cannot be changed. The displayed value depends on the product selected in **Products for connection**. The following table shows the items in the Server Setup dialog box that correspond to the selected product.

     Table 5–1: Items in the Server Setup dialog box that correspond to the selected product (ODBC data source name)

Selected product	Item in the Server Setup dialog box
JP1/IT Desktop Management 2 - Asset Console	Service name
JP1/IT Desktop Management 2 - Manager	Connection service for ITDM2-Manager database

- **Connection user ID**

  Displays the value specified in the Server Setup dialog box. This item cannot be changed. The displayed value depends on the product selected in **Products for connection**. The following table shows the items in the Server Setup dialog box that correspond to the selected product.

  Table 5–2: Items in the Server Setup dialog box that correspond to the selected product (connection user ID)

Selected product	Item in the Server Setup dialog box
JP1/IT Desktop Management 2 - Asset Console	Login ID
JP1/IT Desktop Management 2 - Manager	ITDM2-Manager database login ID

2. Click the **OK** button.

   The data source is created according to the specified settings. When the data source creation is completed, a message to that effect is displayed.

3. Click the **OK** button.

   The dialog box for creating a data source is closed and the list of connection targets is displayed again.

5.6 Setting a virtual directory

In Microsoft Internet Information Services, set Asset Console's virtual directory. You can change the path specified during the installation of Asset Console. You can also specify a website other than the **Default Web Site** that is set in Microsoft Internet Information Services during the installation of Asset Console. You can also create and change an application pool.

To change Asset Console's virtual directory and create and change an application pool:

1. Click the **Start** button and select **Programs**, **JP1_IT Desktop Management 2 - Asset Console**, and then **Setup**.
   The Setup dialog box appears.

2. Click the **Virtual Directory Settings** icon.
   The following Virtual Directory Settings dialog box appears.

   Figure 5–9: Virtual Directory Settings dialog box
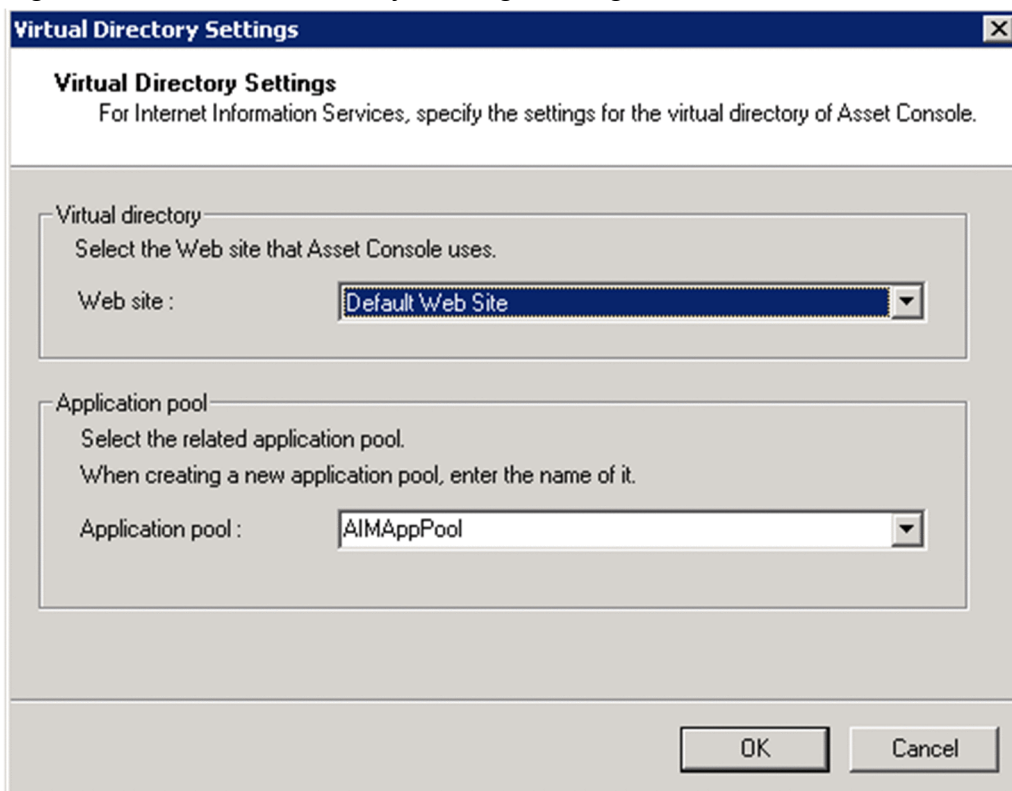
3. In the Virtual Directory Settings dialog box, specify the necessary information.
   The following describes each item.

   - **Web site**

     Specifies the website at which the asset management server's virtual directory is to be registered. Select a website from the drop-down list. By default, the website displaying Asset Console's virtual directory is specified. If no virtual directory has been registered, **Default Web Site** is specified. If no website has been registered, a space is specified.

   - **Application pool**

     Specifies the application pool that is to be associated with the asset management server's virtual directory. Select an application pool from the combo box. To create a new application pool, enter the name of the application pool in the input field. The permitted value is 1 to 255 bytes of characters. Note that /, \, =, :, and , cannot be specified. By default, the application pool associated with Asset Console's virtual directory is displayed.

If the name of an application pool registered by the Internet Information Service Manager contains =, :, or ,, the application pool is not displayed in the combo box.

4. Click the **OK** button.

The virtual directory is changed or the application pool is created or changed according to the specified information. When the processing is completed, a message indicating completion of virtual directory setting is displayed.

The application pool created here is the same as when an application pool is created from Microsoft Internet Information Services. Therefore, there is no need to re-create the application pool from Microsoft Internet Information Services.

For details about the operation that is executed during application pool creation, see one of the following subsections:

- When using Microsoft Internet Information Services 6.0

   5.8.1(2) Creating application pools

- When using Microsoft Internet Information Services 7.0, 7.5, 8.0, or 8.5

   5.8.2(3) Creating application pools

5. Click the **OK** button.

The Virtual Directory Settings dialog box closes.

5.7 Setting up the services to be used by the asset management server

The asset management server uses the following services:

- IIS Admin Services
- World Wide Web Publishing Service or World Wide Web Publishing
- Simple Mail Transport Protocol (SMTP)
  This service is required if it is necessary to notify the asset manager by email about the execution results of the tasks registered in Windows Task Scheduler, or to notify the next worker by email when an Item has been sent.

The services to be used by the asset management server must be set to start automatically.

To set Asset Console to start automatically:

1. In the Service window, select the service to be used by the asset management server.

2. From the menu, select **Action** and then **Property**.
   The Property dialog box opens.

3. On the **General** tab, change **Startup type** to **Automatic**.

4. Click the **OK** button.
   The Property dialog box closes, and the service is set to start automatically.

5. Start the service.

5.8 Settings for using Microsoft Internet Information Services

This section describes notes and required settings when Asset Console is installed when Microsoft Internet Information Services is used.

5.8.1 Setting the Web server (for Microsoft Internet Information Services 6.0)

This subsection describes the settings that are required when Asset Console is installed. It also provides notes that are applicable if you are using Microsoft Internet Information Services 6.0

(1) Registering the extensions of the files to be uploaded

Register in Internet Information Service Manager the information related to the extensions of the files to be uploaded as file attachments into each window operation or Item.

To register the information related to file extensions:

1. Start Internet Information Service Manager.

2. From the **Default Web Site** menu of the asset management server website, select **jp1asset** to display properties.

3. On the **HTTP Headers** tab, click the **MIME types** button.

4. Register the extension and MIME type to be used and click the **OK** button.
   For details about MIME types, see **Help** in Internet Information Service Manager.

(2) Creating application pools

You need to set up an application pool in Internet Information Service Manager.

To create an application pool:

1. Start Internet Information Service Manager.

2. Select **Application Pools** of the asset management server.

3. From the menu, select **Action**, **New**, and then **Application Pools**.
   The Add New Application Pool dialog box opens.

4. Enter an application pool ID in **Application pool ID** and click the **OK** button.
   Do not include =, :, or , in the application pool name. If these characters are used, the application pool name will not be displayed in the combo box in the Virtual Directory Settings dialog box.

5. Display the properties of the created application pool.

6. On the **Recycling**, **Performance**, and **Health** tabs, clear all options.

7. On the **Identity** tab, select **Predefined** and then **Local System** for **Application pool ID**.

8. From the **Default Web Site** menu of the asset management server website, select jp1asset to display properties.

9. Select the application pool created in step 4 and click the **OK** button.

10. Restart World Wide Web Publishing Service.

(3) Adding an Asset Console site

If Microsoft Internet Information Services 6.0 is used, you must add an Asset Console site to use Asset Console from Microsoft Internet Explorer. The same setting is also required when you need to view the Asset Console information from other program products such as JP1/IM.

To add an Asset Console site:

1. In Microsoft Internet Explorer, select **Tools** and then **Internet Options**.
   The Internet Options dialog box opens.

2. On the **Security** tab, select the **Intranet** icon and click the **Site** button.

3. In the displayed dialog box, add the Asset Console site and click the **Close** button.

(4) Notes on creating a site

If you use Microsoft Internet Information Services 6.0 and have installed Asset Console, do not create a site for recycling worker processes in the virtual directory specified in **Web site** in the Virtual Directory Settings dialog box. By default, **Default Web Site** is specified in **Web site**.

5.8.2 Setting the Web server (for Microsoft Internet Information Services 7.0 or later)

This subsection describes the settings that are required when Asset Console is installed. It also provides notes that are applicable if you are using Microsoft Internet Information Services 7.0, 7.5, 8.0, or 8.5.

(1) Installing the role services

If you are using Microsoft Internet Information Services 7.0, 7.5, 8.0, or 8.5, you must install the appropriate role services.

To install the role services for Microsoft Internet Information Services 7.0, 7.5, 8.0, or 8.5:

1. In the Server Manager window, select **Roles** and then **Add Roles Service**.
   A dialog box for selecting role services is displayed.

2. Select the role services according to the purpose for which they are needed, and then click the **Next** button.
   A dialog box confirming the installation options is displayed.
   The following table lists and describes the role services that can be selected when the asset management server is configured.

   Table 5–3: Role services that can be selected when the asset management server is configured

Item	Role service	Asset management server
Common HTTP Features	Static Content	S
	Default Document	S

Item	Role service	Asset management server
Common HTTP Features	Directory Browse	S
	HTTP Errors	S
Application Development	ASP.NET	--
	ISAPI Extensions	S
	ISAPI Filters	S
Performance	Static Content Compression	S
IIS Management Console	IIS Management Console	S
IIS 6 Management Compatibility	IIS 6 Metabase Compatibility	S
	IIS Management Console	S#

Legend:

S: Role service whose selection is required.

--: Not applicable.

#: Selection is required only when the email notification function is used.

3. Make sure that the role services selected in step 2 are displayed, and then click the **Install** button.

When installation is completed, a dialog box reporting the installation result is displayed.

4. Click the **Close** button.

(2) Registering the extensions of the files to be uploaded

Register in Internet Information Service Manager the information related to the extensions of the files to be uploaded as file attachments into each window operation or Item.

To register the information related to file extensions:

1. Start Internet Information Service Manager.

2. From the asset management server's **Sites**, select **Default Web Site**, **jp1asset**, and then **MIME types**.

3. From the **Action** menu, select **Add**.
   The Add MIME type dialog box appears.

4. Register the extension and MIME type to be used and click the **OK** button.
   For details about MIME types, see **Help** in Internet Information Service Manager.

(3) Creating application pools

You need to set up an application pool in Internet Information Service Manager.

To create an application pool:

1. Start Internet Information Service Manager.

2. Select **Application Pools** on the asset management server.

3. From the **Action** menu, select **Add Application Pool**.
   The Add Application Pool dialog box appears.

4. In **Name**, enter a desired application pool name, set **Managed pipeline mode** to **Classic**, and then click the **OK** button.

   Do not include =, :, or , in the application pool name. If these characters are used, the application pool name will not be displayed in the combo box in the Virtual Directory Settings dialog box.

5. Select the newly created application pool, and then select **Advanced Settings** from the **Action** menu.

   The Advanced Settings dialog box appears.

6. Specify the required settings, and then click the **OK** button.

   In the Advanced Settings dialog box, specify the following settings. The other items can be set to the default value.

   (General)
   > **Queue Length**: `4000`
   >
   > **Enable 32-Bit Application**s: `True` (applicable only to the 64-bit version of Windows Server 2008)

   Process Model
   > **Identity**: `LocalSystem`
   >
   > **Ping Enabled**: `False`
   >
   > **Idle Time-out (minutes)**: `0`

   Rapid-Fail Protection
   > **Enabled**: `False`

   Recycling
   > **Isapi Reported Unhealthy**: `True`
   >
   > **Manual Recycle**: `True`
   >
   > **Specific Time**: `True`
   >
   > **Application Pool Configuration Changed**: `True`
   >
   > **Request Limit Exceeded**: `True`
   >
   > **Disable Recycling for Configuration Change**s: `True`
   >
   > **Regular Time Interval (minutes)**: `0`

7. From the **Action** menu, select **Recycling**.

   The Edit Application Pool Recycling Settings dialog box appears.

8. Clear all check boxes for the recycle conditions, and then click the **Next** button.

9. Of the recycling events that are to be logged, select the check boxes for the recycling events that you wish to be logged during recycling of the application pool, and then click the **Finish** button.

   Hitachi recommends that you select all enabled check boxes. If there is any recycling event that you wish not to be logged during recycling of the application pool, clear its check box, and then click the **Finish** button.

10. Restart World Wide Web Publishing Service.

(4) Setting applications (virtual directories)

If you added the **IIS 6 Metabase Compatibility** role service after installing Asset Console, you must set applications (virtual directories) using Internet Information Service Manager.

To create new applications (virtual directories):

1. From the asset management server's **Sites**, select **Default Web Site**, and then from the right-click menu, select **Add Application**.
   The Add Application dialog box appears.

2. Click the **Select** button and specify the application pool created in **Application Pools**.

3. In **Physical path**, specify the virtual directory for the asset management server, and then click the **OK** button.
   The default virtual directory for the asset management server is *Asset-Console-installation-folder*\wwwroot.

To change the settings of existing applications (virtual directories):

1. From the asset management server's **Sites**, select **Default Web Site**, **jp1asset**, and then from the **Action** menu, select **Advanced Settings**.
   The Advanced Settings dialog box appears.

2. Specify the created application pool in **Application Pools** and the asset management server's virtual directory in **Physical path**, and then click the **OK** button.
   The default virtual directory for the asset management server is *Asset-Console-installation-folder*\wwwroot.

(5) Setting ISAPI restrictions

If you added the **IIS 6 Metabase Compatibility** and **ISAPI Extensions** role services after you installed Asset Console, you must set ISAPI restrictions in Internet Information Service Manager.

To set ISAPI restrictions:

1. Select the asset management server, and then select **ISAPI and CGI Restrictions**.

2. From the **Action** menu, select **Add**.
   The Add ISAPI or CGI Restriction dialog box appears.

3. In **ISAPI or CGI path**, specify the file path, select the **Allow extension path to execute** check box, and then click the **OK** button.
   In **ISAPI or CGI path**, specify the path to the following files that have been stored in the asset management server's virtual directory:
   - jamwscript.dll
   - bin\jamlogin.dll
   - jamenter.dll
   - jamfile.dll
   - jamhtmlfile.dll

   Repeat steps 1 through 3 to add all of these files.
   The default virtual directory for the asset management server is *Asset-Console-installation-folder*\wwwroot.

(6) Setting ISAPI filters

If you added the **IIS 6 Metabase Compatibility** and **ISAPI Filters** role services after you installed Asset Console, you must specify the ISAPI filters settings in Internet Information Service Manager.

To specify the ISAPI filters settings:

1. From the asset management server's **Sites**, select **Default Web Site**, and then **ISAPI Filters**.

2. From the **Action** menu, select **Add**.
   The Add ISAPI Filter dialog box appears.

3. In **Executable**, specify the file path, and then click the **OK** button.
   In **Executable**, specify the path to `bin\jamssessionfilter.dll` that has been stored in the Asset Console installation folder.
   There is no need to change **Filter name**.

(7) Setting handler mappings

If you added the **IIS 6 Metabase Compatibility** role service after you installed Asset Console, you must set handler mappings using Internet Information Service Manager.

To set handler mappings:

1. From the asset management server's **Sites**, select **Default Web Site**, **jp1asset**, and then **Handler Mapping**s.

2. From the **Action** menu, select **Edit Feature Permissions**.
   The Edit Feature Permissions dialog box appears.

3. Select all check boxes (**Read**, **Script**, and **Execute**), and then click the **OK** button.

(8) Specifying the directory browse settings

If you added the **IIS 6 Metabase Compatibility** and **Directory Browse** role services after you installed Asset Console, you must specify the directory browse settings in Internet Information Service Manager.

To specify the directory browse settings:

1. From the asset management server's **Sites**, select **Default Web Site**, **jp1asset**, **log**, and then **Directory Browse**.

2. From the **Action** menu, select **enable**.

(9) Adding an Asset Console site

If Microsoft Internet Information Services 7.0, 7.5, 8.0, or 8.5 is used, you must add an Asset Console site in order to use Asset Console from Microsoft Internet Explorer. The same setting is also required when you need to view the Asset Console information from other program products such as JP1/IM.

To add the Asset Console site:

1. In Microsoft Internet Explorer, select **Tools** and then **Internet Options**.
   The Internet Options dialog box opens.

2. On the **Security** tab, select the **Local intranet icon** and then click the **Sites** button.

3. In the displayed dialog box, add the Asset Console site and click the **Close** button.

(10) Notes on creating a site

For notes on installing Asset Console in a 64-bit OS, see *F.1 Notes on installing Asset Console in a 64-bit OS*.

- If you use Microsoft Internet Information Services 7.0 or 7.5 and have installed Asset Console, do not create a site for recycling worker processes in the virtual directory that was specified in **Web site** in the Virtual Directory Settings dialog box. By default, **Default Web Site** is specified in **Web site**.

5.9 Setting the tasks that are registered in Task Scheduler

Asset Console enables you to use Windows Task Scheduler to automatically maintain and monitor asset information that is created by daily asset management jobs.

When you install Asset Console, tasks are created in Windows Task Scheduler. You can modify this task schedule and settings for enabling or disabling tasks as appropriate for how you handle asset information.

Note that when Asset Console is first installed, all tasks are disabled.

This section provides the details of the tasks and describes each task's setup procedure.

Notes

- A user with administrator permissions must perform task scheduling.
- When executing an Asset Console task in a 64-bit OS, you must execute it using the 32-bit command prompt. For the execution procedure, see *F.2 Notes on executing commands and tasks in a 64-bit OS*.

> **Reference note**
>
> You can create tasks for executing unique processing in addition to the tasks that are created automatically when Asset Console is installed. To define the processing to be executed by a task, use an *access definition file* (file for defining processing using scripts provided by Asset Console). For details about creating an access definition file and adding tasks, see online Help *Creating an Access Definition File Guide* (`assetscr.chm`).
>
> `assetscr.chm` is stored in the following folder:
>
> *Asset-Console-installation-folder*`\help`

5.9.1 Types of tasks

This section describes the tasks, the details of each task, and the default when each task is enabled that are set in Windows Task Scheduler.

(1) Name and details of each task

This subsection describes the name and details of each task. Do not change the files that are used by each task.

- **Data maintenance (Asset Console)**
  Updates information related to updated information in order to maintain conformity of data in the asset management database. This task also deletes unneeded information.
  After setting up the asset management server, make sure that this task is enabled.
  For details about how to specify the tasks to be executed in **Data maintenance (Asset Console)**, see *5.9.3 Specifying the task to be executed in the Data maintenance (Asset Console) task*.
  The following table describes the return values for the **Data maintenance (Asset Console)** task.

Table 5–4: Return values for the Data maintenance (Asset Console) task

Return value	Description
0x0	Normal termination

Return value	Description
0x1	No applicable data was found.
0x2 or higher	Terminated with some other error.

- **Notification of invalid contract information (Asset Console)**

  Sends email notification to the asset manager concerning maintenance and lease contract information that is to expire within two months. The default is to send notification for contracts due to expire within two months. For details about how to specify the timing to send notification by email, see *5.9.4 Specifying the timing to send notification about impending contract expiration*.

  To send email notifications automatically, you need settings in both Asset Console and Microsoft Internet Information Services. For details about the setup procedure for email notification, see *5.10 Settings for using notification by email*.

  The following table describes the return values for the **Notification of invalid contract information (Asset Console)** task.

Table 5–5: Return values for the Notification of invalid contract information (Asset Console) task

Return value	Description
0x0	Normal termination
0x1	No applicable data was found.
0x2 or higher	Terminated with some other error.

- **Notice of license excess (Asset Console)**

  Totals the number of licenses retained and the number of licenses being used in each group, and sends email notification of excess licenses if the number of licenses being used exceeds the number of licenses retained. If email notification is not required, use the **Totals number of licenses (Asset Console)** task. For details about how to specify the timing to delete the summation results, see *5.9.5 Specifying the timing to delete the license totaling results*.

  To send email notifications automatically, you need settings in both Asset Console and Microsoft Internet Information Services. For details about the setup procedure for email notification, see *5.10 Settings for using notification by email*.

  Note

  If totaling is executed multiple times in a large system with several thousand devices, then a large amount of old totals results data remaining in the database will reduce the performance of totaling. In such environment, longer time is required for searches, additions, and deletions. If you have a large asset management system with several thousand devices, it is important to delete old totals results periodically.

  The following table describes the return values for the **Notice of license excess (Asset Console)** task.

Table 5–6: Return values for the Notice of license excess (Asset Console) task

Return value	Description
0x0	Normal termination
0x1	No applicable data was found.
0x2 or higher	Terminated with some other error.

- **Totals number of licenses (Asset Console)**

  Totals the number of licenses retained and the number of licenses being used in each group. No email notification is sent, even if the number of licenses being used exceeds the number of licenses retained.

If you want notification by email on exceeded licenses, use the **Notice of license excess (Asset Console)** task. Hitachi recommends that you do not use the **Notice of license excess (Asset Console)** task because this task takes time.

For details about how to specify the timing to delete the summation results, see *5.9.5 Specifying the timing to delete the license totaling results*.

Note

If totaling is executed multiple times in a large system with several thousand devices, then a large amount of old totals results data remaining in the database will reduce the performance of totaling. In such environment, longer time is required for searches, additions, and deletions. If you have a large asset management system with several thousand devices, it is important to delete old totals results periodically.

The following table describes the return values for the **Totals number of licenses (Asset Console)** task.

Table 5–7: Return values for the Totals number of licenses (Asset Console) task

Return value	Description
0x0	Normal termination
0x1	No applicable data was found.
0x2 or higher	Terminated with some other error.

- Notification of unauthorized install (Asset Console)

    Sends email notification to the asset manager concerning devices on which unauthorized software is installed.

    To send email notifications automatically, you need settings in both Asset Console and Microsoft Internet Information Services. For details about the setup procedure for email notification, see *5.10 Settings for using notification by email*.

    The following table describes the return values for the **Notification of unauthorized install (Asset Console)** task.

Table 5–8: Return values for the Notification of unauthorized install (Asset Console) task

Return value	Description
0x0	Normal termination
0x1	No applicable data was found.
0x2 or higher	Terminated with some other error.

- Delete change log (Asset Console)

    Deletes all logged information about maintenance, assets, and changes except for the information for a specified period.

    In the default setting, the history information that is six months old or older will be deleted. For details about how to specify the history information to be deleted, see *5.9.6 Specifying the types of history information to be deleted and the deletion timing*.

    The following table describes the return values for the **Delete change log (Asset Console)** task.

Table 5–9: Return values for the Delete change log (Asset Console) task

Return value	Description
0x0	Normal termination
0x1	No applicable data was found.
0x2 or higher	Terminated with some other error.

- **Acquisition of ITDM2 - Manager management information (Asset Console)**

    Loads JP1/IT Desktop Management 2 - Manager management information into the asset management database.

For details about the information that can be acquired as management information, see *13.1 Management information that can be acquired from JP1/IT Desktop Management 2 - Manager*.

The following table describes the return values for the **Acquisition of ITDM2 - Manager management information (Asset Console)** task.

Table 5–10: Return values for the Acquisition of ITDM2 - Manager management information (Asset Console) task

Return value	Description
0x0	Normal termination
0x1	No applicable data was found.
0xA	Stopped by user direction.
0x1F or higher	Terminated with some other error.

If an error occurs, check the message log related to JP1/IT Desktop Management 2 - Manager linkage (ASTINV*n*.LOG) for the cause and handling.

(2) Default settings for the tasks

The table below lists the default schedule settings that take effect when the various tasks are enabled.

Table 5–11: Default settings when tasks are enabled

Task name	Default schedule setting
Data maintenance (Asset Console)	5:00 a.m. every day
Notification of invalid contract information (Asset Console)	6:00 a.m. on the first of every month
Notice of license excess (Asset Console)	5:30 a.m. every Monday
Totals number of licenses (Asset Console)	5:30 a.m. every Monday
Notification of unauthorized install (Asset Console)	5:30 a.m. every Tuesday
Delete change log (Asset Console)	6:00 a.m. on the first of every month
Acquisition of ITDM2 - Manager management information (Asset Console)	0:00 a.m. every day

Adjust the schedule so that multiple tasks are not executed concurrently.

5.9.2 Task setup procedure

This section describes the procedures for using Windows Task Scheduler to enable and disable tasks, change a task execution schedule, and delete tasks.

(1) Enabling a task

By default, all Asset Console tasks created in Windows Task Scheduler are disabled. To use a task, you must enable it. You can disable any task that you are not using.

In addition, to use a task in a 64-bit OS, see *F.2 Notes on executing commands and tasks in a 64-bit OS*.

To enable or disable a task registered in Task Scheduler in Windows Server 2003:

1. On Windows **Control Panel**, double-click the **Scheduled Tasks** icon.

   The Scheduled Tasks window appears.

2. Select the task that you want to enable (or disable) and display its properties.

   The selected task's Properties dialog box appears.

3. On the **Task** tab, select the **Enabled [scheduled task runs at specified time]** check box.

   To disable the task, clear this check box.

4. Click the **OK** button.

   The task is enabled (or disabled), and the task's Properties dialog box closes.

   The results of task execution are confirmed from the Scheduled Tasks window, which is started by double clicking the **Scheduled Tasks** icon in the Windows control panel.

   Switch the Scheduled Tasks window to detailed display, and then confirm the return value displayed for **Last Result**. For details, see the file ASTMES*n*.log.

The table below shows the **Run** setting for each task.

The notations *WINDOWS* and *INSTALL* in the table correspond to the following folders:

- *INSTALL*: Asset Console installation folder
- *WINDOWS*: Windows installation folder

Table 5–12: Run setting for each task

Task name	Run setting
Data maintenance (Asset Console)	"*INSTALL*\exe\jamscript.exe" -f "*INSTALL*\scriptbatch\DataMaintenance.txt"
Notification of invalid contract information (Asset Console)	"*WINDOWS*\system32\cscript.exe" "*INSTALL*\exe\jamexpiration.vbs"
Notice of license excess (Asset Console)	"*WINDOWS*\system32\cscript.exe" "*INSTALL*\exe\jamLicenseOver.vbs"
Totals number of licenses (Asset Console)	"*WINDOWS*\system32\cscript.exe" "*INSTALL*\exe\jamSoftwareAddUp.vbs"
Notification of unauthorized install (Asset Console)	"*WINDOWS*\system32\cscript.exe" "*INSTALL*\exe\jamPermitInstall.vbs"
Delete change log (Asset Console)	"*INSTALL*\exe\jamscript.exe" -f "*INSTALL*\scriptbatch\RemoveRecord.txt" -s TARGET=A -s MONTH=6
Acquisition of ITDM2 - Manager management information (Asset Console)	"*INSTALL*\exe\jamTakeITDM2Info.exe"

(2) Changing a task schedule

You can change a task's execution date and time. You can also add a schedule.

- Changing the execution date and time

  To change a task execution date and time:

  1. On the Windows **Control Panel**, double-click the **Scheduled Tasks** icon.

     The Scheduled Tasks window appears.

  2. Select the task whose execution date and time are to be changed and display its properties.

The selected task's Properties dialog box appears.

3. On the **Schedule** tab, change **Schedule Task** and **Start time**.

4. Click the **OK** button.

   The task is modified to the specified schedule, and the task's Properties dialog box closes.

- Adding an execution schedule

   To add a task execution schedule:

   1. On the Windows **Control Panel**, double-click the **Scheduled Tasks** icon.

      The Scheduled Tasks window appears.

   2. Select the task for which a schedule is to be added and display its properties.

      The selected task's Properties dialog box appears.

   3. On the **Schedule** tab, select the **Show multiple schedules** check box.

      At the top of the **Schedule** tab, a drop-down menu of schedules and the **New** and **Delete** buttons appear.

   4. Click the **New** button.

      The schedule is added to the drop-down menu.

   5. Set **Schedule Task** and **Start time** for the new schedule.

   6. Click the **OK** button.

      The new schedule is added to the task, and the task's Properties dialog box closes.

(3) Deleting a task

To delete an unneeded task:

1. On the Windows **Control Panel**, double-click the **Scheduled Tasks** icon.

   The Scheduled Tasks window appears.

2. Select the task you wish to delete, and then from the **File** menu, select **Delete**.

   The selected task is deleted.

(4) Task execution results

You can check the execution results of a task in the Scheduled Tasks window that is displayed when you double-click the **Scheduled Tasks** icon in the Windows control panel.

Set the Scheduled Tasks window to the detail view and check the return value that is displayed in **Last Result**. For details about the displayed information, see ASTMESn.log.

For the return values and their descriptions, see the description of each task in *5.9.1(1)Name and details of each task*.

5.9.3 Specifying the task to be executed in the Data maintenance (Asset Console) task

You must enable this task immediately after you set up the asset management server.

When information is updated, the **Data maintenance (Asset Console)** task updates other related information and deletes unnecessary information to maintain data integrity in the asset management database. You can also select for execution

only those tasks that are necessary from among the ones that can be executed. For details about how to select the tasks to execute, see *(3) Changing the tasks to be executed*.

When you execute the **Data maintenance (Asset Console)** task, Hitachi recommends that you stop all Asset Console services, commands, and tasks.

To stop Asset Console services, stop the following services in the listed order:

1. World Wide Web Publishing Service or World Wide Web Publishing

2. Asset Console commands and tasks

When you use Asset Console after having executed the **Data maintenance (Asset Console)** task, start the services in the reverse of the order in which they were stopped.

(1) Tasks to be executed in the Data maintenance (Asset Console) task

Use the **Data maintenance (Asset Console)** task to execute the following procedures:

- Deleting asset information, contract information, and volume contract information in **Erase** status

  When asset information is deleted, the following related information is also deleted:

  Hardware information, software information, network information, installed software information, patch information, virus definition information, transfer logs, related asset information, device and key link, and user and key link

  When contract information is deleted, the following types of related information are also deleted:

  Maintenance contract information, lease contract information, rental contract information, volume contract information, contract history, and contract asset history

- Deleting information related to asset information in **Restore**, **Scrap**, or **Pre-Scrap** status
  The following information is deleted:

  Installed software information, patch information, virus definition information, and network information[#]
  The license key assigned to an asset is also released.
  #: Only the IP address is deleted as network information.

- Changing the group names, location names, and user names registered in the existing asset information according to the changes made to them in windows

  This task reflects the group name, location, and user name changed in window operations onto the asset information and contract information, and a changed history is collected into a transfer log.

- Setting the groups, locations, and user names corresponding to IDs in the asset information

  If the asset information contains group IDs, location IDs, user IDs, administrator IDs, and administrator group IDs, but no corresponding groups, locations, user names, administrators, or administrator groups are set, the corresponding names are set.

- Deleting unneeded IP address control information

  The IP address control information of an unused IP address outside the range of IP group information is deleted.

- Deleting installed software information for which no installed software name is registered

- Deleting the association between the user and the software key information for licenses whose license category is not **User license**

- Deleting the association between the hardware asset information and the software key information for licenses whose license category is not **Install license**

- Combining the license count and the license keys if a transferred license has the same **Group ID** and **Asset No.** as an existing license

This operation targets licenses whose software status is **Active**.

- Deleting the installed software information of the software whose management level is set to **Unused**

- Deleting group- or location-specific IP groups from which the corresponding groups or locations have been deleted

- Registering the group that corresponds to the IP address in the hardware asset information in **Group** in the asset information

  For the correspondence between IP addresses and groups, the IP group settings created by the **IP Group** job menu are used. By default, this task is not set to be executed.

- Registering the location that corresponds to the IP address in the hardware asset information in **Location** in the asset information

  For the correspondence between IP addresses and locations, the IP group settings created by the **IP Group** job menu are used. By default, this task is not set to be executed.

- Deleting file attachments that do not have corresponding information (hardware asset information, device catalog, contract information, contract history, volume contract, software asset information, or maintenance history)

- Deleting related asset information that does not have target asset information

- Deleting division information set for groups that no longer exist

(2) Specifying options

In the **Data maintenance (Asset Console)** task, you can use an option to specify and execute the processing in the [MAINTE_*n*] section described in the settings file (`taskopt.ini`).

To specify an option, display the task properties. On the **Task** tab, specify the option after the file name in **Run**.

Format

  `-s OPT=`*section-to-be-executed*

  For the section to be executed, specify a single alphanumeric character (0 to 9 or a to z) to indicate one of the [MAINTE_*n*] sections described in the `taskopt.ini` file. The section name is not case-sensitive.

Specification example

  `"C:\jp1asset\exe\jamscript.exe"`
  `-f "C:\jp1asset\scriptbatch\DataMaintenance.txt" -dp`
  `-s OPT=1`
  `C:\jp1asset` indicates the Asset Console installation folder.

(3) Changing the tasks to be executed

To change the task to be executed in the **Data maintenance (Asset Console)** task, describe the task to be changed in the settings file (`taskopt.ini`). Specify in different sections the tasks to be normally executed and those that are to be executed when options are specified.

The storage destination and the coding method for the settings file are described below.

- Settings file storage destination

  Asset-Console-installation-folder\env

  A settings file sample file (`taskopt.org`) is provided in the above folder so that it can be referenced when creating a settings file. Modify the sample to create a settings file.

- Settings file (`taskopt.ini`) coding method

Figure 5–10: taskopt.ini coding method

```
[DATAMAINTENANCE]                           Section to be normally
ASSET_ERASE_DEL     = YES                    executed
ASSET_ASSOC_DEL     = YES
SOFTINFO_ERASE_DEL  = YES
SOFTINFO_ASSOC_DEL  = YES


[MAINTE_1]                                  Section executed only when 1
ASSET_ERASE_DEL      = YES                   is specified as the option.
ASSET_ASSOC_DEL      = YES
SOFTINFO_ERASE_DEL   = NO
SOFTINFO_ASSOC_DEL   = NO


[MAINTE_2]                                  Section executed only when 2
ASSET_ASSOC_DEL       = NO                   is specified as the option.
SOFTINFO_ASSOC_DEL    = NO
```

[DATAMAINTENANCE]

Describe the variable name and specification value that correspond to the task to be changed.

To change the basic execution content of the **Data maintenance (Asset Console)** task, describe the change in this section. The content described here is enabled even when no option is specified. Even when an option is specified, the content described here is enabled if it does not overlap the processing in the section in which the option is specified.

Tasks not described in this section are executed according to the default settings.

[MAINTE_*n*]

Describe the variable name and specification value that correspond to the task to be changed.

To change the execution content of the **Data maintenance (Asset Console)** task to match various purposes, describe the changes in separate sections. Specify the section names using the [MAINTE_*n*] format. For *n*, specify a single alphanumeric character (0 to 9 or a to z). The section name is not case-sensitive. When specifying an option, you can select the execution content by specifying the character specified for *n*.

Tasks not described in this section are executed according to the settings in the [DATAMAINTENANCE] section.

The table below shows the variable names, processing content, specification values, and default values to be described for the individual sections. Variable names and default values are described in taskopt.org stored in the same folder as taskopt.ini.

Table 5–13: Variable names to be specified in taskopt.ini

Processing content	Variable name	Specification value	Default

Deleting asset information and related information for devices in **Erase** status.	ASSET_ERASE_DEL	• YES
		  Deletes.
		• NO
		  Does not delete.
			YES

Deleting information related to devices in **Restore**, **Scrap**, or **Pre-Scrap** status.	ASSET_ASSOC_DEL	• YES
		  Deletes.
		• NO
		  Does not delete.
			YES

Deleting asset information and related information for software in **Erase** status.	SOFTINFO_ERASE_DEL	• YES
		  Deletes.
		• NO
		  Does not delete.
			YES

Processing content	Variable name	Specification value	Default
Deleting information related to software in **Restore** or **Scrap** status.	SOFTINFO_ASSOC_DEL	• YES Deletes. • NO Does not delete.	YES
Deleting contract information in **Erase** status.	CONTRACT_ERASE_DEL	• YES Deletes. • NO Does not delete.	YES
Deleting volume contract information in **Erase** status.	VOLUME_ERASE_DEL	• YES Deletes. • NO Does not delete.	YES
Changing the user name registered in the existing asset information according to the user name changed in a window operation. Setting the user name that corresponds to an ID in the asset information.	USER_ASSOC_UPD	• YES Updates. • NO Does not update.	YES
Changing the group name registered in the existing asset information according to the group name changed in a window operation. Setting the group name that corresponds to an ID in the asset information.	GROUP_ASSOC_UPD	• YES Updates. • NO Does not update.	YES
Changing the location registered in the existing asset information according to the location changed in a window operation. Setting the location that corresponds to an ID in the asset information.	LOCATION_ASSOC_UPD	• YES Updates. • NO Does not update.	YES
Deleting unnecessary IP address management information.	IP_UNNECESSARY_DEL	• YES Deletes. • NO Does not delete.	YES
Deleting installed software information for which no installed software name is registered.	INSTINFO_NOLIST_DEL	• YES Deletes. • NO Does not delete.	YES
Deleting the association between the user and the software key information for licenses whose license category is not **User license**. Deleting the association between the hardware asset information and the software key information for licenses whose license category is not **Install license**.	LICENSELINK_UNNECESSARY_DEL	• YES Deletes. • NO Does not delete.	YES
Combining the license count and the license keys if a transferred license has the same **Group ID** and **Asset No.** as an existing license.	SOFTINFO_CONSOLIDATE	• YES Combines. • NO	YES

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Processing content	Variable name	Specification value	Default
Combining the license count and the license keys if a transferred license has the same **Group ID** and **Asset No.** as an existing license.	SOFTINFO_CONSOLIDATE	Does not combine.	YES
Deleting the installed software information of the software whose management level is set to **Unused**.	INSTINFO_UNMANAGED_DEL	• YES Deletes. • NO Does not delete.	YES
Deleting group- or location-specific IP groups from which the corresponding groups or locations have been deleted.	IPGROUP_NOOBJECT_DEL	• YES Deletes. • NO Does not delete.	YES
Registering, in **Group** in the asset information, the group that corresponds to the IP address in the hardware asset information.	IP_GROUP_ASSOC	• NO Does not register. • OVERWRITE# Always overwrites with the group assigned from the IP address. • YES Follows **Settings for a group that uses a group-specific IP group** in the Server Setup dialog box.	NO
Registering, in **Location** in the asset information, the location that corresponds to the IP address in the hardware asset information.	IP_LOCATION_ASSOC	• NO Does not register. • OVERWRITE# Always overwrites with the group assigned from the IP address. • YES Follows **Settings for a location that uses a location-specific IP group** in the Server Setup dialog box.	NO
Deleting file attachments that do not have corresponding information.	ATTACHFILE_DEL	• YES Deletes. • NO Does not delete.	YES
Deleting related asset information that does not have an **asset ID** of asset information that matches the **child asset ID** of the related asset information.	RELATION_NOOBJECT_DEL	• YES Deletes. • NO Does not delete.	YES
Deleting division information set for groups that no longer exist.	DIVISIONINFO_NOOBJECT_DEL	• YES Deletes. • NO Does not delete.	YES

\#
    Overwrites even when a value acquired from the JP1/IT Desktop Management 2 - Manager management information or a value entered in the New Device window or the Device Details dialog box is set. Specify this task when you want to update all group names and locations according to the setting in the **IP Group** job menu.

(4) Specification example of the tasks to be executed in the Data maintenance (Asset Console) task

In this example, only the necessary tasks are executed and the task execution interval is changed according to the task content of each task.

The following tasks are to be executed in the **Data maintenance (Asset Console)** task at the intervals described:

- Only the tasks of deleting devices in **Erase** status, deleting software in Erase status, and deleting software in **Restore** or **Scrap** status are to be executed every day.

- Only the task of deleting unnecessary IP addresses is executed once a week.

taskopt.ini specification:

```
[DATAMAINTENANCE]
ASSET_ERASE_DEL               = NO
ASSET_ASSOC_DEL               = NO
SOFTINFO_ERASE_DEL            = NO
SOFTINFO_ASSOC_DEL            = NO
CONTRACT_ERASE_DEL            = NO
VOLUME_ERASE_DEL              = NO
IP_UNNECESSARY_DEL            = NO
INSTINFO_NOLIST_DEL           = NO
LICENSELINK_UNNECESSARY_DEL   = NO
INSTINFO_UNMANAGED_DEL        = NO
USER_ASSOC_UPD                = NO
GROUP_ASSOC_UPD               = NO
LOCATION_ASSOC_UPD            = NO
SOFTINFO_CONSOLIDATE          = NO

[MAINTE_1]
ASSET_ERASE_DEL               = YES
SOFTINFO_ERASE_DEL            = YES
SOFTINFO_ASSOC_DEL            = YES

[MAINTE_2]
IP_UNNECESSARY_DEL            = YES
```

Option specification:
    Specify the options for the **Data maintenance (Asset Console)** task as shown below. `C:\jp1asset` indicates the Asset Console installation folder.
```
"C:\jp1asset\exe\jamscript.exe"
-f "C:\jp1asset\scriptbatch\DataMaintenance.txt" -dp
-s OPT=1
```
Next, copy the **Data maintenance (Asset Console)** task and specify options as follows.
```
"C:\jp1asset\exe\jamscript.exe"
-f "C:\jp1asset\scriptbatch\DataMaintenance.txt" -dp
-s OPT=2
```

Make a change so that the added task is executed once a week. For the procedure for changing the task execution dates and frequency, see *5.9.2 Task setup procedure*.

5.9.4 Specifying the timing to send notification about impending contract expiration

You can use the **Notification of invalid contract information (Asset Console)** task to specify when to send email notifications about impending expiration of maintenance, lease, and rental contracts.

Specify the notification timing in the format shown below after a file name in **Run** on the **Task** tab (△ indicates a space).

△ MONTH=(*time-until-contract-expires*)

Specify this time in months, in the range from 1 to 24.

If nothing is specified, an email notification is issued for all contracts due to expire within two months.

Specification example

This example specifies email notification for contracts due to expire within 12 months (1 year):

```
"C:\WINDOWS\system32\cscript.exe" "C:\jp1asset\exe\jamexpiration.vbs"
MONTH=12
```

Here, `C:\Windows` refers to the Windows installation folder, and `C:\jp1asset` refers to the Asset Console installation folder.

5.9.5 Specifying the timing to delete the license totaling results

The results totaled by the **Notice of license excess (Asset Console)** and **Totals number of licenses (Asset Console)** tasks are saved the number of times specified. Older data is automatically deleted. You can change the number of summation results to be saved to a value of your choice. (The default is 10.)

Specify the number of totaling results to be saved, in the format shown below, after a file name in **Run** on the **Task** tab (△ indicates a space).

△ GENERATION=(*number-of-totals-results-remaining*)

Specify the number of remaining log information items, in the range from 0 to 120. If 0 is specified, nothing is deleted.

If nothing is specified, everything is deleted but the most recent 10 totals results.

Specification example

This example specifies that all but the most recent totals results are always to be deleted.

```
"C:\WINDOWS\system32\cscript.exe" "C:\jp1asset\exe\jamSoftwareAddUp.vbs"
GENERATION=1
```

Here, `C:\Windows` refers to the Windows installation folder, and `C:\jp1asset` refers to the Asset Console installation folder.

5.9.6 Specifying the types of history information to be deleted and the deletion timing

This subsection describes how to specify the types of history information to be deleted and the deletion timing.

(1) Specifying the types of history information to be deleted

On the **Task** tab, in **Run**, specify `-s TARGET=`(*change-log-code-to-be-deleted*) following the file name. You can specify multiple codes.

If nothing is specified, the task deletes only the change log for asset information.

Codes for the change log that can be deleted are as follows:

- `A`

  Asset information history. The corresponding class is `AssetUpdateRecord`.

- `M`

  Maintenance log. The corresponding class is `Maintenance`.

- `U`

  Device change log. The corresponding classes are `UpdateRecord` and `InstalledUpdateRecord`.

If you specify multiple codes, specify them consecutively, such as `-s TARGET=AMU`.

(2) Specifying the duration for retaining history information

On the **Task** tab, in **Run**, specify the value following the file name in the format shown below:

- Change log and maintenance log for asset information

  `-s TARGET=A` (or `M`) `-s MONTH=`(*retention-period*)

  Specify the retention period in number of months (0 to 120). Specifying 0 deletes all change log information.

  If nothing is specified, the task deletes all change log data that is at least six months old.

- Device change log

  `-s TARGET=U -s UMONTH=`(*retention-period*)

  Specify the retention period in number of months (0 to 120). Specifying 0 deletes all change log information.

  If nothing is specified, the task deletes all change log data.

Specification example

  This example shows the specification for deleting asset information logs and maintenance logs that are more than three months old.

  `"C:\jp1asset\exe\jamscript.exe"`

  `-f "C:\jp1asset\scriptbatch\RemoveRecord.txt"`

  `-s TARGET=AM -s MONTH=3`

  Here, `C:\jp1asset` refers to the Asset Console installation folder.

5.9.7 Acquiring JP1/IT Desktop Management 2 - Manager management information

This subsection describes how to acquire JP1/IT Desktop Management 2 - Manager management information. If no options are specified for this operation, only updated management information is acquired.

If you specify **ALL** after a file name in **Run** on the **Task** tab, all JP1/IT Desktop Management 2 - Manager management information sets are acquired regardless of whether the information has been updated. Specify this option only when you want to re-acquire all information sets, for example, when the settings for assignment items are changed.

Specification example

```
"C:\jp1asset\exe\jamTakeITDM2Info.exe" -ALL
```
Here, `C:\jp1asset` indicates Asset Console installation folder.

5.9.8 Notification of device information change

You can send email notification of a device information change to the asset manager. Because this task is not registered in Windows Task Scheduler, you must register the task if you use it.

To register the **Notification of hardware change** task to Windows Task Scheduler in Windows Server 2003:

1. In the **Scheduled Tasks** control panel, double-click **Add Scheduled Task**.

2. Specify the settings as instructed by the task wizard that appears.
   - For the task name, specify **Notification of hardware change**.
   - For the program to be executed, specify `jamscript.exe`.
     The `jamscript.exe` file is located in the following folder:
     Asset-Console-installation-folder`\exe`
   - For the user name, specify a name with administrator permissions.

3. Select the **Open advanced properties for this task when I click Finish** check box, and then click **Finish**.

4. In the displayed dialog box, select the **Task** tab.

5. In **Run**, add `-f` *Asset-Console-installation-folder*`\scriptbatch\NoticeUpdateRecord.txt`.

6. Click **OK**.
   The dialog box closes and the **Notification of hardware change** task is registered.

When you execute the **Notification of hardware change** task, the task reports the number of devices that have been changed since the last task execution. It might take a long time to report the information when the task is executed for the first time or after a long period of time since the previous task.

To automatically send email notifications, you must set up Asset Console and Microsoft Internet Information Services accordingly. For details about the settings for using notification by email, see *5.10 Settings for using notification by email*.

The following table describes the return values for the **Notification of hardware change** task.

Table 5–14: Return values for the Notification of hardware change task

Return value	Description
0x0	The task terminated normally.
0x1	No applicable data was found.
0x2	Email notification is not specified.
0x3 or higher	The task terminated with some other error.

5.10 Settings for using notification by email

This section explains how to set Microsoft Internet Information Services to be able to use email to send the task execution results registered in Windows Task Scheduler or notification when an Item has been sent.

To send email notifications about task execution results and Item transmission, you must also specify some settings in the Server Setup dialog box. For details about how to specify settings in the Server Setup dialog box, see *5.3.5 Setting Mail Notification Information*.

Additionally, maintain the SMTP Service's invalid mail directory on a regular basis. For details, see the documentation for Microsoft Internet Information Services.

5.10.1 Executing the SMTP virtual server

To execute the SMTP virtual server with Microsoft Internet Information Services on Windows Server 2003:

1. Start the Internet Information Services 6.0 manager.

2. Expand the asset management server, and then select the default SMTP virtual server.

3. From the **Action** menu, select **Start**.
   The status of the default SMTP virtual server is set to `Running`.

Notes on the use of SMTP authentication

Email sent by the asset management system is registered temporarily in the Microsoft Internet Information Services SMTP virtual server. Then the SMTP virtual server performs an SMTP relay to forward it to the mail server of the destination email account.

The Microsoft Internet Information Services SMTP virtual server does not support SMTP authentication (SMTP AUTH). Therefore, on the SMTP server side that first forwarded the email from Microsoft Internet Information Services SMTP virtual server, set SMTP AUTH to invalid for the asset management server PC.

Also, if the environment is set so that the asset management system's SMTP virtual server can connect directly to an external network, the SMTP virtual server can be used as an open relay SMTP server.

To ensure that it is not used as an open relay SMTP server, go to the properties of the default SMTP virtual server, and on the connection control settings of the **Access** tab, select **Only the list** below. Do not specify anything in the list.

Note also that *open relay SMTP server* refers to the SMTP server used as the source of various types of annoying email known as spam mail, regardless of its locator's will.

5.10.2 Adding a remote domain

To add a remote domain to the SMTP virtual server and relay received email on Microsoft Internet Information Services:

1. Start the Internet Information Services 6.0 manager.

2. Expand the asset management server's default SMTP virtual server and select **Domains**.

3. From the **Action** menu, select **New**, and then **Domains**.
   New SMTP Domain Wizard appears.

4. Choose **Remote** and then click **Next**.

5. Enter the server name that has the asset manager's email account, and then click **Finish**.

   The remote domain is created.

   Sending notification emails with an Item is attached

   Enter the name of the mail server that holds the destination email account. If multiple mail servers are used, add the remote domain that they belong to. However, if the mail server's domain name is shared, a combined remote domain can be created.

   For example, if the mail servers to be added to the remote domain are `msrv01.abc.def.com`, `msrv02.abc.def.com`, and `msrv03.abc.def.com`, you can create a remote domain for the three mail servers by specifying `*.abc.def.com`.

6. Select the created remote domain and then from the **Action** menu, select **Properties**.

   The remote domain's Properties dialog box is displayed.

7. On the **General** tab, select the **Allow incoming mail to be relayed to this domain** check box.

8. Click **OK**.

   Relaying of received email to the remote domain is set and the remote domain's Properties dialog box closes.

5.11 Notes on handling the asset management database

This section provides notes on the following topics related to the asset management database:

- Characters supported by the windows that are displayed from the asset management database
- Notes on database maintenance

5.11.1 Characters supported by windows that are displayed from the asset management database

With the asset management database, character strings are adjusted to be the same length and then compared. Therefore, short character strings are padded with trailing spaces during search operations. When you enter character strings such as device numbers, you should pad short character strings with leading zeros to make the lengths of all such character strings consistent.

5.11.2 Notes on database maintenance

Hitachi recommends that you back up your asset management database periodically as a protection in the event of errors and for reconstructing the environment.

For details about database maintenance and tuning, see *Chapter 12. Maintaining the Asset Management Database*.

5.12 Procedure for creating a cluster system environment

This section describes how to create an environment for an Asset Console cluster system. It also includes notes about using a cluster system.

For details about the OSs required for the asset management servers when a cluster system is configured, see *3.4 Installation in a cluster system*.

This section describes the procedure for creating an environment for supporting failover of Asset Console.

5.12.1 Group resource creation by the cluster software's cluster administrator

Create the IP address resources, network name resources, and shared disk resources in the same group. Create these resources separately from the cluster group that is created when the cluster software is initially installed. Set the server that is to be used as the executing server as the preferential server.

For details about how to create these resources, see the documentation for the cluster software.

5.12.2 Creating a cluster environment for using Asset Console's failover function

This subsection describes how to create a cluster environment in which to use Asset Console's failover function.

1. On the executing server, install Asset Console.

   The table below describes the settings. Specify them in the order they are listed in the table.

   For items that are not included in the table, set them as you would normally.

   For details about the installation procedure, see *5.2.2 Installing Asset Console*. For details about the setup procedure, see *5.3 Setting up the asset management server*.

   Table 5–15: Asset Console settings

Program	Setup item	Setting
Asset Console installation wizard	Selection of the installation destination	Specify a local disk.
	Asset management server's virtual directory (the default is *Asset-Console-installation-folder* \wwwroot)	Specify a shared disk.
Asset Console's Setup dialog box	Service name	Specify the ODBC data source name.
	Login ID and password	Specify the same login ID and password for the executing and standby servers.
Create the database in the Database Manager dialog box	--	Execute on both the executing and standby servers.
Basic Database Settings dialog box	Port number	Specify the same port number for the executing and standby servers.

Program	Setup item	Setting
Detailed Database Settings dialog box	Storage folder name	Specify a shared disk. Use the same path for the executing and standby servers.
Detailed Database Settings dialog box	Size, automatic increase size	Specify the same size and the same automatic increase size for both executing and standby servers.
Create Data Source dialog box	Creation of data source	The data source is automatically created according to the settings when a new database is created. On the executing server, change the connection target of the data source to a logical host name (network name) after database creation is completed. (Immediately after a new database has been created, the connection target of the data source is set to `localhost`). On the standby server, create a database after installation, and then change the connection target of the data source to the same logical host name (network name) as for the executing server.

Legend:
    --: Not applicable

2. Check the operation at the executing server.

The database service might reference a file on the shared disk. Therefore, execute the following tasks when the operation completion is confirmed.

- Stop World Wide Web Publishing Service or World Wide Web Publishing.

- As a user with administrator permissions, execute `jamemb_dbstop.bat` and stop the asset management database.

  `jamemb_dbstop.bat` is stored in the following folder:

  Asset-Console-installation-folder`\exe`

3. Use Cluster Administrator to move the group.

This makes the standby server the owner.

4. At the standby server, execute environment creation step 1.

Each setting is the same. However, there is no need to create an asset management database.

5. Use Cluster Administrator to create the Microsoft Internet Information Services resource.

The tables below show the settings detail by OS.

Table 5–16: Resource settings for Microsoft Internet Information Services (under Windows Server 2003)

Item	Settings
Name	Specify a desired name.
Type	Select **Generic Script**.
Group	Set the group name created by Microsoft Cluster Service's Cluster Administrator.
Possible owners	Add two nodes (cluster servers) as **Possible owners**.
Dependencies	Set the resources for the *IP address*.
Script file path	`%systemroot%\System32\Inetsrv\Clusweb.vbs`

Table 5–17: Resource settings for Microsoft Internet Information Services (under Windows Server 2012 and Windows Server 2008)

Resource type	Input into the script file path	Dependence relationship
General-purpose script	`%systemroot%\System32\Inetsrv\Clusweb.vbs`	Sets up shared disk and client access point resources.

Note

The script file (`Clusweb.vbs`) for setting up resources in a cluster environment under Windows Server 2012 or Windows Server 2008 is not installed as a standard component. If **IIS 6 Management Compatibility** of **IIS Scripting Tools** is installed when adding the role services of Microsoft Internet Information Services 7.0, the script file is stored in the designated path (`%systemroot% \System32\Inetsrv`).

Therefore, when setting up resources in a cluster environment, install **IIS Scripting Tools** beforehand. For details about the installation method, see the documentation for Microsoft Internet Information Services.

If Microsoft Internet Information Services 7.5, 8.0, or 8.5 is used, `Clusweb.vbs` is not created even if **IIS 6 Management Compatibility** of **IIS Scripting Tools** is installed when adding the role services. Refer to the technical information (KB970759) released by Microsoft, and download and use the sample general-purpose script.

When **IIS Server Instance** is placed online by the Cluster Administrator, the service starts. To subsequently stop or start the World Wide Web Publishing Service or World Wide Web Publishing, use the Cluster Administrator to change the status to offline or online, as appropriate.

6. Create the DBMS service's resources using the Cluster Administrator.

Create the resources with the settings shown in the table below. When the status is set to online, the asset management database starts.

The tables below show the settings details by OS.

Table 5–18: Resource settings details of the database service (under Windows Server 2003)

Item	Settings
Name	Specify a desired name.
Type	Select **Generic Service**.
Group	Set the group name created by Microsoft Cluster Service's Cluster Administrator.
Possible owners	Add two nodes (cluster servers) as **Possible owners**.
Dependencies	Add each resource of the physical disk containing the name of an Asset Console installation folder to *Network name*. If an RDB server is set for the same group, also add the resource of the RDB server.
Generic service parameter	`HiRDBClusterService_AM1`
Registry copy	Do not specify.

Table 5–19: Resource settings details of the database service (under Windows Server 2012 and Windows Server 2008)

Resource type	Service name to be specified	Dependence relationship
General-purpose service	`HiRDBClusterService_AM1`	Sets up shared disk and client access point resources.

5.12.3 Specifying the Web browser's connection target

Specify the Web browser's connection target as follows:

```
http://logical-host-name-or-logical-IP-adress/jp1asset/login.htm
```

5.12.4 Settings in an environment that uses a firewall

If you are configuring Asset Console as a cluster system that uses a firewall, set the physical address as the transparent address.

5.12.5 Handling after failover

The following table describes the user's action in the event of failover.

Table 5–20: User's action after failover

Processing underway at the time of failover	Action to be taken after failover
Waiting to log in	With the Web browser, reload to display the Login window.
Logging in (no action)	Log out and then log in again.
Adding new information	Log out and search for the added information. If the addition process has not been completed, add the information again.
Referencing information	Log out, log in again, and then search for the information.
Totaling	If failover occurred during totaling, the totals result is not displayed in the list. Log in and then click the **Execute** button again or re-execute the **Notice of license excess** task.
Executing the task **Data maintenance (Asset Console)**	The task stops. Re-execute the task.

5.12.6 Notes about using a cluster system

The following notes apply when a cluster system is used:

- If acquisition of Dr. Watson's log file has been set in the OS, failover will not occur. To run Asset Console in a cluster system, specify the settings so that Dr. Watson's log file is not acquired.

- When you install or uninstall Asset Console, use the Cluster Administrator to place the service resources of World Wide Web Publishing Service offline. After that, stop World Wide Web Publishing Service from **Services**, which is displayed by selecting **Administrative Tools** from **Control Panel**. If you start the installer or uninstaller while the service resource is online, failover might occur depending on the resource settings, or the installer or uninstaller might hang up or terminate abnormally.

- If you change server setup settings, the settings specified at the executing server are not applied to the standby server, regardless of whether the service resource is online or offline. Make sure that each server has the same server settings.

- If IIS6.0 or later is used, World Wide Web Publishing Service or World Wide Web Publishing on the standby server must be stopped.

- After you have set up for a cluster system environment, do not change **Logical host name** and **Execution host name**. If these settings are changed, the cluster functions will not work normally with Asset Console. To change the logical host name and execution host name, you must re-create the asset management database. For details about how to rename logical hosts, see *E.3 Renaming the host*. For details about how to rename the executing host, see *(1)(b) How to rename the executing host*.

- When a failover occurs, World Wide Web Publishing Service (or World Wide Web Publishing) that has stopped must be started on the standby server. Therefore, World Wide Web Publishing Service on the standby server must be stopped before a failover occurs. For example, you can stop World Wide Web Publishing Service when Microsoft Internet Information Services on the standby server is offline by writing the code shown below for the `Offline` function in `Clusweb.vbs` (or `Clusweb7.vbs`). Using this setting, you can automate stoppage of World Wide Web Publishing Service.

  Coding example

```
...
 Function Offline( )
     Dim objWmiProvider
     Dim objService
     set objWmiProvider = GetObject("winmgmts:/root/cimv2")
     set objService = objWmiProvider.get("win32_service='w3svc'")
     StopWebSite()
     Offline = true
     objService.StopService()
 End Function
 ...
```

(1) How to change the logical host name and execution host name

This subsection describes how to rename the logical host and executing host.

(a) How to rename the logical host

For details about how to rename logical hosts, see *E.3 Renaming the host*.

(b) How to rename the executing host

Before you rename the executing host, stop all Asset Console services, commands, and tasks on the asset management server.

To stop Asset Console services, stop the following services in the listed order:

1. World Wide Web Publishing Service or World Wide Web Publishing
2. Asset Console commands and tasks

To run Asset Console after having changed the executing host name, start the services in the reverse of the order in which they were stopped.

To rename the executing host:

1. Stop the database.
   For details about how to stop the database, see *E.4(2) Stopping the database*.

2. Use a text editor to open the `pdutsys` file that is stored in *Asset-Console-installation-folder*`\aimdb\conf`.

3. In the `pdutsys` file, change *host-name* in `set pd_hostname=`*host-name*.

4. Rename the OS host.

5. Restart the OS.

5.13 Suppressing operations on asset information from JP1/IT Desktop Management 2 operation windows

When you manage assets, you cannot use both Asset Console and JP1/IT Desktop Management 2 operation windows.

To maintain integrity of asset information, determine whether to use Asset Console for asset management when establishing a JP1/IT Desktop Management 2 system. If you choose asset management using Asset Console, you must suppress operations on asset information from JP1/IT Desktop Management 2 operation windows. For details about the suppression procedure, see *3.9 Procedure for suppressing asset information registration and modification* in the *JP1 Version 10 Job Management Partner 1/IT Desktop Management 2 Configuration Guide*.

6

Achieving Asset Management by Linking to Other Products

This chapter describes the asset management jobs that can be performed by linking to other products, and how to implement such jobs.

6.1 Settings to link to JP1/IM

The figure below shows the procedure for checking problems from Asset Console, based on JP1 event information and SNMP trap information that you obtain by linking Asset Console to JP1/IM. For details about the required programs, see *4.2.2 System configuration linked to JP1/IM - Manager*.

Figure 6–1: Procedure for checking problems from Asset Console
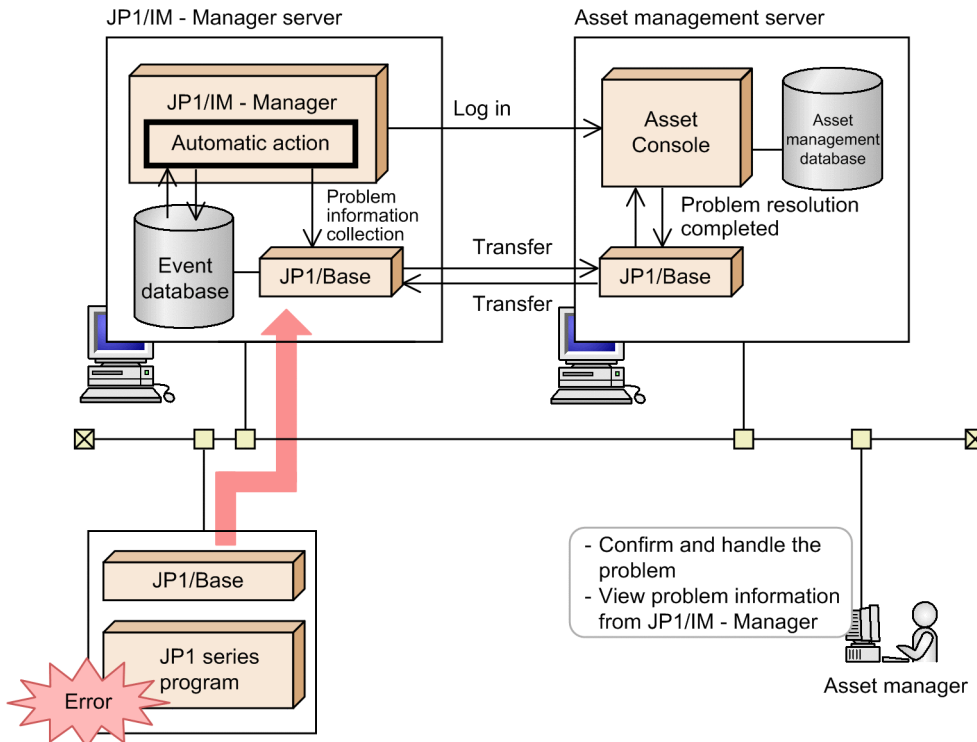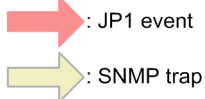
To link to JP1/IM - Manager:

1. Set the JP1/IM - Manager automatic action setting, which will result in automatic collection of JP1 events and automatic notification of resolution completion.

   When problem information is collected at a JP1/IM - Manager server, the automatic action facility notifies the asset management server via JP1/Base (automatic collection of JP1 events). When problem resolution completion is registered by Asset Console, the JP1 event that notifies of the resolution completion sends it to the JP1/IM - Manager server via JP1/Base. Then the automatic action function causes the JP1/IM - Manager problem information status to be updated (resolution completion notification).

   For details about setting automatic collection of JP1 events, see *6.1.1(1) Setting automatic collection of JP1 events*. For details about setting resolution completion notification, see *6.1.1(2) Setting error completion notification*.

   For details about the automatic action function, see the *JP1/Integrated Management - Manager Overview and System Design Guide*.

2. Select settings to forward JP1 events.

To forward a JP1 event from Asset Console, you must specify environment settings so that JP1/Base automatically forwards JP1 events to other event servers. For details about automatic forwarding of JP1 events, see *6.1.2 Settings to forward JP1 events*.

3. Change issued JP1 events.

The event generation definition file is used to define the types of JP1 events to be issued from Asset Console. By default, all JP1 events are issued. For details about defining the event generation definition file, see *6.1.3 Changing issued JP1 events*.

4. Set automatic login.

In the **Group and User** job menu for Asset Console, set a password in advance for the user provided for linkage. This will let you log in automatically without entering a user ID and password when viewing the Problem Details dialog box of Asset Console from the Event Console window.

The user ID `JP1_IM` and the user name `Event Manager` are provided for linkage with JP1/IM.

For details on setting a password, see *4.1 Changing user and group information (Group and User)* in the *Administration Guide*.

Deleting automatic login settings

Once a password has been set, the automatic login setting can be deleted either by deleting the related user or by using the `jamimport` (import) command to change the password to a blank password.

For details about importing using the `jamimport` command, see *7.1.1(3) Flow of import using the jamimport command*.

6.1.1 Setting automatic action by JP1/IM - Manager

This section explains the settings for automatic collection by JP1/IM - Manager of JP1 events issued by Asset Console. It also explains the settings for notifying JP1/IM -Manager of problem resolution by Asset Console.

(1) Setting automatic collection of JP1 events

The figure below shows a specification example for notifying Asset Console of only emergencies and warnings from the information displayed on the JP1/IM side.

The following describes the values to be specified in JP1/IM - Manager's Action Parameter Detailed Definitions dialog box.

- Leave the **Parameter group** settings unchanged.

- For **Action name**, specify a desired name.

- For **Comment**, enter a comment as necessary.

- **Action Condition** tab (**Condition**)

  - For **Event ID**, select **All IDs**.

  - In **Event conditions**, click the **Add button**, and select **Importance**. Then select the **Emergency** and **Warning** check boxes in **Specify directly**, and click the **Apply** button.

- **Action Condition** tab (**Action Definition**)

  - For **Execution user name**, specify the name of the user who executes actions.

  - For **Target host**, specify the name of the host that executes actions.

- For **Action**, specify `jamTakeIMEvent.bat "$EVDATE" "$EVTIME" "$EVUSR" "$EVHOST"` `"$EVIPADDR" "$EVSEQNO" "$EVMSG" "$EVSEV" "$ACTHOST" "$EV"OBJECT_TYPE""` `"$EV"SNMP_SOURCE""`.

  Do not express a file name as a path.
  - Leave **Environment variable file** blank.
- **Execution monitoring** tab

  Specify the settings as needed.

(2) Setting error completion notification

When you register a resolution to a problem in Asset Console, you must set the JP1/IM - Manager `jcochstat` command for automatic notification to notify JP1/IM - Manager that the problem has been resolved.

The following shows the value specified in the JP1/IM - Manager Action Parameter Detailed Definitions dialog box.

- Specify the **Parameter group** settings different from the setting in (1).
- For **Action name**, specify a desired name.
- For **Comment**, enter a comment as necessary.

- **Action Condition** tab (**Condition**)
  - Select **Specify ID** for **Event ID**, and specify `00005581`.
  - Leave **Event conditions** blank.
- **Action Condition** tab(**Action Definition**)
  - Specify the user name to execute actions in **Execution user name**.
  - Specify the host name to execute actions in **Target host**.
  - Specify the full path to the `jcochstat` command in **Action** and `-n "$EV"EVENT_SEQNO"" -k` `PROCESSED`.
  - Leave **Environment variable file** blank.
- **Execution monitoring** tab

  Specify the settings as needed.

To reflect the JP1 event or SNMP trap resolution status changed by Asset Console, select the **Resolution status change approval** check box for the `jcochstat` command on the **Communication** tab of the System Environment Settings dialog box.

6.1.2 Settings to forward JP1 events

In order for JP1 events to be forwarded from Asset Console, the environment setting must be set for JP1/Base to automatically forward JP1 events to other event servers.

For details about JP1 event forwarding and definition information distribution, see the *JP1/Base Administration Guide*.

6.1.3 Changing issued JP1 events

Define the JP1 events to be issued from Asset Console in the event issuance definition file (`acevent.conf`). By default, all JP1 events are issued.

The `acevent.conf` file is stored at *Asset-Console-installation-folder*`\conf\event`.

Shown below is an example of the contents of `acevent.conf`, followed by the format for defining issued JP1 events:

```
[EventID]
00005531=1
00005532=1
00005533=1
00005541=1
00005542=1
00005543=1
00005581=1
00005582=0
00005583=0
```

Define the `[EventID]` section in the format (*EventID*=1 (or 0)).

For each event ID, specify `1` if the JP1 event is to be issued or `0` if the JP1 event is not to be issued. For details about the JP1 event IDs, see *13.2 Details of JP1 events issued from Asset Console*.

6.1.4 Displaying asset information from JP1/IM

You can view details by displaying the Problem Details dialog box corresponding to the selected JP1 event from the JP1/IM - Manager Event Console window.

To display the Problem Details dialog box:

1. Select the JP1 event issued by Asset Console in the JP1/IM - Manager Event Console window.

2. Display the event details window.

3. Click the **Monitor** button.
   The Problem Details dialog box is displayed.

For information about using the Event Console window, see the manual *JP1/Integrated Management - Manager GUI Reference*.

6.2 Settings for linking to JP1/IM - Service Support

To view device information managed by Asset Console from JP1/IM - Service Support, log in to Asset Console.

If you have set a password to allow you to handle linkage in the Asset Console's **Group and User** job menu, you can automatically log in without the need of specifying your user ID and password.

User ID `JP1_IM_SS` and user name `Event Manager` are provided for linkage to JP1/IM - Service Support.

For details about how to set the users and passwords provided for linkage to individual products, see *4.1 Changing user and group information (Group and User)* in the *Administration Guide*.

Canceling the automatic login settings
> To cancel the automatic login settings after you have set a password, delete the specified password. Alternately, you can use the `jamimport` (import) command to delete the password.
>
> For details about import using the `jamimport` command, see *7.1.1(3) Flow of import using the jamimport command*.

6.2.1 Displaying asset information from JP1/IM - Service Support

When you view Item information in JP1/IM - Service Support, you can also view device information managed by Asset Console.

To view device information in the Device Details dialog box (which is displayed from the View Item window):

1. In the Main window (Item list) window, double-click an Item whose detailed information you want to display.
   The View Item window is displayed. You can also display the View Item window by clicking the icon for opening the View Item window from the Item preview.

2. Click the anchor for the information registered in **Device information**.
   The Device Details dialog box of Asset Console is displayed. In this dialog box, you can view information, such as device type, user, group, and maintenance log.

6.3 Settings for linking to EUR

This section describes the settings for linking to EUR, outputting forms to PDF files, and displaying and printing the contents in the Web browser. For details about the required programs, see *4.2.4 System configuration linked to EUR*.

1. Set to show the button used for viewing and printing PDF files.
   In the Server Setup dialog box, for the **Show PDF button** item in **Basic Information**, select **Show**.
   For details about how to set information in the Server Setup dialog box, see *5.3.4 Setting Basic Information*.

6.3.1 Displaying and printing PDF files

To display and print PDF files from Asset Console:

1. Click the **PDF** button in an operation window.
   Adobe Reader displays the PDF file.

2. Print a PDF file by using Adobe Reader's print function.
   The displayed PDF file is printed.

(1) Notes when the settings are changed in Customize Managed Items and Customize Job Windows

Items output to a form might have only header lines and their data lines might be output as blank. This might occur if you change the display names of the corresponding items in **Customize Managed Items**, or if you change the settings of whether to show or hide these items in **Customize Job Windows**. In such a case, the changed display names and display order are also not applied.

In order to apply changes in **Customize Managed Items** and **Customize Job Windows**, you need to edit the form and CSV file in EUR.

To edit forms and CSV files:

1. Copy the CSV file corresponding to a form to the EUR folder.
   When you edit a form in EUR, a CSV file is required as mapping data or user-defined data.
   Before editing a form, copy the CSV file corresponding to that form to the following folder:
   Copy source
   Asset-Console-installation-folder\eur
   Copy destination
   EUR-installation-folder\SAMPLE\Reports

2. Modify the CSV file according to the setting change in **Customize Managed Items** and **Customize Job Windows**.
   Modify the CSV file stored in step 1, according to the settings in **Customize Managed Items** and **Customize Job Windows**.
   If display names are changed in **Customize Managed Items**, modify the header lines to match the changed display names.
   If the settings of show and hide are changed in **Customize Job Windows**, add or delete columns corresponding to the CSV file.

3. Modify the form according to the setting change in **Customize Managed Items** and **Customize Job Windows**.

Change the display names of the relevant form to match the settings in **Customize Managed Items**. The corresponding items must have the settings displayed in **Customize Job Windows**.

In addition, add or delete items in the form to match the settings in **Customize Job Windows**.

The forms are stored at *Asset-Console-installation-folder*\eur.

The following table lists the file names of the forms used for individual windows, and the corresponding CSV file names.

Table 6–1: Names of the form and CSV files

Window	Form file name	CSV file name
Device List	PossessionApparatusList.fms	PossessionApparatusList.csv
Contract List	ContractInformationList.fms	ContractInformationList.csv
Problem Details	MaintenancePDFList.fms	MaintenancePDFList.csv
Owned License List - by Used	MachineDetailPossLic.fms	MachineDetailPossLic.csv MachineDetailPossLic2.csv
Excess License List - by Used	MachineDetailExcessLic.fms	MachineDetailExcessLic.csv MachineDetailExcessLic2.csv
Unauthorized Usage List - by Used	MachineDetailUnPossLic.fms	MachineDetailUnPossLic.csv MachineDetailUnPossLic2.csv
Unknown Usage List - by Used	MachineDetailUnRegSoft.fms	MachineDetailUnRegSoft.csv MachineDetailUnRegSoft2.csv
Software List	KeepSoftwareList.fms	KeepSoftwareList.csv
Software Details	SoftwareDetail.fms	SoftwareDetail.csv SoftwareKeyInfo.csv
Volume License List	VolumeContractInformationList.fms	VolumeContractInformationList.csv
License Details	VolumeContractInformation.fms	VolumeContractInformation.csv VolumeContractInformation2.csv
Maintenance Log Details	MaintenancePDFList.fms	MaintenancePDFList.csv

7

Registration and Output of CSV Data

This chapter explains how to register CSV data into the asset management database and how to output asset information from the asset management database.

When executing an Asset Console command in a 64-bit OS, you must execute it using the 32-bit command prompt. For the execution procedure, see *F. 2 Notes on executing commands and tasks in a 64-bit OS*.

7.1 Registering CSV data (importing)

This section explains how to import information (import asset information from CSV files in a batch operation).

There are three ways to perform importing:

- From the **Import** job menu
- Using `jamCsvImport.bat`
- Using the `jamimport` command

You can use this function to batch-register a large amount of information in the asset management database. You may need to do this when information other than that collected by JP1/IT Desktop Management 2 - Manager is to be registered. You can also use this function to update or delete registration information in the asset management database in a batch operation.

7.1.1 Import flow

This subsection describes how to import information.

(1) Flow of import from the Import job menu

This section explains the workflow when you use the **Import** job menu.

To import from the **Import** job menu:

1. Create the CSV file to be imported.

   Create the CSV file that contains the information to be imported into the asset management database. The first line of each CSV file is a title line. If an exported CSV file is to be used as a file for import, the data must have been exported from the same version of Asset Console.

   For the items to be imported, see *14.4 Items to be imported or exported using a job menu*.

2. Select the **Import** job menu.

   The Import window is displayed.

3. Create the import conditions.

   Select the type of information to be imported (such as **Device information**). Then, for the items managed by the Asset Console, assign the corresponding items in the CSV file, set the constants, and create the conditions.

4. Register the import conditions.

   Specify any name, and register the conditions.

5. Specify the conditions, and execute the import.

   If there is an error in creating conditions, a warning message is displayed. Revise the conditions as necessary to correct the error.

For the procedure for importing information using the **Import** job menu, see *4.10 Changing asset information in a batch operation (Import)* in the *Administration Guide*.

(2) Flow of import using jamCsvImport.bat

This section explains the workflow when you execute `jamCsvImport.bat` for import.

To import using `jamCsvImport.bat`:

1. Create the CSV file to be imported.

   Create the CSV file that contains the information to be imported into the asset management database. The first line of each CSV file is a title line. The items to be imported are the same as those that are imported using the **Import** job menu. For the items to be imported, see *14.4 Items to be imported or exported using a job menu*.

2. Execute `jamCsvImport.bat` from the command line of the asset management server.

   Import executes in accordance with the specified conditions. If there is an error, an error message is displayed.

   For details about executing `jamCsvImport.bat`, see *7.1.3 Executing jamCsvImport.bat*.

Notes

- When importing information by specifying a customized asset type, be sure to use the data exported by the same version of Asset Console.

- If the number of items managed by the asset management database increases as a result of an Asset Console version upgrade, the number of items to be imported or exported might also increase. Consequently, it might not be possible to import, under the specified condition, data that was exported before the version upgrade.

  When you import data that was exported before the upgrade, specify the properties added after the upgrade in the CSV file.

(3) Flow of import using the jamimport command

Notes

Before executing the `jamimport` command, stop all the Asset Console services, commands, and tasks in the following order:

1. World Wide Web Publishing Service or World Wide Web Publishing

2. Asset Console commands and tasks

To run Asset Console after having executed the `jamimport` command, start the services in the reverse of the order in which they were stopped.

This section explains the workflow when you use the `jamimport` command for import.

To import using the `jamimport` command:

1. Check the information to be imported and the corresponding class.

   Check to determine the class to which the information to be imported into the asset management database belongs. Also check to determine whether there are other classes that should be imported at the same time.

   For details about the classes corresponding to the information to be imported and the relationships among classes, see *7.1.4 Correspondence between information to be imported using the jamimport command and classes*.

2. Create the CSV files to be imported.

   Create CSV files containing the information to be imported into the asset management database as formatted files (data files). There must be a separate data file for each class to be imported.

   When you create data files, including for registering new information, it is useful to have CSV files into which the corresponding classes have been exported.

For details about the export procedure, see *7.2 Outputting CSV data (exporting)*. For details about creating data files, see *7.1.6 Creating data files*.

3. Create a data files definition file.

To import multiple data files in a batch operation, create a data files definition file that defines the names of the data files to be imported. If you are importing only one data file, there is no need to create a data files definition file.

For details about creating a data files definition file, see *7.1.7 Creating a data files definition file*.

4. Execute the `jamimport` command.

From the asset management server's command line, execute the `jamimport` command.

For details about the `jamimport` command, see *7.1.8 Executing the jamimport (import) command*.

When the `jamimport` command is executed, the asset information is registered from the CSV files into the asset management database. If there are multiple data files, the asset information is imported in the order specified in the data files definition file.

When importing association classes, you must first import the object classes to be associated.

When there is invalid data

When a data file is imported, the system checks the item title line. If an error is detected, such as the item title line does not match the asset management database table, the import operation is terminated at that point.

If there is no error in the item title line, the data is imported one line at a time according to the operation code specified in the data line. If there is invalid data, the import operation continues, but the erroneous line is not imported.

7.1.2 Notes on the import operation

This section provides notes about creating CSV files and specifying import conditions.

(1) Non-editable properties

The **Update indicator** managed item (`UpdateInd` property) is information that is used by the asset management system, so do not edit it. When information loaded from JP1/IT Desktop Management 2 - Manager is imported using the `jamimport` command for updating, the value for **Update indicator** must be specified correctly. If an invalid value is specified, the information might be deleted the next time information is loaded from JP1/IT Desktop Management 2 - Manager.

To avoid such a situation, it is recommended that when loading management information from JP1/IT Desktop Management 2 - Manager after executing an import, all information be loaded irrespective of the update date.

(2) Importing classes with ID

When importing other than exported data, to import a class with an ID, such as **Asset ID** or **Contract ID**, specify the ID in the range 10001 to 1000000000. Each specified ID must be unique. If a specified ID is not within this range, it might duplicate a value assigned automatically by Asset Console, thereby resulting in an error.

Specify an ID within the range from 10001 to 1000000000 for the following properties:

- `IPGroupID` (IP group ID) of `AddressGroup` (IP group information) class

- `AssetID` (asset ID) of `AssetInfo` (asset information) class

- `AssetBranchNo` (branch number) of `AssetInfo` (asset information) class

- `ContractID` (contract ID) of `Contract` (contract information) class
- `DivisionID` (division ID) of `DivisionInfo` (division information) class
- `InstalledID` (installed software ID) of `InstalledList` (installed software list) class
- `LicenseID` (license ID) of `LicenseInfo` (license information) class
- `CatalogID` (catalog ID) of `MachineCatalog` (device catalog) class
- `MaintenanceID` (maintenance log ID) of `Maintenance` (maintenance log) class
- `NetworkID` (network information ID) of `NetworkInfo` (network information) class
- `PatchConditionID` (patch ID) of `PatchConditionInfo` (conditions of search device) class
- `ParentAssetID` (parent asset ID) of `RelationAssetInfo` (related asset information) class
- `ChildAssetID` (child asset ID) of `RelationAssetInfo` (related asset information) class
- `KeyID` (key ID) of `SoftwareKeyInfo` (software key information) class
- `SoftwareListID` (software list ID) of `SoftwareList` (software list) class
- `VolumeID` (volume contract ID) of `VolumeContract` (volume contract information) class

(3) Importing properties that can be specified using only alphanumeric characters

To import the following properties, their values must be specified using alphanumeric characters:

- `DivisionID` (division ID) of `DivisionInfo` (division information) class
- `GroupID` (group ID) of `GroupInfo` (group information) class
- `UpperLinkID` (upper group ID) of `GroupInfo` (group information) class
- `LocationID` (location ID) of `LocationInfo` (location information) class
- `UpperLinkID` (upper location ID) of `LocationInfo` (location information) class
- `RoleID` (role ID) of `RoleInfo` (role information) class
- `JobRoleID` (official authority ID) of `JobRoleInfo` (official authority) class
- `UserID` (user ID) of `UserInfo` (user information) class

(4) Specifying the managed items (properties) for user extension

For some managed items, items have been prepared for adding as needed. These are items (properties) for which the name includes `UserProperty`.

For such a user extension item, add a managed item in the Customize window and then specify the value to be managed.

For details about adding managed items, see *9.2 Changing managed items (Customize Managed Items)*.

(5) Importing object classes that are associated by the matching key property

When importing using the `jamimport` command, and when importing object classes that are associated by the matching key property, make sure that all have the same keyproperty value.

For an object class that is always paired with asset information, such as hardware information, make sure that part of the hardware information and asset information is imported.

(6) Update control during import operation

Class properties include information (**Update control**) that determines whether the update operation is to be allowed when an attempt is made to update the same information more than once.

If exported data is imported and the same information had been updated after the export operation, the value of this **Update control** has changed. Therefore, the data cannot be imported with the value used during the export operation.

To overwrite the data to be imported regardless of whether any changes have been made since the export operation, delete the **Update control** column (`UpdateTime`) and then import the data.

(7) Specification of CreationClassName

If you use the `jamimport` command to import data, make sure that you specify the object class name in the `CreationClassName` property of each object class.

(8) Using Microsoft Excel for editing CSV files

When editing CSV files to be registered in Asset Console, if you use Microsoft Excel to open the files directly, the beginning 0 is automatically deleted from numerical values that begin with 0, such as codes and IDs. As a result, these values might be updated into those different from the original. Therefore, when using Microsoft Excel, use the **Import Text File** command to set the column data format to **Text**, and then load and edit the file.

7.1.3 Executing jamCsvImport.bat

This subsection gives the function, format, options, return value, notes about command execution, and an execution example of `jamCsvImport.bat`, which executes the import operation equivalent to the **Import** job menu from the command line.

`jamCsvImport.bat` is stored in the following folder:

Asset-Console-installation-folder`\exe`

(1) Function

This command registers, updates, and deletes CSV file data from the asset management database. The CSV file information is registered in a batch operation into the asset management database, based on the conditions. For details about how to create conditions, see *4.10.2 Creating import conditions* in the *Administration Guide*.

When an asset type is specified, information is registered in a batch operation into the asset management database based on the default settings. For details about the items imported based on the default settings, see *14.4 Items to be imported or exported using a job menu*.

(2) Format

```
jamCsvImport.bat "CSV-file-path"  " { -c conditions-name [-o processing-
format] | -a asset-type -o processing-format } "
```

(3) Options

CSV-file-path

> Specifies the CSV file to import, in terms of the file path. This option is mandatory.

`-c` *conditions-name*

> Specifies the name of the import conditions saved from the Import window.

`-o` *processing-format*

> Specifies a code indicating the import processing format, as shown in the table below. This option can be omitted when a conditions name is specified. This option must be specified when an asset type is specified.

Processing format	Meaning
001	Add
002	Update
003	Add update
004	Delete

`-a` *asset-type*

> Specifies a code indicating the type of asset information to be imported, as shown in the table below. When this option is specified, import adheres to the default settings.

Table 7–1: Asset type codes

Code	Meaning
001	Device information
002	Installed software information
003	Installed software list
004	Software information
005	Software list
006	Group information
007	User information
008	Location information
009	Maintenance contract information
010	Rental contract information
011	Lease contract information
012	Volume contract information
013	IP group information
014	Device catalog information
015	User definition (user report)
016	User definition (form)
017	Customize (Acquiring ITDM2 management information)
018	User definition (import/export)
019	Problems

Code	Meaning
020	Assigned license information
021	Patches
022	Virus definition
023	User definition (Item definition)
024	User definition (contract history)
025	Related asset information
026	Division information
027	Division assignment

(4) Return value

The following table shows the return values.

Return value	Meaning
0	Normal end.
1	No data.
2 or more	Error occurred during processing.

(5) Notes on command execution

A user with administrator permissions must execute `jamCsvImport.bat`.

(6) Example

```
jamCsvImport.bat "c:\temp\Hardware.csv" -a 001 -o 001
```

If the file path is omitted during command execution, *Asset-Console-installation-folder*\scriptwork becomes the current working directory.

7.1.4 Correspondence between information to be imported using the jamimport command and classes

A CSV file to be imported by the `jamimport` command is created for each class. Therefore, before creating a CSV file, check its relationship with classes and determine the class to be imported to register desired information.

With some asset information, such as hardware information, you need to import multiple classes before you can use the registered information with asset management jobs.

For details on class relationships managed by the asset management database, see *14.1.3 Relationships between classes*.

When an association class must be imported

To import object classes associated with different key properties, you must also import the association class that associates the object classes.

When there is a weak association with an object class

> If the object class to be imported has a weak association with `AssetInfo`, information about `AssetInfo` must have been registered. If `AssetInfo` is deleted, all object classes that have weak association with `AssetInfo` are also deleted.
>
> The same applies to object classes that have weak association with `SoftwareInfo`, `InstalledInfo`, `SoftwareList`, `Contract`, or `ContractHistory`.

The following sections describe the information that needs to be imported when multiple classes are imported using the `jamimport` command. Notes about creating CSV files are also provided.

(1) Importing devices and information about devices

The table below describes the classes that need to be imported in order to add, update, or delete device information.

Table 7–2: Classes to be imported in order to register device information

Class that needs to be imported	Associated class	Description
AssetInfo	GroupInfo#	To specify information about a group, specify the same value as the property corresponding to the `GroupInfo` object class.
	LocationInfo#	To specify information about a location, specify the same value as the property corresponding to the `LocationInfo` object class.
	UserInfo#	To specify information about a user, specify the same value as the property corresponding to the `UserInfo` object class.
HardwareInfo	AssetInfo	For `AssetID`, specify the same ID as for the corresponding `AssetInfo` object class.

\#

> For a group, location, or user, the corresponding name is set by the **Data maintenance** task if `GroupID`, `LocationID`, or `UserID` is specified correctly.
>
> However, if the IDs specified for `GroupID` and `LocationID` are not in the corresponding classes, the name is not displayed in the window.

Notes

- To delete information about a device, Hitachi recommends that you change the value of the `AssetStatus` property of `AssetInfo` to `999 (Erase)` and then use the **Data maintenance** task to delete it. When deleting information during an import operation, make sure that `AssetInfo` is also deleted, not just `HardwareInfo`.

- The `IPAddress` of the `HardwareInfo` is not the IP address used as the IP address management information.

(a) Importing information about the software installed on a device

The table below describes the classes that need to be imported in order to add, update, or delete information about software installed on a device.

You can register installed software information for a device whose device type is *computing* (code: `100` to `198`).

Table 7–3: Classes to be imported in order to register installed software information

Class that needs to be imported	Associated class	Description
InstalledInfo	AssetInfo	For `AssetID`, specify the same ID as for the corresponding `AssetInfo` object class.

Class that needs to be imported	Associated class	Description
InstalledInfo	InstalledList	For InstalledID, specify the same ID as for the corresponding InstalledList object class.

(b) Importing network information for a device

The table below describes the classes that need to be imported in order to add, update, or delete network information for a device.

You can register network information for a device whose device type is *computing* (code: 100 to 198) or *networking* (code: 300 to 398).

Table 7–4: Classes to be imported in order to register network information

Class that needs to be imported	Associated class	Description
NetworkInfo	AssetInfo	For AssetID, specify the same ID as for the corresponding AssetInfo object class.
	IPAddress	To specify IPAddress, the IP address to be specified must have been registered in the IPAddress object class. However, if you use the DHCP server, do not import IPAddress.
	IPAddressLink	If you do not set DHCP server name, you need to register the association with the IPAddress object class at the corresponding IP address.

Notes

- To update or delete the value of the IPAddress property of NetworkInfo, also update or delete IPAddressLink. If you update or delete the value of IPAddress without deleting IPAddressLink, the delete IP address is treated as being in use.

- If a device using an IP address is deleted, delete only IPAddressLink.

  The IP addresses beyond the range defined in the AddressGroup object class are deleted by the **Data maintenance** task unless they are in use by a device.

(2) Importing information about software and licenses

The table below describes the classes that need to be imported in order to add, update, or delete the information about software.

Table 7–5: Classes to be imported in order to register information about software

Class that needs to be imported	Associated class	Description
AssetInfo	GroupInfo[#]	To specify information about a group, specify the same value as the property corresponding to the GroupInfo object class.
SoftwareInfo	AssetInfo	For AssetID, specify the same ID as for the corresponding AssetInfo object class.
	SoftwareList	For SoftwareListID, specify the same ID as for the SoftwareList object class.

#

  For a group and user name, the corresponding name is set by the **Data maintenance** task if GroupID is specified correctly.

However, if the ID specified for `GroupID` is not in the corresponding class, the name is not displayed in the window.

Notes

- In the case of a software with unlimited licenses, specify nothing for `NumberOFLicense`. If specified, the software is registered as an asset with the specified number of licenses owned.

- To delete information about software, Hitachi recommends that you set the value of the `SoftwareStatus` property of `AssetInfo` to `999 (Erase)` and then delete it using the **Data maintenance** task.

  When deleting information during an import operation, make sure that `AssetInfo` is also deleted, not just `SoftwareInfo`.

(a) Importing software key information

The table below describes the classes that need to be imported in order to add, update, or delete software key information.

Table 7–6: Classes to be imported in order to register software key information

Class that needs to be imported	Associated class	Description
SoftwareKeyInfo	AssetInfo	For `AssetID`, specify the same ID as for the corresponding `AssetInfo` object class.
	SoftwareList	For `SoftwareListID`, specify the same ID as for the `SoftwareList` object class.
	MachinePermitLink	To register the target of an install license, you need to register its association with the target `AssetInfo` object class.
	UserPermitLink	To register the target of a user license, you need to register its association with the target `UserInfo` object class.

(b) Importing license information

The table below describes the classes that need to be imported in order to add, update, or delete license information.

Table 7–7: Classes to be imported in order to register license information

Class that needs to be imported	Associated class	Description
LicenseInfo	SoftwareList	For `SoftwareListID`, specify the same ID as for the `SoftwareList` object class.

(c) Importing volume contract information

The table below describes the classes that need to be imported in order to add, update, or delete volume contract information.

Table 7–8: Classes to be imported in order to register volume contract information

Class that needs to be imported	Associated class	Description
VolumeContract	VolumeContractLink	To register an asset that is subject to volume license, you need to register its association with the target `AssetInfo` object class.

Note

  If you delete volume contract information, Hitachi recommends that you change the value of the
  `ContractStatus` property of `VolumeContract` to `Erase (999)` and use the **Data maintenance** task to
  delete it.

(3) Importing contract information

The table below describes the classes that need to be imported in order to add, update, or delete contract information.

Table 7–9: Classes to be imported in order to register contract information

Class that needs to be imported	Associated class	Description
Contract	ContractLeaseLink	To register an asset subject to lease contract, you need to register its association with the target `AssetInfo` object class.
	ContractMaintenanceLink	To register an asset subject to maintenance contract, you need to register its association with the target `AssetInfo` object class.
	ContractRentalLink	To register an asset subject to rental contract, you need to register its association with the target `AssetInfo` object class.

Note

  To delete information about a contract, Hitachi recommends that you change the value of the `ContractStatus`
  property of `Contract` to `999 (Erase)` and then use the **Data maintenance task** to delete it.

(4) Importing IP group information

The table below describes the classes that need to be imported in order to add, update, or delete IP group information.

Table 7–10: Classes to be imported in order to register IP group information

Class that needs to be imported	Associated class	Description
AddressGroup	IPAddress	To define a new group or change a range, you need to register all IP addresses in the range defined as group in the `IPAddress` object class.

Note

  During an import operation, do not delete any IP group information. If deleted, the IP addresses in use can no longer
  be managed correctly.

(5) Importing group information

The table below describes the classes that need to be imported in order to register group information.

Table 7–11: Classes to be imported in order to register group information

Class that needs to be imported	Associated class	Description
GroupInfo	UserInfo	To register a user belonging to a group, import the `UserInfo` object class.

Class that needs to be imported	Associated class	Description
GroupInfo	MemberLink	To register a user belonging to each group, you need to register its association with the UserInfo object class.

(6) Importing user information

The table below describes the classes that need to be imported in order to register user information.

Table 7–12: Classes to be imported in order to register user information

Class that needs to be imported	Associated class	Description
UserInfo	GroupInfo	To add a user's group, import the GroupInfo object class.
	MemberLink	To register a new user or change user's group, you need to register its association with the GroupInfo object class. If a user is not associated with a group, the imported user will not be displayed in windows.
	RoleInfo	To set a role for a user, import the RoleInfo object class. A user with no role set cannot log in to Asset Consol.
	AuthorityLink	To set a role for a user, you need to register its association with the RoleInfo object class.

Note

Do not delete a user whose UserID is admin and that is used in the AssetInfo object class.

(7) Importing role information

The table below describes the classes that need to be imported in order to register role information.

Table 7–13: Classes to be imported in order to register role information

Class that needs to be imported	Associated class	Description
RoleInfo	UserInfo	To set a role for a user, import the UserInfo object class. A user with no role set cannot log in to Asset Console.
	AuthorityLink	To set a role for a user, you need to register its association with the UserInfo object class.

Notes

- To revoke the role set for a user, delete the AuthorityLink association class.

- Do not delete a role whose RoleID is administrator.

(8) Importing patch information

The table below describes the classes that need to be imported in order to register search conditions for devices needing patches.

Table 7–14: Classes to be imported in order to register patch information

Class that needs to be imported	Associated class	Description
PatchInfo	AssetInfo	For AssetID, specify the same ID as for the corresponding object class AssetInfo.
	PatchList	For PatchID, specify the same ID as for the corresponding patch list.

(9) Importing virus definition information

The table below describes the classes that need to be imported in order to register search conditions for virus definition information.

Table 7–15: Classes to be imported in order to register virus definition information

Class that needs to be imported	Associated class	Description
InstalledVirusDefInfo	AssetInfo	For AssetID, specify the same ID as for the corresponding object class AssetInfo.

(10) Importing a maintenance log

The table below describes the classes that need to be imported in order to register a maintenance log.

Table 7–16: Classes to be imported in order to register a maintenance log

Class that needs to be imported	Associated class	Description
Maintenance	AssetInfo	To associate a maintenance log with an asset and register it, specify the same ID as for the AssetInfo object class that corresponds to AssetID. To not associate a maintenance log with any asset, this class is not needed.

(11) Importing a transfer log

The table below describes the classes that need to be imported in order to register a transfer log.

Table 7–17: Classes to be imported in order to register a transfer log

Class that needs to be imported	Associated class	Description
AssetUpdateRecord	AssetInfo	For AssetID, specify the same ID as for the corresponding AssetInfo object class.

Note

For the group, location, and user names, the specified values are registered, regardless of whether they exist in the GroupInfo, LocationInfo, and UserInfo object classes.

(12) Importing contract history

The table below describes the classes that need to be imported to register contract history.

Table 7–18: Classes to be imported to register contract history

Class that needs to be imported	Associated class	Description
ContractHistory	Contract	For ContractID, specify the same ID as for the corresponding Contract object class.

(13) Importing contract asset history

The table below describes the classes that need to be imported to register contract asset history.

Table 7–19: Classes to be imported to register contract asset history

Class that needs to be imported	Associated class	Description
ContractAssetHistory	ContractHistory	For ContractID, specify the same ID as for the corresponding ContractHistory object class.
	AssetInfo	For AssetID, specify the same ID as for the corresponding AssetInfo object class.

(14) Importing official authority information

The table below describes the classes that need to be imported in order to register official authority information.

Table 7–20: Classes to be imported in order to register official authority information

Class that needs to be imported	Associated class	Description
JobRoleInfo	UserInfo	When registering a user with authority, import the object class UserInfo.
	JobRoleLink	When registering a user with authority, the relationship with the object class UserInfo must be registered.

Note
   Before deleting official authority information, confirm that there are no Items that use that official authority.

(15) Importing related asset information

The following table describes the classes that must be imported in order to register related asset information.

Table 7–21: Classes to be imported in order to register related asset information

Class that needs to be imported	Associated class	Description
RelationAssetInfo	AssetInfo	For ParentAssetID and ChildAssetID, specify the same ID as for the corresponding object class AssetInfo.

Note
   For the processing method, specify **Add** or **Delete**. You cannot specify **Update** or **Add/update**.

(16) Importing division information

The following table describes the classes that must be imported in order to register division information.

Table 7–22: Classes to be imported in order to register division information

Class that needs to be imported	Associated class	Description
DivisionInfo	GroupInfo	For DivisionID, specify the same ID as for the corresponding object class GroupInfo.
	DivisionLink	For DivisionID, specify the same ID as for the corresponding object class DivisionInfo. For GroupID, specify the same ID as for the corresponding object class GroupInfo.
	DivisionUserLink	For DivisionID, specify the same ID as for the corresponding object class DivisionInfo. For UserID, specify the same ID as for the corresponding object class UserInfo.

Note

For the processing method, specify **Add** or **Delete**. You cannot specify **Update** or **Add/update**.

7.1.5 File format for importing with the jamimport command

This section describes the formats of data files and data files definition files.

(1) Data files

To import into the asset management database using the jamimport command, you must create data files containing the asset information. The following describes the supported data file format, character encoding, delimiters, and the location of delimiters:

- File format

  Create a data file in CSV format.

- Supported character encoding

  Depending on the system locale of the machine on which the asset management server is installed, the character encoding used for the description differs.

  - Japanese: Shift_JIS encoding

  - English: ASCII encoding

  - Chinese: GBK encoding

- Delimiters and their locations

  Delimit each class data item by a linefeed code (CRLF or LF). Also delimit each class property by a comma (,). There is no limit to the number of classes or properties that can be specified in a data file.

(2) Data files definition file

To import multiple data files in a batch operation, create a data files definition file. The following describes the supported data files definition file format, character encoding, delimiters, and the location of delimiters:

- File format

  Create a data files definition file in text format.

- Supported character encoding

  Depending on the system locale of the machine on which the asset management server is installed, the character encoding used for the description differs.

    - Japanese: Shift_JIS encoding

    - English: ASCII encoding

    - Chinese: GBK encoding

- Delimiters and their locations

    - When importing object classes

      Specify the name of a data file to be imported paired with the corresponding object class name and delimit the pair with a linefeed code (`CRLF` or `LF`). Enclose each data file name and object class name in double quotation marks (`"`) and separate the two with a comma.

    - When importing association classes

      Specify the name of a data file to be imported, the corresponding association class name, and the associated two object class names as a set, and delimit the set with a linefeed code (`CRLF` or `LF`). Enclose each data file name, association class name, and object class name in double quotation marks (`"`) and separate them with a comma.

The figure below shows how to specify delimiters and their locations.

Figure 7–1: Specifying delimiters and their locations
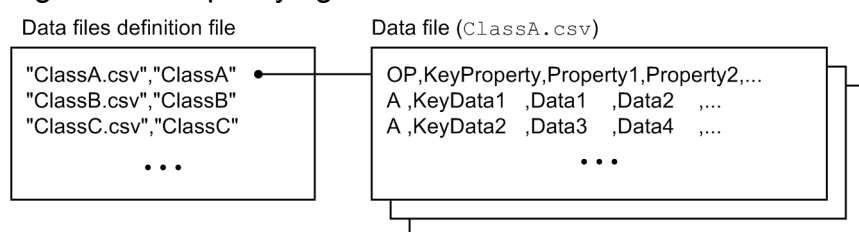
7.1.6 Creating data files

This section explains the specification format for and provides specification examples of CSV files (data files) that are to be imported using the `jamimport` command.

When creating data files, make sure that data conformity is achieved in related information and control information such as IDs.

(1) Data file creation units

Create one data file for each class to be imported.

For association classes, you need to create data files only when object classes are to be associated with each other by different key information. There is no need to import association classes when the same key information is used to associate object classes.

For details about the association between object classes, see *8.1.3 Types of associations*.

(2) Data file specification format

The following figure shows the data file specification format.

Figure 7–2: Data file specification format

Object class

```
OP, key-property,property-1,property-2, …
operation-code,key-data,data-1,data-2, …
                • • •
```

Association class

```
OP, object-class-name-1,property-1,object-class-name-2,property-2
operation-code,data-1,data-2
                • • •
```

Legend:

       : Item title line

This section describes the following items:

- Item title line
- Operation code
- Key data
- Data

(a) Item title line

The item title line always begins with OP (operation code).

Following OP, specify a property name as the title of each item. On the item title line, make sure that the key property of the class to be imported is specified.

For an association class, specify the item title line in the format *class-name.property-name*. Make sure the object class name is separated from the property name by a period (.). For details about the class and property names, see *Chapter 14. Management Information Details*.

If the imported class contains a property that is not specified in the item title line, the null data is set as the value of that property.

(b) Operation code

Specify one character indicating the type of change to the table (addition, change, deletion, no change). If more than one character is specified, only the first character is recognized.

The following table lists the characters that can be used as operation codes and their meanings.

Table 7–23: Characters used as operation codes

Operation code	Meaning	Description
A	Addition	Adds the data specified in the data file. If no value is specified for a class property, the null data is added for that property.
C	Change	Replaces existing data with data specified in the data file. All properties specified in the item title line are subject to this change. If no value is specified for a class property, the null data is added for that property.
D	Deletion	Deletes the classes specified in the data file and the values of the properties related to those classes.

Operation code	Meaning	Description
N	No change	Does not import data with operation code N, treating it as being unchanged.
R	Comment	Does not import the data, treating it as a comment line.

When importing association classes, you can use only A (addition) and D (deletion). To make changes, specify data to be deleted in the data file and then add new data.

(c) Key data

Specify the key data used to determine the object of processing and the class. Make sure a value is specified.

For an object class, specify key data in the format *property-name*. For an association class, specify it in the format *object-class-name*.*property-name*.

Whether the data is to be changed or deleted is determined by the key data. Therefore, if you import data that had been exported and then modified, do not change its key data.

(d) Data

Specify the property value of the class to be imported.

For an object class, specify data in the format *property-name*. For an association class, specify it in the format *object-class-nam*e.*property-name*.

For data, there is no need to specify all properties in the object class. Specify only those data items that are needed as asset data. Specify the value of each property according to the specification format and limitations. For details about the specification format and limitations for each property, see *Chapter 14. Management Information Details*.

When there are no more property values to be set, you can omit values by placing a linefeed code immediately after the last property value. In such a case, the null data is imported for all properties following the linefeed code.

Notes on specifying property values

Some property values use a code, as is the case with the asset information **Asset type**. For details about the properties that require specification of a code and details about the code, see *14.2 Lists of properties for object classes*.

(3) Specification example of data file (object class)

This section describes an example of specifying a data file for importing an object class.

The figure below shows an example of importing data for the AssetInfo (asset information) object class, where the key for AssetInfo is AssetID (asset ID).

Figure 7–3: Specification example of a data file (object class)


```
OP,AssetID,AssetNo,AssetKind,GroupName,LocationName,...
A,1,10001,1,General Affairs Dept./Accounting Section, Head Office/4th floor,...      Adds an asset for asset ID 1
C,2,10002,1,General Affairs Dept./General Affairs Section, Head Office/4th floor,... Changes the property of asset ID 2
D,3,10003,1,General Affairs Dept./General Affairs Section, Head Office/4th floor,... Deletes the asset with asset ID 3
                        ...
```

This example updates the asset management database as follows:

- The device with asset ID 1 is added with the property value specified in the item title line.

- All information about the device with asset ID 2 is changed by the property values specified in the item title line.

- All information about the device with asset ID 3 is deleted.

  All information, such as hardware and network information, that has weak association with the device with asset ID 3 is also deleted.

(4) Specification example of data file (association class)

To add or delete an association class, use operation code A (addition) or D (deletion) in the data file. You cannot use operation code C (change).

The figure below shows an example of a data file for importing data for the association class ContractMaintenanceLink (maintenance contract link). The keys for ContractMaintenanceLink are AssetID (asset ID) and ContractID (contract ID).

Figure 7–4: Specification example of data file (association class)

```
OP,AssetInfo.AssetID,Contract.ContractID        Adds the asset with asset ID 1 to the target of contract ID
A,1,123456                                       123456
D,2,000123                                       Deletes the asset with asset ID 2 from the target of contract ID
                                                 000123
A,2,123456                                       Adds the asset with asset ID 2 to the target of contract ID
                                                 123456

   ...
```
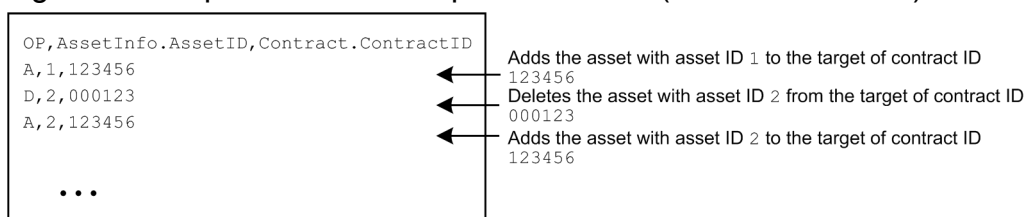
This example specifies the key data AssetID for the associated object class AssetInfo (asset information). On the same line, it also specifies the key data ContractID for another object class Contract (contract information).

This example updates the asset information as follows:

- The asset with asset ID 1 is added to the target of contract ID 123456.
- The target contract ID for the asset with asset ID 2 is changed from 000123 to 123456.

7.1.7 Creating a data files definition file

This section describes the specification format and specification examples for a data files definition file that is used by the jamimport command to import multiple data files in a batch operation.

(1) Specification format for data files definition file

You must specify, in a data files definition file, the names of data files to be imported and the names of corresponding object classes.

To import an association class, specify the name of the data file to be imported, the name of corresponding association class, and the names of two associated object classes.

The following figure shows the specification format for a data files definition file.

Figure 7–5: Specification format for a data files definition file

Object class

```
"data-file-name","object-class-name"
          ...
```

Association class

```
"data-file-name","association-class-name",
"associated-object-class-name","another-associated-class-name"
          ...
```
] Specify on a single line
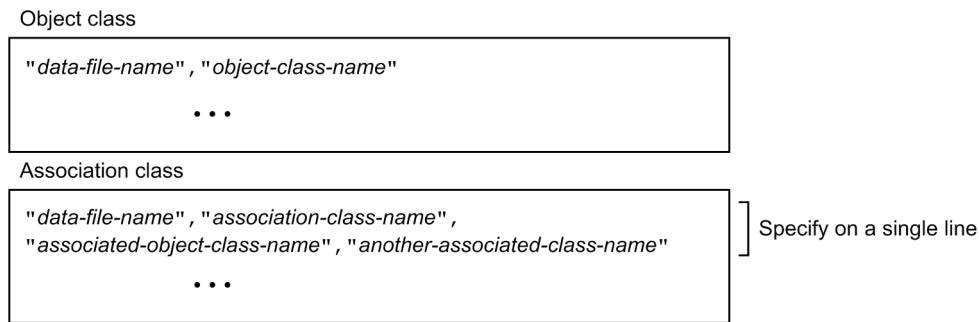
The items specified in the data files definition file are explained below.

data-file-name
> Specifies the path of the data file that is to be imported. You can specify a full or a relative path. A relative path is based on the path where the data files definition file is located. Neither `.\` nor `..\` is permitted.

object-class-name and association-class-name
> Specifies the name of the class corresponding to the specified data file or a class name.

associated-object-class-name and another-associated-object-class-name
> Specifies the names of two object classes that are associated with each other as association classes.
>
> Specify this information only when an association class is to be imported.
>
> Note that you can omit *associated-object-class-name* and *another-associated-object-class-name*.

For details about class names, see *14.1 Organization of classes*.

(2) Specification example of data files definition file (object class)

This section describes an example of specifying a data files definition file when object classes are imported.

The following figure shows a specification example of a data files definition file.

Figure 7–6: Specification example of data files definition file (object class)

```
"C:\temp\AssetInfo.csv","AssetInfo"
"C:\temp\Hardware.csv","HardwareInfo"
"C:\temp\Software.csv","SoftwareInfo"
```

Line 1 indicates that the name of the data file is `C:\temp\AssetInfo.csv` and that the name of the object class is `AssetInfo` (asset information).

By executing the `jamimport` command, this example imports the contents of `C:\temp\AssetInfo.csv` to the object class `AssetInfo`.

The subsequent lines are processed in the same manner as with line 1.

(3) Creating a data files definition file (association class)

This section describes an example of a data files definition file when association classes are imported.

The following figure shows a specification example of data files definition file.

Figure 7–7: Specification example of data files definition file (association class)

```
"C:\temp\ContMLink.csv","ContractMaintenanceLink","AssetInfo","Contract"
"C:\temp\ContLLink.csv","ContractLeaseLink","AssetInfo","Contract"
```

Line 1 indicates that the name of the data file is `C:\temp\ContMLink.csv`, and that the name of the association class is `ContractMaintenanceLink` (maintenance contact link). It also indicates that the names of the associated object classes are `AssetInfo` (asset information) and `Contract` (contract information).

By executing the `jamimport` command, this example imports the contents of `C:\temp\ContMLink.csv` to the association class `ContractMaintenanceLink`.

The subsequent lines are processed in the same manner as with line 1.

7.1.8 Executing the jamimport (import) command

This subsection gives the function, format, options, return values, notes about command execution, and an execution example of the `jamimport` command, which is used for import operations.

The executable file for the command is stored in the following folder:

Asset-Console-installation-folder\exe

(1) Function

The `jamimport` command registers data in a CSV file into the asset management database and updates the database. The command registers all data in the CSV file into the asset management database as is in a batch operation. A CSV file to be registered is created for each class.

To register information about multiple classes at one time, you must use a data files definition file.

(2) Format

```
jamimport
     {{-f data-file-name
        -gc object-class-name-or-association-class-name}
      |-dc data-files-definition-file}
     [-e log-file-name[-s]]
     [-l message-type]
```

(3) Options

-f *data-file-name*

Specifies the name of the data file if there is only one data file to be imported. The data file name can be a full or relative path.

Make sure that this option is specified together with the -gc option. The -f and -dc options are mutually exclusive.

-gc *object-class-name-or-association-class-name*

Specifies the class name corresponding to the data file if there is only one data file to be imported.

If you are importing an object class, specify the name of the object class. If you are importing an association class, specify the name of the association class. For details about class names, see *14.1 Organization of classes*.

Make sure that this option is specified together with the −f option. The −gc and −dc options are mutually exclusive.

−dc *data-files-definition-file*

Specifies that multiple data files are to be imported in a batch operation. You cannot specify this option together with the −f or −gc option.

The name of the data files definition file can be a full or relative path.

−e *log-file-name*

Specifies the file to which messages, which are usually output to the console, are to be output. Specify the name of the log file to which messages are to be output.

This option can be omitted, in which case the system outputs the messages to the console where the jamimport command was executed.

For details about the log file output format, see *Chapter 11. Troubleshooting*.

−s

Specifies that the number of imported items is to be displayed on the console as the progress status. You can specify this option only when the −e option is specified. When the -s option is omitted, the number of processed items is not displayed.

The progress status is displayed each time 50 items are processed.

−l *message-type*

Specifies the type of messages to be output to the log file. This option can be omitted. When the option is omitted, E is assumed.

The following shows the permitted message types and the information that is output:

E

Outputs only messages that report a serious error requiring termination of the program.

W

Outputs the following two types of messages:

- Messages with type E

- Messages reporting an error that does not require termination of the program but that disables some functions

I

Outputs information messages plus messages with types E and W.

(4) Return value

The jamimport command returns the following values.

Return value	Description
0	Normal end
1	Warning occurred, but processing terminated normally.
11	Format error was detected in the command options.
21	The file to be imported is not accessible or contains an error.
52	Processing was canceled by the user.
101 or greater	The command terminated due to some other error.

(5) Notes on command execution

- A user with administrator permissions must execute the `jamimport` command.

- If an import operation is executed while a window operation is underway or JP1/IT Desktop Management 2 - Manager management information is being registered, the data might not be registered or updated correctly due to other data updating operations. When you execute an import operation, you should ensure that no other operations are underway, such as window operations or registering JP1/IT Desktop Management 2 - Manager management information.

- If the import operation is terminated by pressing **Ctrl**+**C** or **Ctrl**+**Break** or due to a system error (such as a database error or file I/O error), an error message to that effect is displayed and the processing is terminated. In this case, the data up to the data that was being processed when the operation was stopped or canceled has been imported into the asset management database.

  However, data conformity might be lost in the asset management database because the import operation terminated when the operation was stopped or canceled. To be prepared for such events, Hitachi recommends that you make a backup of your asset management database.

- If the import operation is canceled or stopped due to an error and the same data file is re-imported with the same operation code `A` (addition), a warning error occurs for the data that has already been registered into the asset management database.

- If the specified `jamimport` command contains an invalid option, the error message and command format are displayed on the screen. This error is not output to the log file.

- If the command contains an option argument that specifies a character string containing a space, you must enclose the entire argument in double quotation marks (**"**).

(6) Example

```
jamimport -f "c:\temp\Hardware.csv" -gc HardwareInfo
```

7.2 Outputting CSV data (exporting)

This section describes how to output asset information from the asset management database to CSV files.

Asset Console can output asset information from the asset management database to CSV files in a batch operation. This is called *exporting*.

There are three ways to perform exporting:

- From the **Export** job menu
- Using `jamCsvExport.bat`
- Using the `jamexport` command

The export operation outputs asset information to CSV files in a batch operation. This is useful when data is to be backed up. By modifying the exported CSV files and then importing them, you can also make changes to or delete asset information in the asset management database.

7.2.1 Selecting the method for outputting CSV data

This section explains the advantages of the various methods of exporting. Select the method that will give you the best efficiency on the basis of the information that you want to export.

- Exporting from the **Export** job menu

  You can create export conditions for the CSV file in order to obtain the asset information that you want to output and output to the CSV file in a batch operation. You can specify in the conditions the Asset Console management items in the CSV file to be output.

  This method can export from anywhere, as long as it is an environment that can log in to Asset Console.

  By specifying tight search conditions, you can output only the precise information that you want.

  If your purpose is to make a backup or to migrate the asset information system to another machine, you can output user reports, job window forms, management information assignment settings, and the import/export conditions.

- Exporting using `jamCsvExport.bat`

  The same processing as when you use the **Export** job menu can be performed from the command line on the asset management server. This method is useful for automating operation because you can output asset information according to categories such as **Device information**, without being concerned about the CSV file format or the relationship between classes.

  With this method, the export conditions cannot be changed or saved.

- Exporting using the `jamexport` command

  Export can be executed in units of desired classes. Multiple classes can be exported at the same time, but the contents of the export are selected in units of classes. If your purpose is to make a backup, output can be performed in a batch operation without having to accept or reject the contents of the asset management database information.

For details about information (classes) that can share export, see *14.1 Organization of classes*.

7.2.2 Export procedure

This subsection describes the export procedure for each method.

(1) Exporting from the Export job menu

This section explains the workflow when exporting asset information from the **Export** job menu.

To export asset information from the **Export** job menu:

1. Select the **Export** job menu.
   The Export window is displayed.

2. Create the export conditions.
   Select the type of information to be exported (such as **Device information**), select the Asset Console managed items to be output, and then create the conditions. For the items to be imported, see *14.4 Items to be imported or exported using a job menu*.

   For details about operations in the Export window, see *4.11 Exporting asset information in CSV format (Export)* in the *Administration Guide*.

3. Save the export conditions.
   Specify any name, and save the conditions.

4. Search the saved conditions, and execute the export.
   For details about searching the conditions and executing export, see *4.11.2 Executing an export operation* in the *Administration Guide*.

(2) Exporting using jamCsvExport.bat

This section explains the workflow when you execute `jamCsvExport.bat` for export.

To export using `jamCsvExport.bat`:

1. Execute `jamCsvExport.bat` from the command line on the asset management server.
   Export executes in accordance with the specified conditions.

   For details about executing `jamCsvExport.bat`, see *7.2.3 Executing jamCsvExport.bat*. For the items to be exported, see *14.4 Items to be imported or exported using a job menu*.

(3) Exporting using the jamexport command

Notes

Before you execute the `jamexport` command, stop all Asset Console services, commands, and tasks in the following order:

1. World Wide Web Publishing Service or World Wide Web Publishing

2. Asset Console commands and tasks

To run Asset Console after having executed the `jamexport` command, start the services in the reverse of the order in which they were stopped.

To export asset information by using the `jamexport` command:

1. Create a data files definition file.
   To export information about multiple object classes in a batch operation, create a file defining the names of the data files to be exported to (data files definition file). If you are exporting only one object class, there is no need to create a data files definition file.

For details about creating a data files definition file, see *7.2.5 Creating a data files definition file*.

2. From the asset management server's command line, execute the `jamexport` (export) command.

   For details about the `jamexport` command, see *7.2.6 Executing the jamexport (export) command*.

   The asset information is output to the data files in units of object classes or association classes.

   If there is no asset information for a specified object class or association class, a data file containing only the item title lines is output.

7.2.3 Executing jamCsvExport.bat

This subsection gives the function, format, options, return value, notes about command execution, and an execution example of `jamCsvExport.bat,` which executes the export operation equivalent to the **Export** job menu from the command line.

`jamCsvExport.bat` is stored in the following folder:

Asset-Console-installation-folder`\exe`

(1) Function

This command outputs asset management database information to a CSV file. The CSV file information is output in a batch operation, based on the conditions. For details about how to create conditions, see *4.11.1 Creating export conditions* in the *Administration Guide*.

When an asset type is specified, information is registered in a batch operation into the asset management database based on the default settings. For details about the items imported based on the default settings, see *14.4 Items to be imported or exported using a job menu*.

(2) Format

```
jamCsvExport.bat "CSV-file-path"  " -c conditions-name | -a asset-type "
```

(3) Options

CSV-file-path

　　Specifies the CSV file to export, in terms of the file path. This option is mandatory.

`-c` *conditions-name*

　　Specifies the name of the export conditions saved from the Export window.

`-a` *asset-type*

　　The table below lists the codes that indicate the type of asset information to be exported. When this option is specified, all properties of the class set in the **Customize Managed Items** job menu are output.

　　Table 7–24: Asset type codes

Code	Meaning
001	Device information
002	Installed software information
003	Installed software list

Code	Meaning
004	Software information
005	Software list
006	Group information
007	User information
008	Location information
009	Maintenance contract information
010	Rental contract information
011	Lease contract information
012	Volume contract information
013	IP group information
014	Device catalog information
015	User definition (user report)
016	User definition (form)
017	Customize (Acquiring ITDM2 management information)
018	User definition (import/export)
019	Problems
020	Assigned license information
021	Patches
022	Virus definition
023	User definition (Item definition)
024	User definition (contract history)
025	Related asset information
026	Division information
027	Division assignment

(4) Return value

The following table shows the return values.

Return value	Meaning
0	Normal end
1	No data
2 or more	Error occurred during processing.

(5) Notes on command execution

A user with administrator permissions must execute `jamCsvExport.bat`.

(6) Example

```
jamCsvExport.bat "c:\temp\Hardware.csv" -a 001
```

7.2.4 Output format of data files

This section describes the output format of data files when object classes or association classes are exported by the `jamexport` command.

A data file is created as a CSV file with the specified name. One data file is created for each object class or association class.

In each data file, all properties of the specified object class or association class are output according to the operation code. If no operation code is specified for a data file, `N` (no change) is assumed for all properties.

The key property is output to the column immediately following the operation code. Numeric values are output as is, while character strings are enclosed in double quotation marks (`"`).

Note that a data file is created even when there is no value (data) to be exported for the properties of specified object class or association class. In this case, only the item title lines are output.

7.2.5 Creating a data files definition file

This section describes the file format and specification format for, and provides specification examples of data files definition files for which the `jamexport` command is used to export object classes.

(1) Format of data files definition file

To export multiple asset data items in a batch operation, create a data files definition file. This section describes the format of a data files definition file, the character encoding, delimiters, and the location of delimiters.

- File format

  You must create a data files definition file in the text format.

- Supported character encoding

  Depending on the system locale of the machine on which the asset management server is installed, the character encoding used for the description differs.

  - Japanese: Shift_JIS encoding

  - English: ASCII encoding

  - Chinese: GBK encoding

- Delimiters and their locations

  - When exporting object classes

    Specify the name of a data file to be exported paired with the corresponding object class name and delimit the pair with a linefeed code (`CRLF` or `LF`). Enclose each data file name and object class name in double quotation marks (") and separate the two with a comma.

  - When exporting association classes

Specify the name of a data file to be exported, the corresponding association class name, and the associated two object class names as a set and delimit the set with a linefeed code (CRLF or LF). Enclose each data file name, association class name, and object class names in double quotation marks (") and separate them with the comma.

(2) Specification format for data files definition file

You must create a data files definition file as a text file. In the file, specify the name of the target data file and the corresponding object class name.

To export an association class, specify the name of the target data file, corresponding association class name, and associated two object class names.

The following figure shows the specification format for a data files definition file.

Figure 7–8: Specification format for a data files definition file

Object class

```
"data-file-name","object-class-name"
        • • •
```

Association class

```
"data-file-name","association-class-name",
"associated-object-class-name","another-associated-class-name"
        • • •
```
Specify on a single line
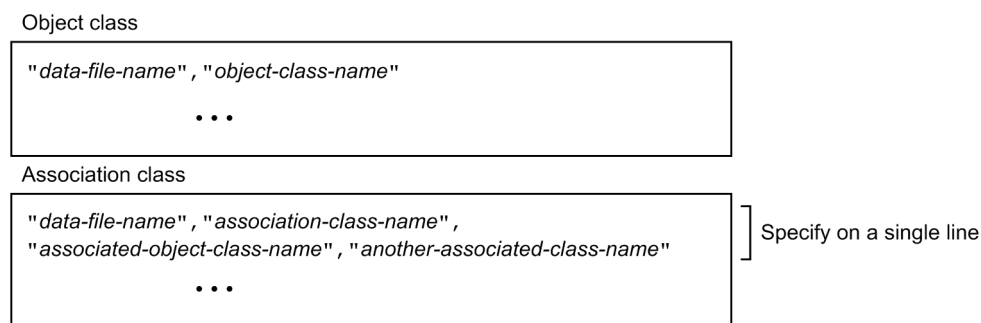
The following describes the items specified in a data files definition file:

data-file-name
    Specifies the name of the data file in which asset data is to be written. You can specify a full or relative path. A relative path is based on the path where the data files definition file is located. Neither .\ nor ..\ is permitted.

object-class-name and *association-class-name*
    Specifies the class name for the asset data to be exported.

associated-object-class-name and *another-associated-object-class-name*
    Specifies the names of two object classes that are associated with each other as association classes.
    Specify this information only when an association class is to be imported.

(3) Specification example of data files definition file (object class)

This section describes an example of specifying a data files definition file when object classes are exported using the jamexport command.

The following figure shows a specification example of a data files definition file.

Figure 7–9: Specification example of data files definition file (object class)
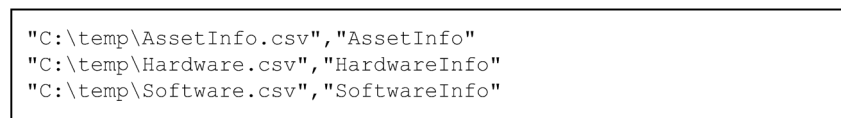
```
"C:\temp\AssetInfo.csv","AssetInfo"
"C:\temp\Hardware.csv","HardwareInfo"
"C:\temp\Software.csv","SoftwareInfo"
```

Line 1 indicates that the name of the data file is C:\temp\AssetInfo.csv and that the name of the object class is AssetInfo.

By executing the `jamexport` command, this example exports the entire contents of the object class `AssetInfo` to `C:\temp\AssetInfo.csv`.

The subsequent lines are processed in the same manner as with line 1.

(4) Specification example of data files definition file (association class)

This section describes an example of a data files definition file when association classes are exported using the `jamexport` command.

The following figure shows a specification example of a data files definition file.

Figure 7–10: Specification example of data files definition file (association class)

```
"C:\temp\ContMLink.csv","ContractMaintenanceLink","AssetInfo","Contract"
"C:\temp\ContLLink.csv","ContractLeaseLink","AssetInfo","Contract"
```

Line 1 indicates that the name of the data file is `C:\temp\ContMLink.csv`, that the name of the association class is `ContractMaintenanceLink`, and that the names of the associated object classes are `AssetInfo` and `Contract`.

By executing the `jamexport` command, this example exports the entire contents of the association class `ContractMaintenanceLink` to `C:\temp\ContMLink.csv`.

The subsequent lines are processed in the same manner as with line 1.

Note
> You can export weak association classes, but you cannot import them. For details about weak association classes, see *8.1.3 Types of associations*.

7.2.6 Executing the jamexport (export) command

This subsection gives the function, format, options, return values, notes about command execution, and an execution example of the `jamexport` command, which is used for export operations.

The executable file for the command is stored in the following folder:

Asset-Consoler-installation-folder`\exe`

(1) Function

The `jamexport` command outputs information from the asset management database information to a CSV file for each class. For the specified classes, all property values are output as is to the CSV files.

To output information about multiple classes at one time, you must use a data files definition file that defines the correspondence between the classes to be output and the CSV file names.

(2) Format

When exporting object classes
```
jamexport
```

```
{{-f data-file-name
-gc object-class-name}
|-dc data-files-definition-file}
[-e log-file-name[-s]]
[-l message-type]
[-op operation-code]
```

When exporting association classes
```
jamexport
{{-f data-file-name
-ac association-class-name
-c1 associated-object-class-name
-c2 another-associated-object-class-name}
|-dc data-files-definition-file}
[-e log-file-name[-s]]
[-l message-type]
[-op operation-code]
```

(3) Options

-f *data-file-name*

Specifies the name of the data file if the asset data to be exported is only one object class or association class.
The data file name can be a full or relative path. Make sure that this option is specified together with the -gc (or -ac, -c1, or -c2) option. The -f and -dc options are mutually exclusive.

-gc *object-class-name*

Specifies the object class name if the asset data to be exported is only one object class or association class.
Make sure that this option is specified together with the -f option. The -gc and -dc options are mutually exclusive.
For details about class names, see *14.1 Organization of classes*.

-ac *association-class-name*

Specifies the name of the association class if asset data is to be exported for a single association class.
Make sure that this option is specified together with the -f, -c1, or -c2 option. The -ac and -dc options are mutually exclusive.

-c1 *associated-object-class-name*

Specifies the name of the object class associated with the association class if asset data is to be exported for a single association class.

-c2 *another-associated-object-class-name*

Specifies the name of another object class associated with the association class if asset data is to be exported for a single association class.

-dc *data-files-definition-file*

Specifies that multiple asset data items are to be exported in a batch operation and the name of the classes to be exported are used in the data files definition file. You cannot specify this option together with the -f, -gc, -ac, -c1, or -c2 option.

The name of a data files definition file can be a full or relative path.

`-e` *log-file-name*

Specifies the file to which messages, which are usually output to the console, are to be output. Specify the name of the log file to which messages are to be output.

This option can be omitted. When the option is omitted, the system outputs the messages to the console where the `jamexport` command was executed.

For details about the log file output format, see *Chapter 11. Troubleshooting*.

`-s`

Specifies that the number of exported items is to be displayed on the console as the progress status. You can specify this option only when the `-e` option is specified. When the `-s` option is omitted, the number of processed items is not displayed.

`-l` *message-type*

Specifies the type of message to be output to the log file. This option can be omitted. When the option is omitted, `E` is assumed.

The following shows the permitted message types and the information that is output:

`E`

Output only those messages that report a serious error requiring termination of the program.

`W`

Output the following two types of messages:

- Messages with type `E`

- Messages reporting an error that does not require termination of the program but that disables some functions

`I`

Output information messages plus the messages with types `E` and `W`

`-op` *operation-code*

Specifies either `A` (addition), `C` (change), `D` (deletion), `N` (no change), or `R` (comment) as the operation code to be output to each line in the exported file. The operation code is a single character indicating the type of change to the table during import operation. If this option is omitted, `N` is assumed.

For details about the operation code, see *7.1.6(2) Data file specification format*.

(4) Return value

The `jamexport` command returns the following values:

Return value	Description
0	Normal end
1	Warning occurred, but processing terminated normally.
11	Format error was detected in the command options.
21	The file to be exported is not accessible or contains an error.
52	Processing was canceled by the user.
101 or greater	The command terminated due to some other error.

(5) Notes on command execution

- A user with administrator permissions must execute the `jamexport` command.

- If the `jamexport` command contains an invalid option, the error message and command format are displayed on the screen. This error is not output to the log file.

- If the export operation is terminated by pressing **Ctrl**+**C** or **Ctrl**+**Break** or the command prompt is closed, an error message to that effect is displayed and processing is terminated.

- If an error occurs during export operation, the export operation is terminated at that point. In such a case, re-execute the `jamexport` command. Data is acquired again from the beginning.

- You can export weak association classes, but you cannot import them. For details about weak association classes, see *8.1.3 Types of associations*.

(6) Example

```
jamexport -f "c:\temp\Hardware.csv" -gc HardwareInfo
```

8

Basic Knowledge Needed to Use Asset Console

This chapter describes the mechanism of an asset management database and asset statuses that constitute the basic knowledge needed in order to use Asset Console.

8.1 Asset management database

This section describes the mechanism of an asset management database, as part of the knowledge needed to run Asset Console.

You need a basic understanding of an asset management database in order to do the following:

- Use the `jamimport` command to register (import) CSV data into the asset management database
- Use the `jamexport` command to output (export) CSV data from the asset management database
- Change the managed items in windows (Customize Managed Items)
- Change window operations (Customize Job Windows)
- Add job menus (Create User Report)
- Assign ITDM2 management information to managed items (Assigning ITDM2 management information)

An asset management database employs an object-oriented data management model that associates asset information with supported classes and properties.

This section provides an overview of the classes and properties that are managed by the asset management database.

8.1.1 Classes managed by the asset management database

The asset management database is used to manage two classes, the object class and the association class.

- Object class

  The object class is a set of information managed by Asset Console whose items are classified by categories. It is the unit of input/output operations on the asset management database.

  For example, classes `HardwareInfo` and `SoftwareInfo` are groups of items that are managed as asset information and that are classified by the `Asset type` category. They represent a set of hardware information and a set of software information, respectively. The figure below shows the object class concept.

Figure 8–1: Object class concept
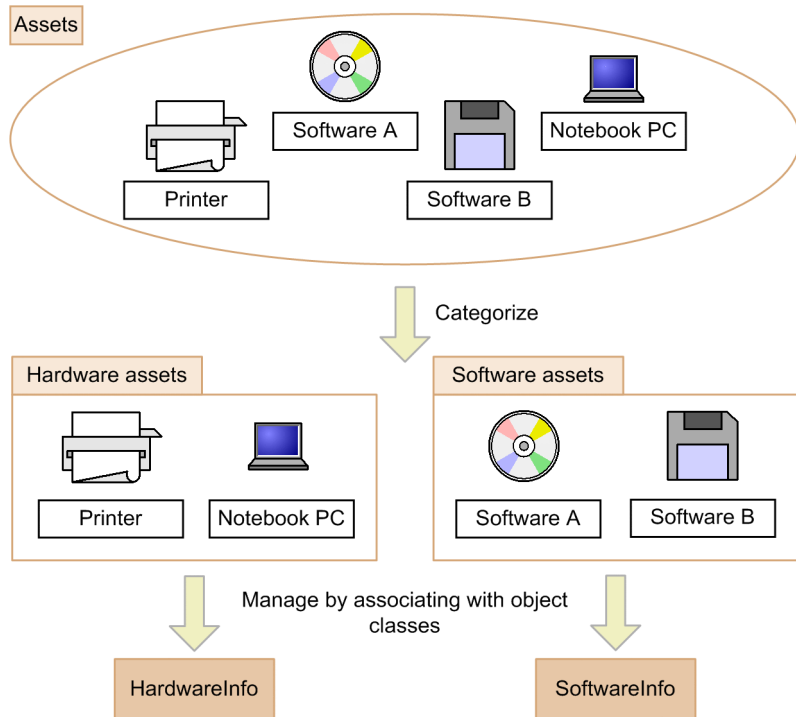
• Association class

The association class represents the relationships (associations) between object classes.

For example, PC information is associated with information such as the PC's asset number and user name (`AssetInfo` class), manufacturer and specifications (`HardwareInfo` class), and IP address (`NetworkInfo` class). In this case, `HardwareLink` and `NetworkLink` that indicate associations between individual information items are the association classes. The figure below shows the association class concept.

Figure 8–2: Association class concept
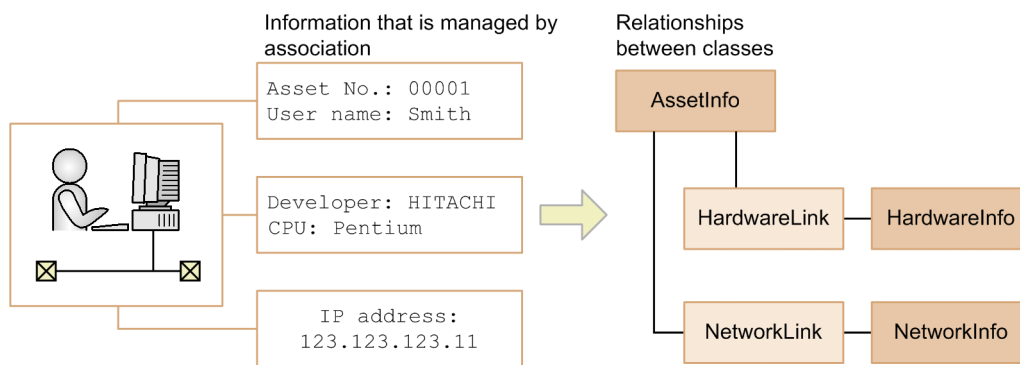
For details about the relationship between classes, see *14.1.3 Relationships between classes*.

8.1.2 Properties managed by the asset management database

The classes managed by the asset management database have attributes called properties. By setting details about classes for these properties, you can accurately manage asset items.

As class attributes, for example, the `AssetInfo` object class that defines asset information has properties `AssetKind` and `GroupName`. The asset type and group are defined for these properties, respectively.

For details about the class properties supported by the asset management system, see *Chapter 14. Management Information Details*.

8.1.3 Types of associations

Association classes designate the two types of relationship between object classes. These are, relationship by the same key property and relationship by different key properties.

Some association classes have a master-slave relationship (Weak association).

This section describes the relationships between object classes that are indicated by association and weak association.

- Relationship by the same key property

  For example, the association class `HardwareLink` indicates the relationship between asset information `AssetInfo` and hardware information `HardwareInfo.` The key property of both object classes is `AssetID`.

  Because `AssetInfo` and `HardwareInfo` always have a one-to-one correspondence, the relationship between these two object classes can be represented by `AssetID`.

  For this reason, information defining the relationship between `AssetInfo` and `HardwareInfo` (association class information) is not created in the asset management database.

  The figure below shows the relationship between object classes that is represented by HardwareLink.

  Figure 8–3: Relationship by the same key property
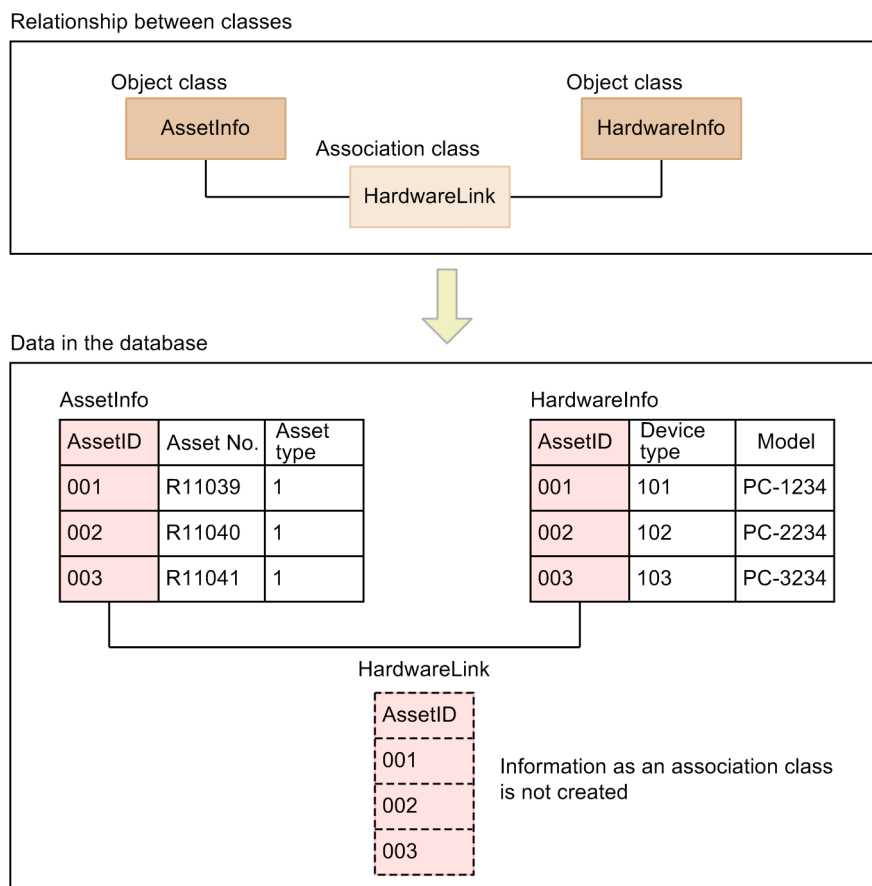
- Relationship by the different key properties

For example, the association class `ContractLeaseLink` indicates the relationship between contract information `Contract` and asset information `AssetInfo`. Their key properties are `ContractID` and `AssetID`, which are not the same.

This is because when multiple devices are contracted as a group, multiple `AssetInfos` are associated with a single `Contract`.

In the asset management database, information defining the relationship between two object classes is created (as an association class) using different key properties.

The figure below shows the relationship between the object classes represented by `ContractLeaseLink`:

Figure 8–4: Relationship by different key properties
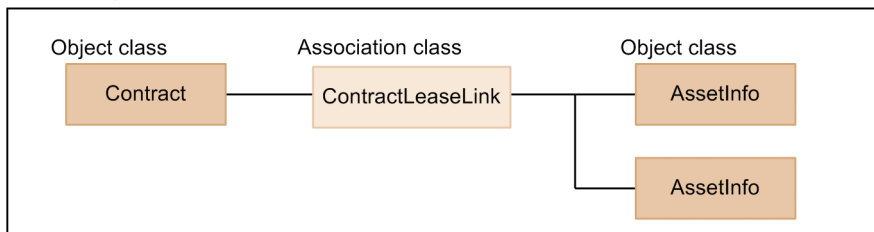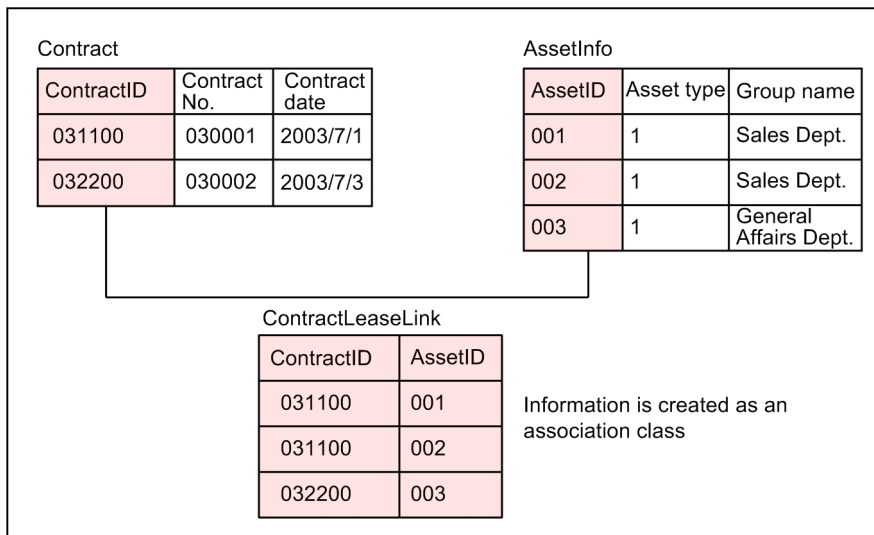
- Master-slave relationship (weak association)

  Two different classes are represented by a master-slave relationship. In this relationship, deleting the master class automatically deletes the slave class (weak class).

  `HardwareLink` is an example of an association class that indicates a master-slave relationship. When the asset is hardware, the asset information class `AssetInfo` is associated with the hardware asset class `HardwareInfo`. This means that there is an asset, and that it has hardware information as its additional information. Therefore, `AssetInfo` is the master class and this master class has a weak association with `HardwareInfo`, which is the slave class.

  For details about the master-slave relationship between object classes, see *14.1.3 Relationships between classes*.

8.2 Management of asset status

Asset Console manages the status of devices, contracts, software programs, and errors. You can set the applicable statuses at the time of registration and change them from windows at any time during operation.

For devices, contracts, and software programs, the following statuses are pre-defined, but you can add new statuses as appropriate for your jobs:

- Device statuses
  `Active, Stock, Restore, Scrap, Pre-Scrap, Erase`
- Contract statuses
  `Under contract, Expire, Erase`
- Software statuses
  `Active, Restore, Scrap, Erase`
- Maintenance statuses
  `Wrong, Informed, Under repair, Complete`

The statuses are managed by codes in the asset management database.

The device, contract, and software statuses are classified into the Active, Scrap, and Erase categories, and a target job is determined by category. When adding a status, note the range of the code to be added.

When changing statuses, note that asset information in Erase status is deleted by the Data maintenance task that has been registered in Windows Task Scheduler.

The following table shows the correspondence between the categories of device, contract, and software statuses and the jobs subject to search:

- Device status

Category		Code range	Default status	Target job
`Active`	--	000 to 499	--	Jobs under the Device Management job category
	`Used`	000 to 299	002: `Active`	
	`Not used`	300 to 499	301: `Stock`	Jobs under the Device Management job category (other than Unused Device List).
`Scrap`	--	500 to 719	--	• Device Totals[#] • Device List[#] • Batch Update • Add Related Device[#]
	`Restore`	500 to 599	501: `Restore`	
	`Scrap`	600 to 699	601: `Scrap`	
	`Pre-Scrap`	700 to 719	701: `Pre-Scrap`	
`Erase`		999	999: `Erase`	• Device Totals[#] • Device List[#] • Batch Update • Add Related Device[#]

Legend:

--: Not applicable

#

Applicable only when **Status to display in device search windows** is set to **Display all codes** in **Basic Information** in the Server Setup dialog box.

- Contract status

Category	Code range	Default status	Target job
Active	000 to 499	001: Under contract	Contract List
Expire	500 to 998	501: Expire	Contract List[#1]
Erase	999	999: Erase	Contract List[#2]

#1

No target device can be added.

#2

Deleted if the Data maintenance task that has been registered in Windows Task Scheduler is executed.

- Software stats

Category	Code range	Default status	Target job
Active	000 to 499	001: Active	Jobs under the Software License job category
Scrap	500 to 998	501: Retore 601: Scrap	Software List[#1]
Erase	999	999: Erase	Software List[#2]

#1

Searched if Restore or Scrap is specified as the search condition.

#2

Searched if Erase is specified as the search condition.

The information is also deleted if the Data maintenance task registered in Windows Task Scheduler is executed.

For details about adding statuses, see *4.8 Adding and changing types and statuses (Code)* in the *Administration Guide*.

9

Changing the Window Operations and User Roles

This chapter explains how to change window operations and user roles. These changes are executed from the **System Definition** job category.

Note that only the administrator can change window operations and user permissions.

9.1 Changing user roles (Role)

You use this job to set the range of permitted functions and accessible information as appropriate for different user jobs by changing the scope of accessibility depending on the user role. You also use this job to set new user roles.

You execute a user role change from the Role window displayed by clicking the **Role** job menu. The figure below shows the Role window.

Figure 9–1: Role window
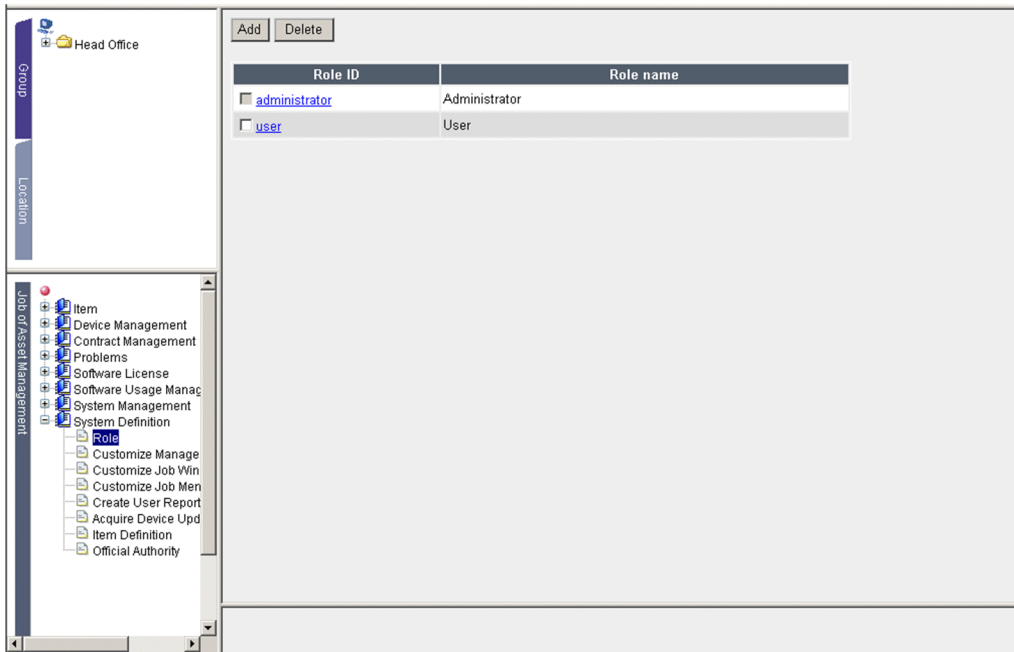
This window lists the user roles that are currently registered.

9.1.1 Adding a new user role

To add a new user role:

1. In the Role window, click the **Add** button.

   The Add Role dialog box appears.

   - **Role ID**

     Specify a unique ID for each role. This item is mandatory.

   - **Role name**

     Specify a name for the new role. A role with the same name cannot be created more than once. When this item is omitted, the specified **Role ID** is set as the role name.

   - **Managed label**

     This item is set when accesses are to be limited by group level.

     For example, to enable the users covered by the new role to handle only the information that belongs to their *section* and subsections, set the same managed label as for the section. If no managed label has been set for a section, use the Group and User window to set managed labels.

     For details about setting access permissions by group level, see *3.1.3 Assigning access permissions according to organizational hierarchy*.

To cancel, click the **Close** button.

2. Click the **OK** button.

    The new role is added based on the specified information.

    The added role is set to be able to access all job menus. To limit the accessible job menus, use the Customize Job Menu window.

    For details about using the Customize Job Menu window, see *9.4 Changing the executable jobs (Customize Job Menu)*.

The figure below shows the Add Role dialog box in which the information to be registered is specified.

Figure 9–2: Add Role dialog box
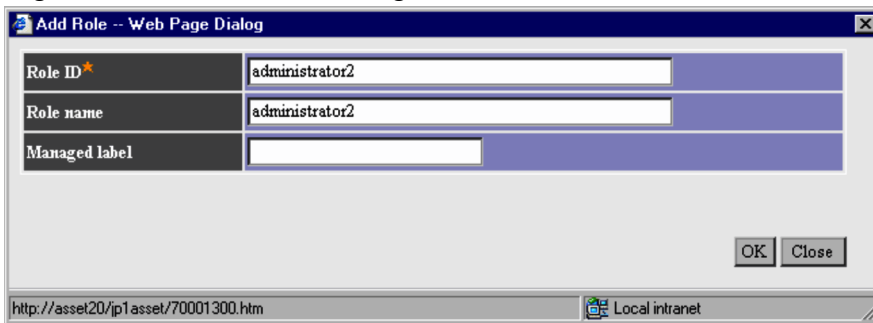
9.1.2 Changing the settings for a user role

To change the contents of a user role, in the Role window, click the **Role ID** link for the appropriate role. The Role Details dialog box appears that enables you to change settings.

If **Role name** was omitted, the specified Role ID is set as the role name. For details about specifying each item, see *9.1.1 Adding a new user role*.

In the Role Details dialog box, click the **Delete** button to delete the selected role. To delete multiple roles simultaneously, select their check boxes in the Role window, and then click the **Delete** button.

9.1.3 Deleting a user role

To delete a user role, select the check box of the **Role ID** to be deleted in the Role window, and then click the **Delete** button.

Note that the role of administrator cannot be deleted. A user role cannot be deleted if there is a user with that user role.

9.2 Changing managed items (Customize Managed Items)

You use this job to specify the view/hide setting for items in windows and to change their names. You can improve efficiency by hiding items that are not used and by renaming items to facilitate management.

Changes to the managed items take effect globally regardless of the user permissions.

To change managed items, start from the Customize Managed Items window, which is displayed by clicking the **Customize Managed Items** job menu. The figure below shows the Customize Managed Items window.

Figure 9–3: Customize Managed Items window
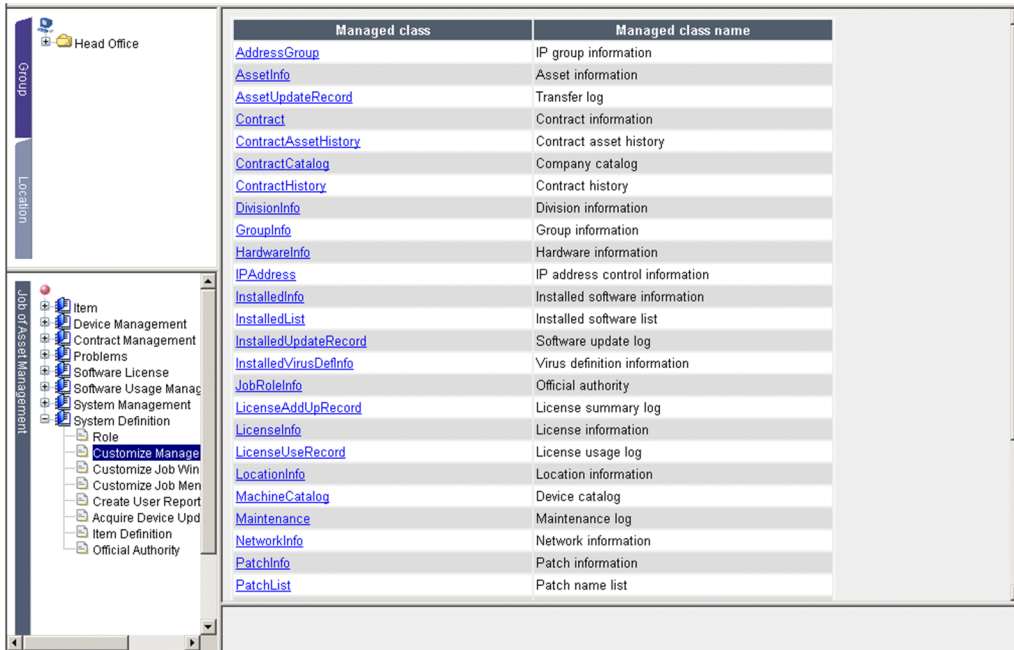
The managed items are managed as class properties in the asset management database. To change a managed item, you change the properties of the corresponding class.

The Customize Managed Items window lists the managed class names corresponding to the managed classes. In **Managed class**, clicking the link of the class you want to change displays a list of properties. You can then change the view/hide settings and names.

For details about the effects of editing each property on window operations, see the documentation explaining the managed items for each window (`ScreenItemList.pdf`). `ScreenItemList.pdf` is stored at the following location:

Asset-Console-installation-folder`\help`

9.2.1 Changing the items to be managed

In each window operation, you can specify items in the search condition and hide the items displayed in the search and totaled results to exclude them from the managed target. You can also add required items. Note that even when an item is removed from the management range, information about it will still be managed in the asset management database.

To set the hide/view setting for a managed item, use the **Show** check box for the applicable property. Note that you cannot hide managed items that are required for jobs.

The procedure for hiding a managed item is shown below using an example of removing a device's machine type (desktop or notebook) from the management range.

To hide a managed item:

1. Click the link for the class name **HardwareInfo** in the hardware information.
   The following Property List for the hardware information is displayed:

Figure 9–4: Property List for the hardware information
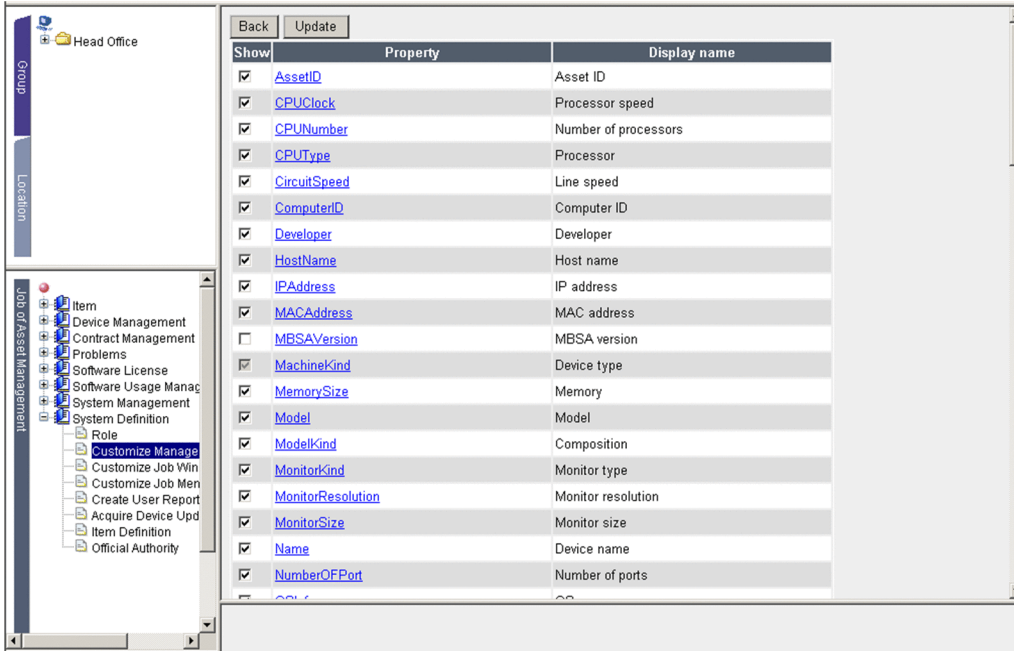
2. Clear the check **Show** box for the property named **ModelKind**, which indicates the machine type.

3. Click the **Update** button.
   The machine type of the device is removed from the management range and will no longer be displayed in windows.

For details about the properties named **User property**, see *9.2.3 Adding managed items*.

9.2.2 Renaming managed items

You can rename the items that are specified for search conditions, and rename the items displayed as search and totaled results in each window.

The procedure for renaming a managed item is shown below using an example of renaming Developer to Maker.

To rename a managed item:

1. Click the link for the class name **HardwareInfo** in the hardware information.
   The hardware information Property List dialog box shown above is displayed.

2. Click the link for the developer's property name **Developer**.
   The following Edit Property dialog box appears:

Figure 9–5: Edit Property dialog box (Developer)

3. In **Display name**, specify the new name `Maker`.

4. Click the **OK** button.

   The Edit Property dialog box closes, and the name **Developer** is changed to **Maker** in the Property List.

   Note

   At this point, this change has not been applied to the asset management database. If you now select another job menu or you exit the Web browser, the change is discarded.

5. Click the **Update** button.

   The change is applied to the asset management database.

Note

   If you rename a managed item, the condition provided in the sample of the **Import** job menu becomes disabled. Therefore, you must create a new import condition for the **Import** job menu.

9.2.3 Adding managed items

By adding unique managed items, you can extend the asset management jobs that you execute from windows.

To add managed items, use the property `user property` that is provided for extension purposes. There are five types of `user property` depending on the type of manageable information. Select the appropriate type for the information to be added:

- User property field*xxx*

  You use this item to manage information up to the bytes indicated by *xxx*. The value of *xxx* is expressed as alphanumeric characters, double-byte characters, and symbols.

- User property area

  You use this item to manage information up to 255 bytes in length. In the window, the column displayed for entering such a value consists of multiple lines. The value is expressed as alphanumeric characters, double-byte characters, and symbols.

- User property code

  You use this item to manage information up to 64 bytes in length. This type associates a code with information to be referenced by the code, such as a status or type. The value is expressed as alphanumeric characters.

  This item is displayed as a drop-down list in search conditions. A value to be specified and the corresponding display value are set in the Code window. For details about using the Code window, see *4.8 Adding and changing types and statuses (Code)* in the *Administration Guide*.

- User property uint

  You use this item to manage a numerical value up to 10 bytes in length. The value is expressed as numeric characters.

- User property date

You use this item to manage a date of up to 8 bytes in length. The value is expressed as alphanumeric characters.

Shown below are examples of adding managed items for **User property field** *xxx*, **User property area**, **User property code**, **User property uint**, and **User property date**.

(1) Example of adding a managed item (for user property field xxx)

To add managed item `Group` to the asset information in order to manage assets in groups:

1. In **Managed class**, click the **AssetInfo** link.

   The property list for **AssetInfo** appears.

2. In Property, click the link for **UserPropertyField128_1.**

   The following Edit Property dialog box appears:

   Figure 9–6: Edit Property dialog box (UserPropertyField128_1)

3. In the **Display name** column, enter `Group`, and then click the **OK** button.

   The Edit Property dialog box closes, and in the list of properties, **User property Field128-1** changes to **Group**.

   Note

   At this point, this change has not been applied to the asset management database. If you now select another job menu or you exit the Web browser, the change is discarded.

4. Select the **Show** check box for **UserPropertyField128_1**.

   The added managed item **Group** is now displayed in windows.

5. Click the **Update** button.

   The change is applied to the asset management database.

(2) Example of adding a managed item (for user property area)

To add managed item `Details` to the maintenance log in order to manage detailed information:

1. In **Managed class**, click the **Maintenance** link.

   The property list for **Maintenance** appears.

2. In **Property**, click the link of **UserPropertyArea_1**.

   The Edit Property dialog box shown previously appears.

3. In the **Display name** column, enter **Details**, and then click the **OK** button.

   The Edit Property dialog box closes, and in the list of properties, **User property Area-1** changes to **Details**.

   Note

   At this point, this change has not been applied to the asset management database. If you now select another job menu or you exit the Web browser, the change is discarded.

4. Select the **Show** check box for **UserPropertyArea_1**.

The added managed item **Details** is now displayed in windows.

5. Click the **Update** button.

The change is applied to the asset management database.

(3) Example of adding a managed item (for user property code)

To add managed item `Replace` to the hardware information in order to manage the devices that are to be replaced:

1. In **Managed class**, click the **HardwareInfo** link.

The property list for **HardwareInfo** appears.

2. In **Property**, click the link of UserPropertyCode_1.

The Edit Property dialog box shown previously appears.

3. In the **Display name** column, enter `Replace`, and then click the **OK** button.

The Edit Property dialog box closes, and in the list of properties, **User property Code-1** changes to **Replace**.

Note

At this point, this change has not been applied to the asset management database. If you now select another job menu or you exit the Web browser, the change is discarded.

4. Select the **Show** check box for **UserPropertyCode_1**.

The added managed item **Replace** is now displayed in windows.

5. Click the **Update** button.

The change is applied to the asset management database.

Next, add the value for the added managed item **Replace** (**Yes** or **No**) from the Code window, which is displayed by clicking the **Code** job menu.

For details about adding codes that are to be associated with **Yes** and **No**, see *4.8.1 Adding codes* in the *Administration Guide*.

(4) Example of adding a managed item (for user property uint)

To add managed item `RentalFee` to the asset information in order to manage detailed information:

1. In **Managed class**, click the **AssetInfo** link.

The property list for **AssetInfo** appears.

2. In **Property**, click the link of **UserPropertyUint_1**.

The Edit Property dialog box shown previously appears.

3. In the **Display name** column, enter `RentalFee`, and then click the **OK** button.

The Edit Property dialog box closes, and in the list of properties, **User property uint-1** changes to **RentalFee**.

Note

At this point, this change has not been applied to the asset management database. If you now select another job menu or you exit the Web browser, the change is discarded.

4. Select the **Show** check box for **UserPropertyUint_1**.

The added managed item **Rental Fee** is now displayed in windows.

5. Click the **Update** button.

The change is applied to the asset management database.

(5) Example of adding a managed item (for user property date)

To add the managed item `RentalStartDate` to the asset information in order to manage detailed information:

1. In **Managed class**, click the **AssetInfo** link.

The property list for **AssetInfo** appears.

2. In **Property**, click the link of **UserPropertyDate_1**.

The Edit Property dialog box shown previously appears.

3. In the **Display name** column, enter RentalStartDate, and then click the **OK** button.

The Edit Property dialog box closes, and in the list of properties, **User property date-1** changes to **RentalStartDate**.

Note

At this point, this change has not been applied to the asset management database. If you now select another job menu or you exit the Web browser, the change is discarded.

4. Select the **Show** check box for **UserPropertyDate_1**.

The added managed item **RentalStartDate** is now displayed in windows.

5. Click the **Update** button.

The change is applied to the asset management database.

9.2.4 Changing the names and view/hide settings for buttons and tabs

You can change the names and view/hide settings for the buttons and tabs that are displayed in windows.

The names and view/hide settings for buttons and tabs are managed as `VariousInfo` together with the list headers and search conditions that do not correspond to class properties.

`VariousInfo` contains the following items:

- `Button` (text for button)

This is the text for a button that is displayed in windows (such as **Search** button).

- `ConditionText` (text for search condition)

This is the text for a search condition that does not correspond to any class property (such as **Totals by**).

- `Text_ListHDR` (text for list header)

This is the text for a list header that does not correspond to any class property (such as **IP address range**).

- `Text_TAB` (text for tab)

This is the text for a tab that is displayed in windows (such as **Group** and **Location**).

- `Text_Title` (dialog box title)

This is the dialog box title (such as **Inbox**).

Notes

- Renaming of a dialog box using this item has nothing to do with the renaming of a job menu using the job menu **Customize Job Menu**.

- Renaming a dialog box using this item has no effect on the **Window name** in the Customize Job Windows window.
- `ValueText` (text for other items)

  This is the text for other items that do not correspond to any class property.

To rename the **PDF** button to **Print Form**:

1. Click the link for the managed class **VariousInfo**.

   The window elements contained in **VariousInfo** are listed.

2. Click the link for the managed class **Button**.

   A list of buttons appears.

3. Click the **PDF** link for the property.

   The Edit Property dialog box appears.

4. In **Display name**, specify the new name `Print Form`.

5. Click the **OK** button.

   The Edit Property dialog box closes. In the list of properties, the name changes from **PDF** to **Print Form**.

   Note

   At this point, this change has not been applied to the asset management database. If you now select another job menu or you exit the Web browser, the change is discarded.

6. Click the **Update** button.

   The change is applied to the asset management database.

   This change takes effect globally on the windows of all user roles.

Displaying the buttons that are hidden by default

Customize Managed Items enables you to display the buttons that are hidden by default.

When you display the **Deletion2** or **Deletion3** button, both of which are hidden by default, the button is displayed in the window operations listed below.

Deletion2

- Device Details dialog box
  Delete button
- Contract List window
  Delete button
- Contract Details dialog box
  Delete button
- Volume License List dialog box
  Delete button
- Volume License Details dialog box
  Delete button

Deletion3

- Contract History dialog box
  Delete (History Information) button

An item that is set to be displayed in **Customize Managed Items** is displayed in the windows of all user roles. To display it only for a specified user role, first specify the settings in **Customize Managed Items**, and then specify the settings using **Customize Job Windows**. For details about changing window settings from **Customize Job Windows**, see *9.3 Changing a window for a user role (Customize Job Windows)*.

9.3 Changing a window for a user role (Customize Job Windows)

You use this job to change the components of a window (such as buttons, search conditions, and editable items) for a particular user role.

For example, you can hide the **Update** button or editable items in the Contract Details dialog box so that general users cannot update contract information. You can also change the display order of search conditions and editable items.

Customize Job Windows enables you to easily customize job settings windows as appropriate for different user roles. Note that the items being managed are set based on the settings in the Customize Managed Items window.

To change windows according to a user role, start from the Customize Job Windows window, which is displayed by clicking the **Customize Job Windows** job menu. The figure below shows the Customize Job Windows window.

Figure 9–7: Customize Job Windows window
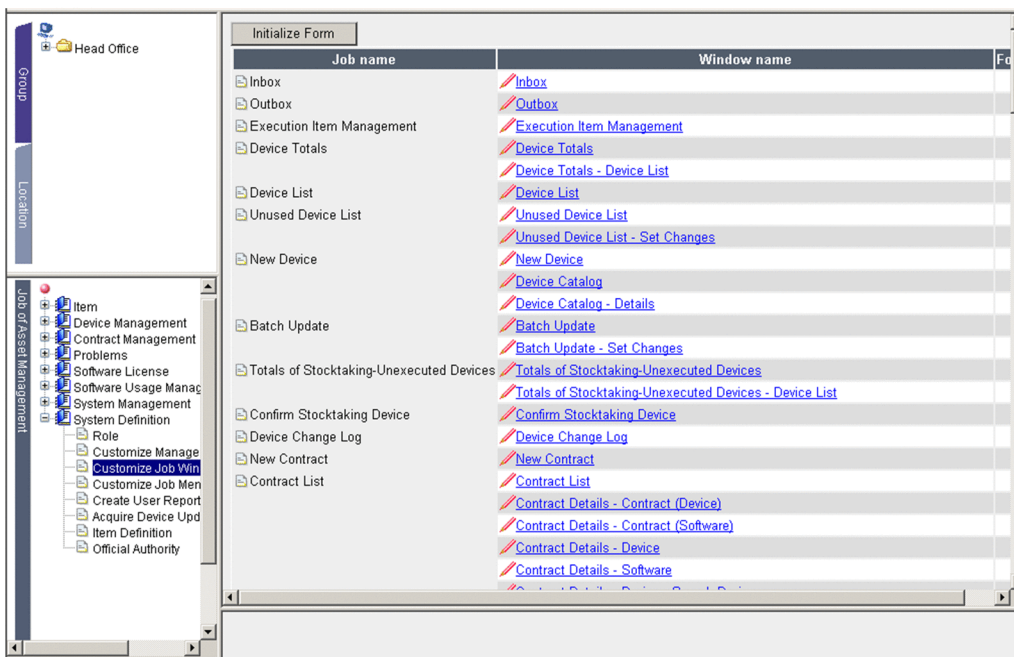
The Customize Job Windows window lists the names of the jobs displayed in a job menu, the windows used by each job, and the form set for each window (settings for customizing each window).

In the **Window name** list, clicking the link for a window displays the Customize Job Windows - Edit Form window that enables you to change the tasks to be executed from that window.

This section describes the form settings (such as the view/hide settings for buttons and search conditions). It also explains how to create new forms and how to change and delete form names.

9.3.1 Setting a form

Customize Job Windows enables you to specify desired changes to the form for a window.

The following points should be noted about the form setup method and how to set a form:

- There must be a form for each window. The same form cannot be shared among multiple windows, because each window has its own organization.

- A form can have any name.

- When you create a form, make sure that only one Customize Job Windows - Edit Form window is open. If you open more than one Customize Job Windows - Edit Form windows to create a form, multiple forms with the same name might be created for the same window depending on how you save the form.

- You can set multiple forms for the same window. For example, you can set one form for administrators and a different form for users.

- One form can be shared among multiple user roles.

- The same user role cannot access multiple forms for the same window. For example, the Administrator role cannot be applied to both Form-1 and Form-2 that have been set for the same window.

The settings that you specify in the Customize Job Windows - Edit Form window will depend on the type of window for which the form is being set. The subsections below explain how to set forms for each type of window.

(1) Procedure for setting a form for a registration or edit window

To set a form in the Customize Job Windows - Edit Form window for a registration or edit window (such as the New Device window) (steps 1 through 3 can be executed in any order):

1. Set **Object role**.

   Set the user role to which the form is to be applied. For details about setting the role, see *9.3.2 Setting the object role*.

2. Set **Button**.

   Set the view/hide settings for the buttons. For details about how setting buttons, see *9.3.3 Setting the buttons to be used*.

3. Set **Editable items**.

   Set the items to be displayed in the window, the editable items, and the order of the items. For details about setting the editable items, see *9.3.4 Setting items to be displayed as editable items*.

4. When you finish setting all the items, click the **OK** button.

   The settings are applied to the window corresponding to this form, and then the Customize Job Windows - Edit Form window closes.

The figure below shows the Customize Job Windows - Edit Form window for a registration or edit window.

Figure 9–8: Customize Job Windows - Edit Form window for a registration or edit window
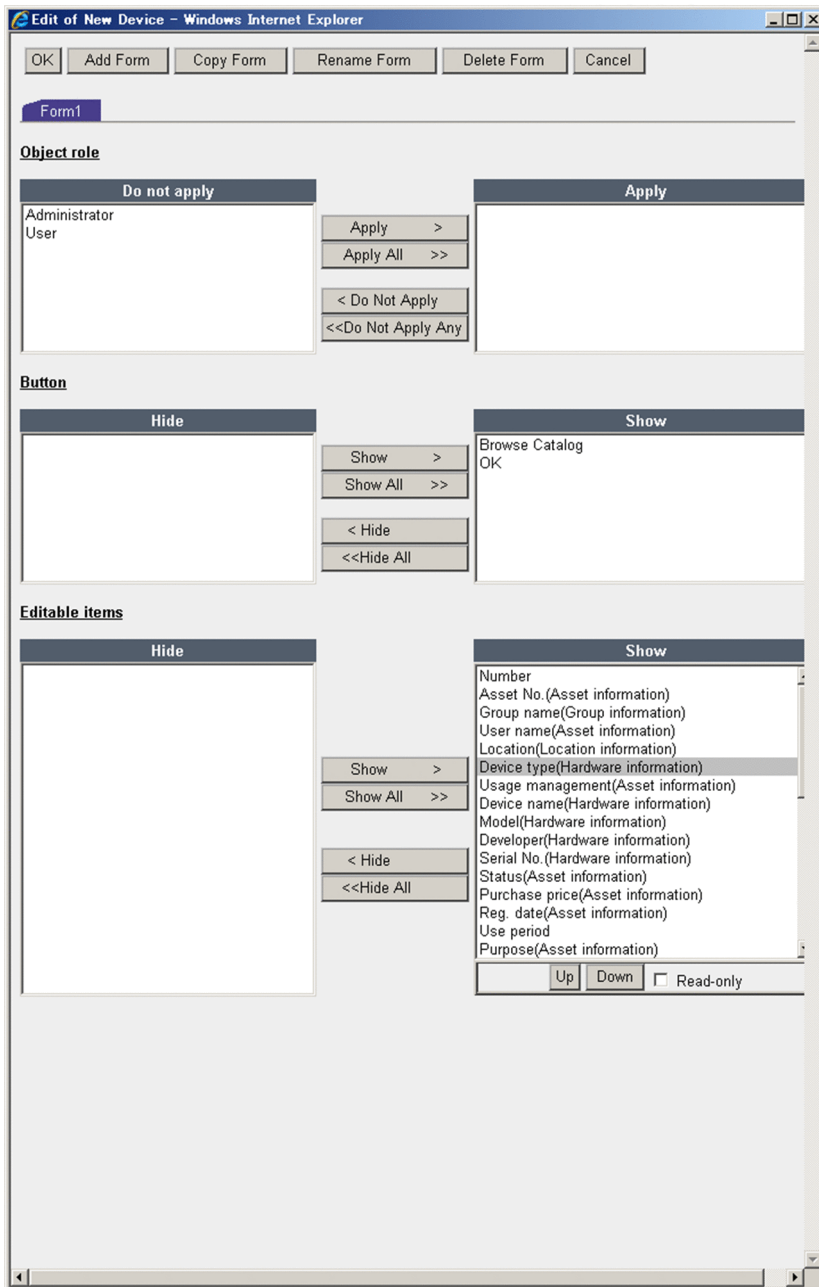
(2) Procedure for setting a form for a search or summation window

To set a form in the Customize Job Windows - Edit Form window for a window (such as the Device List window) used for searching or totaling (steps 1 through 4 can be executed in any order):

1. Set **Object role**.

   Set the user role to which the form is to be applied. For details about setting the role, see *9.3.2 Setting the object role*.

2. Set **Button**.

   Set the view/hide settings for the buttons. For details about setting buttons, see *9.3.3 Setting the buttons to be used*.

3. Set **Search condition**.

   Set the view/hide settings and the order of the search conditions. For details about setting the search conditions, see *9.3.5 Setting items to be displayed as search conditions*.

4. Set **Search result**.

   Set the items to be displayed in the search results list, their display order, and the display width for each item.

   Changing the order or the view/hide settings for the items in the totaled results list does not change the key items for totaling.

   For details about setting the search results, see *9.3.6 Setting the items to be displayed in search results*.

5. When you finish setting all the items, click the **OK** button.

   The settings are applied to the window corresponding to this form, and then the Customize Job Windows - Edit Form window closes.

The following figure shows the Customize Job Windows - Edit Form window for a search or totals window.

Figure 9–9: Customize Job Windows - Edit Form window for a search or totals window
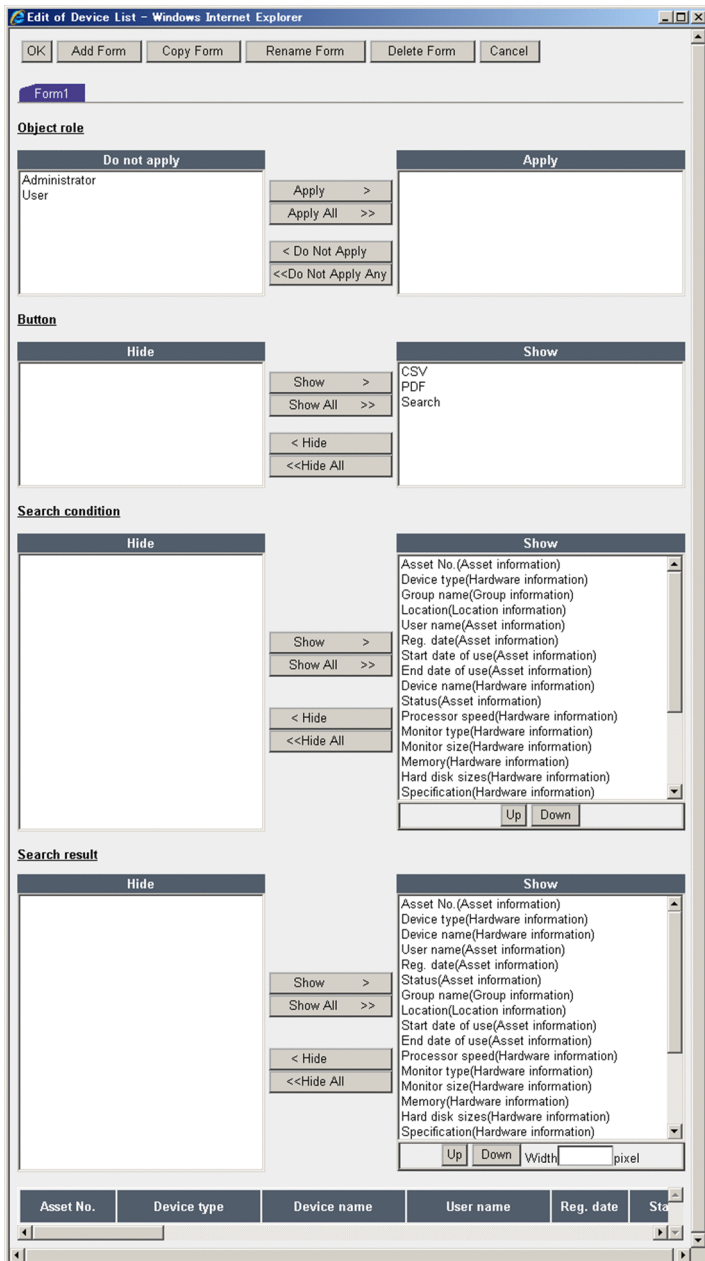
(3) Procedure for setting a form for a breakdown window displayed from totaled results

To set a form in the Customize Job Windows - Edit Form window for a breakdown window that is displayed from totaled results (such as a window displaying a breakdown of device types by group or location that is displayed from totaled results from the Device Totals window) (steps 1 through 3 can be executed in any order):

1. Set **Object role**.

   Set the user role to which the form is to be applied. For details about setting the role, see *9.3.2 Setting the object role*.

2. Set **Button**.

   Set the view/hide settings for the buttons. For details about setting buttons, see *9.3.3 Setting the buttons to be used*.

3. Set **Search result**.

   Set the items to be displayed in the search results list, their display order, and the display width for each item.

   Changing the order or the view/hide settings for the items in the totaled results list does not change the key items for totaling.

   For details about setting the search results, see *9.3.6 Setting the items to be displayed in search results*.

4. When you finish setting all the items, click the **OK** button.

   The settings are applied to the window corresponding to this form, and then the Customize Job Windows - Edit Form window closes.

The figure below shows the Customize Job Windows - Edit Form window for a breakdown window that is displayed from totaled results.

Figure 9–10: Customize Job Windows - Edit Form window for a breakdown window that is displayed from totaled results
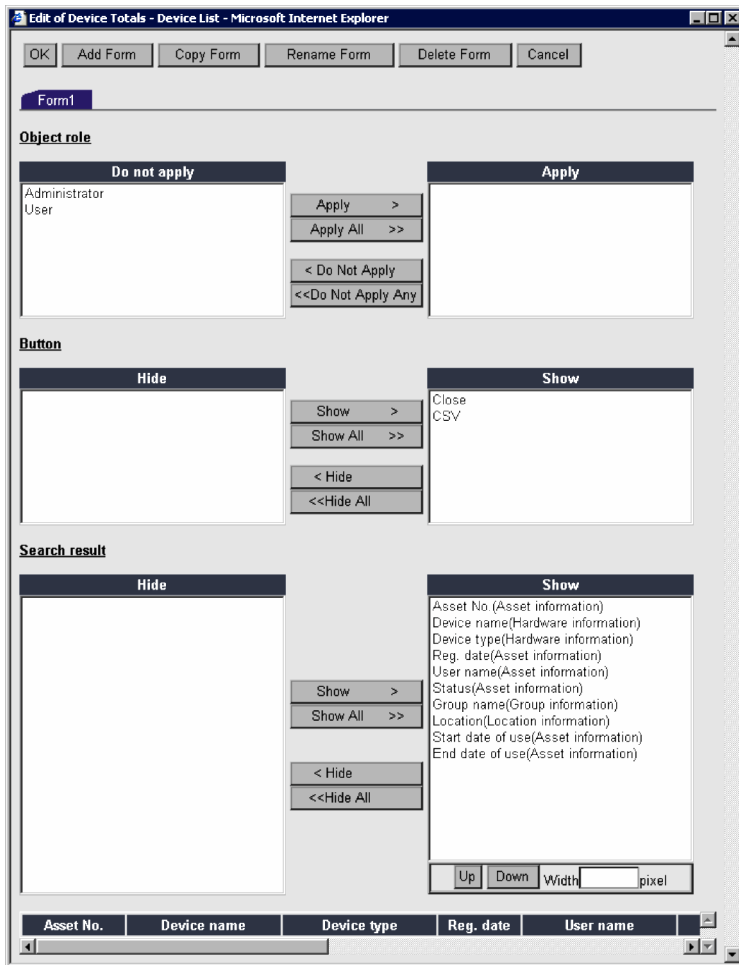
9.3.2 Setting the object role

To set the user role to which a form is to be applied, use **Object role** in the Customize Job Windows - Edit Form window.

The following shows **Object role** in the Customize Job Windows - Edit Form window.

Figure 9–11: Object role in the Customize Job Windows - Edit Form window
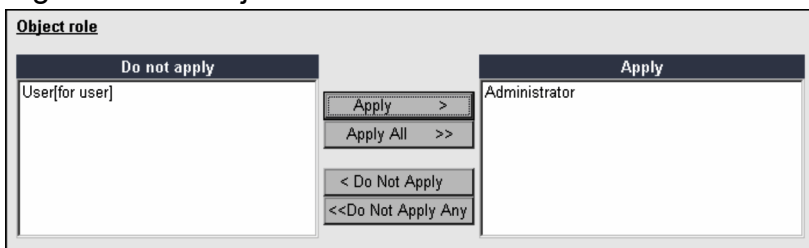
To set the object role, select the desired user role from the **Do Not Apply list**, and then click the **Apply** button. To apply all user roles, click the **Apply All** button.

The selected user role is moved to the **Apply** list, and the object role is set.

To remove a user role from the object roles, select it from the **Apply** list and then click the **Do Not Apply** button. To remove all user roles, click the **Do Not Apply Any** button.

When creating multiple forms for a single window

Each user role can access only one form in a window. If a form has already been applied to a user role, the form name is displayed in square brackets immediately following the role name.

You can apply a user role that has already been set as an object role to another form. However, this user role will automatically be removed from the object role for the initial form.

9.3.3 Setting the buttons to be used

To set the buttons to be used in a window, use **Button** in the Customize Job Windows - Edit Form window.

The following shows **Button** in the Customize Job Windows - Edit Form window.

Figure 9–12: Button in the Customize Job Windows - Edit Form window
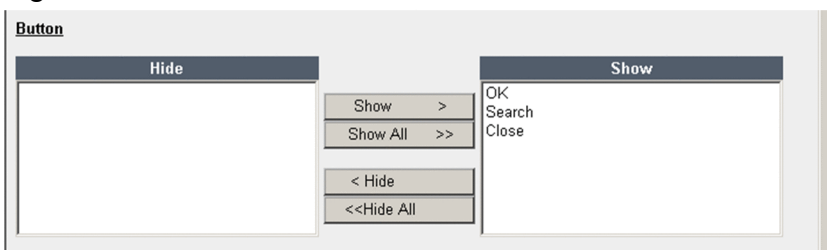
To set buttons to be used in window operations, select the desired buttons from the **Hide** list and click the **Show** button. To use all listed buttons, click the **Show All** button.

The selected button is moved to the **Show** list and becomes enabled.

To hide a button, select it from the **Show** list, and then click the **Hide** button. To hide all buttons, click the **Hide All** button.

9.3.4 Setting items to be displayed as editable items

You can specify whether items are to be viewed and whether items are to be editable in the windows for registering new asset information and in dialog boxes for editing information. To specify these settings, use **Editable items** in the Customize Job Windows - Edit Form window.

The following shows **Editable items** in the Customize Job Windows - Edit Form window.

Figure 9–13: Editable items in the Customize Job Windows - Edit Form window
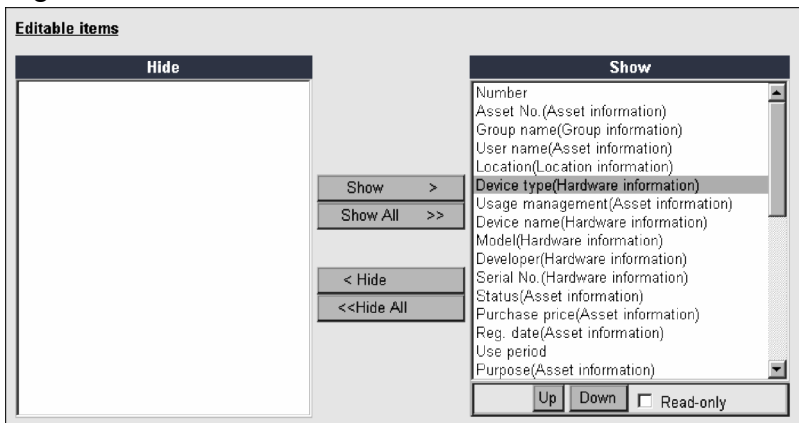
The **Hide** list shows the items that can be set to be editable in each window operation. Each item is shown in the format *item-name (class-name)*.

In the **Show** list, the items with the gray background cannot be hidden or cannot be changed to read-only because they are default system items.

(1) Setting the view/hide settings for editable items

You can hide information that you do not want to disclose to a user role or that are not related to jobs that can be executed by a user role.

To set items to be displayed as editable items, select them from the **Hide** list and click the **Show** button. To display all items, click the **Show All** button.

The selected item is moved to the **Show** list and set to be displayed.

To hide an item, select it from the **Show** list, and then click the **Hide** button. To hide all items, click the **Hide All** button.

Note

> **Editable items** enables you to set only those items that are set to be available to **Customize Managed Items**. To add items that can be set in **Editable items**, evaluate the settings in the Customize Managed Items window.

> For details about changing the items to be managed, see *9.2.1 Changing the items to be managed*.

(2) Setting the display order of editable items

The editable items are displayed in the order that they are listed in **Show**. You can change this display order, such as by displaying the mandatory items at the top.

To change the display order of an editable item, select it from the **Show** list, and then click the **Up** or **Down** button.

You cannot change the display order of multiple items at the same time. You must change items one at a time.

(3) Setting editable items to read-only

Editable items displayed in the **Show** list can be set to read-only (uneditable). You can avoid erroneous operations by making those items uneditable that do not need to be updated or that should not be updated by general users.

To set an editable item to read-only, select it from the **Show** list, and then select the **Read-only** check box.

The read-only editable items are displayed in red.

9.3.5 Setting items to be displayed as search conditions

You can set the search conditions that are displayed in the windows for searching or summing up asset information. To specify settings for search conditions, use **Search condition** in the Customize Job Windows - Edit Form window.

The following shows **Search condition** in the Customize Job Windows - Edit Form window.

Figure 9–14: Search condition in the Customize Job Windows - Edit Form window
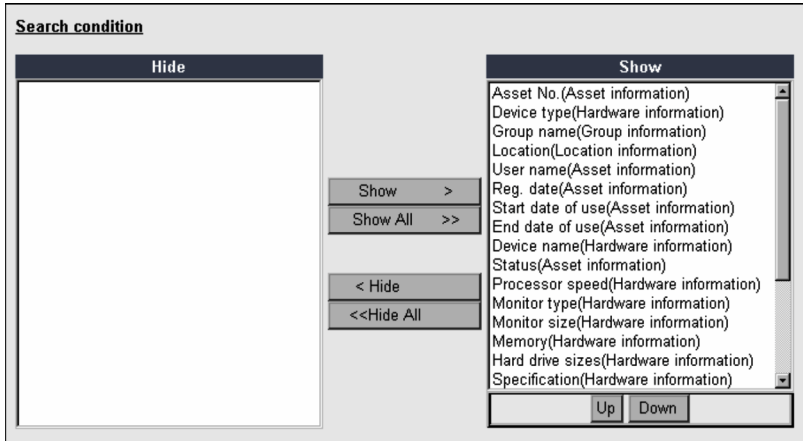
In the **Show** list, the items with the gray background cannot be hidden.

(1) Setting the view/hide settings for search conditions

To set items to be displayed as search conditions, select them from the **Hide** list and click the **Show** button. To display all items, click the **Show All** button.

The selected item is moved to the **Show** list and set to be displayed.

To hide an item, select it from the **Show** list, and then click the **Hide** button. To hide all items, click the **Hide All** button.

Note
> **Search condition** enables you to set only those items that are set to be available to **Customize Managed Items**. To add items that can be set in **Search condition**, evaluate the settings in the Customize Managed Items window.
>
> For details about changing the items to be managed, see *9.2.1 Changing the items to be managed*.

(2) Setting the display order of search conditions

The search conditions are displayed in the order that they are listed in **Show**. You can change this display order, such as by displaying the frequently used items at the top.

To change the display order of a search condition, select it from the **Show** list, and then click the **Up** or **Down** button.

You cannot change the display order of multiple items at the same time. You must change items one at a time.

9.3.6 Setting the items to be displayed in search results

You can set the items to be displayed in listings of asset information search or summation results, their display order, and the display widths. To specify these settings, use Search result in the Customize Job Windows - Edit Form window.

The following shows **Search result** in the Customize Job Windows - Edit Form window.

Figure 9–15: Search result in the Customize Job Windows - Edit Form window
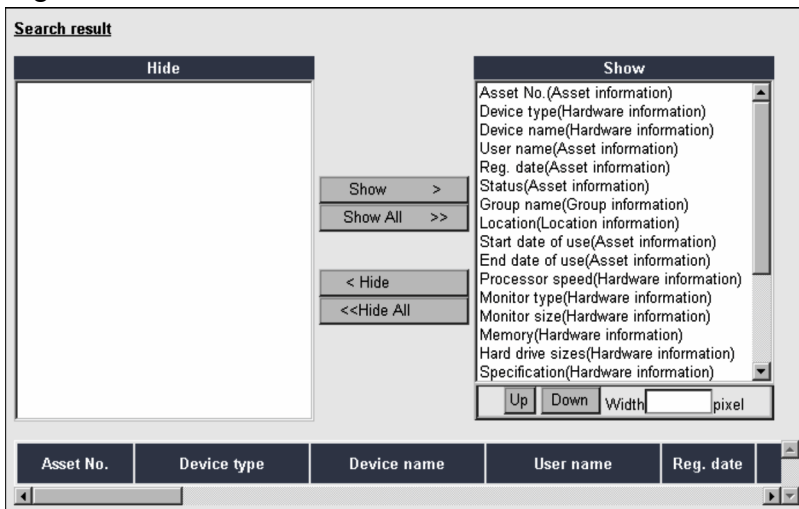
(1) Setting the view/hide settings for search results

To set items to be displayed in the search results list, select them from the **Hide** list and click the **Show** button. To display all items, click the **Show All** button.

The selected item is moved to the **Show** list and set to be displayed.

To hide an item, select it from the **Show** lists and then click the **Hide** button. To hide all items, click the **Hide All** button.

Note

Search result enables you to set only those items that are set to be available to **Customize Managed Items**. To add items that can be set in **Search result**, evaluate the settings in the Customize Managed Items window.

For details about changing the items to be managed, see *9.2.1 Changing the items to be managed*.

(2) Setting the display order of search results

Items are displayed in search results from left to right in the order that they are listed in the **Show** list. You can change this display order, such as by displaying the more important items on the left side.

To change the display order in search results, select a desired item from the **Show** list, and then click the **Up** or **Down** button. To move the item to the left, use the **Up** button. To move it to the right, use the **Down** button.

You cannot change the display order of multiple items at the same time. You must change items one at a time.

(3) Setting the display widths for the items in search results

You can set the display widths for the items that are displayed in **Search result**. You can reduce the display width if the default width is too large, or you can turn off wrap-around mode.

To set a display width in search results, select the desired item from the **Show** list, and then enter a numeric value in the range 0 to 999 (pixels). If 0 is specified, or if no value is specified, the display width is automatically adjusted according to the screen size.

If you want to change the display width of items selected by **Point of totals** from the total results of the Device Totals window, set the display width of the **Device type (Hardware information)** display item. If anything other than **Device type** is selected by **Point of totals**, it will be displayed at this width.

9.3.7 Adding forms

You can set multiple forms for the same window. For example, you can set one form for administrators and a different form for users.

There can be only one form for each user role for a window. For example, `Form-1` and `Form-2` that are for the same window cannot both apply to the Administrator role. Each form for the same window must be for a different user role.

To add a new form:

1. In the Customize Job Windows - Edit Form window, click the **Add Form** button.
   The dialog box for specifying a form name appears.
   You can set any form name. However, the same window cannot have multiple forms with the same name.
   To cancel, click the Cancel button.

2. Specify a form name, and then click the **OK** button.
   A tab is added for setting the new form with the specified name.
   Set the form using the items in the Customize Job Windows - Edit Form window.

9.3.8 Copying a form

You can add a form by copying an existing form. This is useful when you want to add limitations on the basis of an existing form.

To copy an existing form:

1. In the Customize Job Windows - Edit Form window, select the form you wish to copy.

2. Click the **Copy Form** button.
   The dialog box for specifying a name for the new form appears.
   You can set any form name. However, the same window cannot have multiple forms with the same name.
   To cancel, click the **Cancel** button.

3. Specify a form name, and then click the **OK** button.
   Note that the only settings for **Object role** are reset.
   Set the form using the items in the Customize Job Windows - Edit Form window.

9.3.9 Renaming a form

To rename an existing form:

1. In the Customize Job Windows - Edit Form window, click the **Rename Form** button.
   The dialog box for renaming the form appears.
   You can set any form name. However, the same window cannot have multiple forms with the same name.
   To cancel, click the **Cancel** button.

2. Specify the new name for the form, and then click the **OK** button.
   The form is renamed to the specified name.

To cancel, click the **Cancel** button.

3. Click the **OK** button.
   The change is applied to the window.

9.3.10 Deleting a form

This subsection explains how to delete all created forms in a batch operation and how to delete specific forms.

(1) Deleting all forms in a batch operation

To delete all created forms to initialize the window settings, from the Customize Job Window, click the **Initialize Form** button.

(2) Deleting specific forms

To delete specific forms:

1. In the Customize Job Windows - Edit Form window, select the form you wish to delete.

2. Click the **Delete Form** button.
   A confirmation dialog box appears.
   To cancel, click the **Cancel** button.

3. Click the **OK** button.
   The selected form is deleted.
   If all forms are deleted, the initial Form-1 is displayed the next time this window is opened.
   To cancel, click the **Cancel** button.

4. Click the **OK** button.
   The form is deleted from the window.

9.4 Changing the executable jobs (Customize Job Menu)

By specifying the view/hide settings for the job menus, you can change the available jobs according to the user permissions. You can also rename job menus and add new job categories.

To assign jobs by user role, start from the Customize Job Menu window, which is displayed by clicking the **Customize Job Menu** job menu. The figure below shows the Customize Job Menu window.

Figure 9–16: Customize Job Menu window
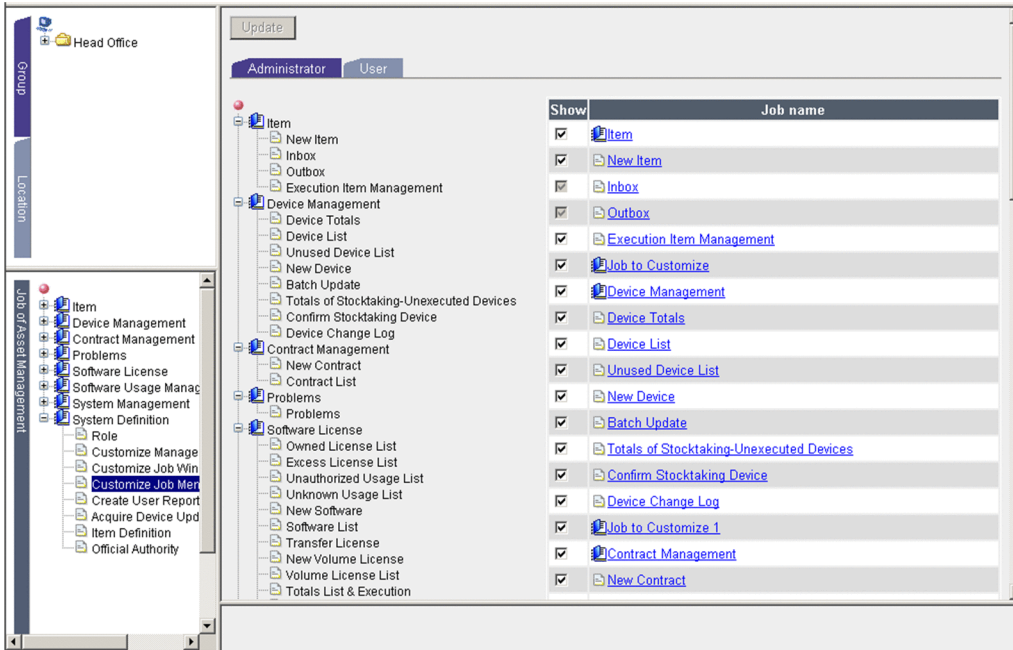
This window uses a separate tab to display the job menus and settings that are available to each user role.

9.4.1 Changing the executable jobs

You use this job to change the jobs assigned to a user role. Note that this job of assigning jobs cannot be performed by any user other than the administrator.

This subsection describes how to assign jobs by user role by way of example.

To change the settings so that only the administrator can execute **New Device**:

1. Click the **User** tab.

   The window for assigning user jobs appears.

2. Clear the **Show** check box for **New Device**.

   New Device disappears from the left-hand preview area.

   Note

   > At this point, this change has not been applied to the asset management database. If you now select another job menu or you exit the Web browser, the change is discarded.

3. Click the **Update** button.

   The **New Device** job menu is no longer displayed in windows for the general users user role.

To make the **New Device** job menu available again, select its **Show** check box.

If the **Show** check box for an entire job menu, such as **Device Management**, is cleared, all the job menu items belonging to that menu will be hidden.

Show/Hide the Item job category

When the **Item** job category is displayed, the **Inbox** and **Outbox** job categories, which are under the **Item** job category, display without fail.

9.4.2 Renaming a job menu

This section describes the procedure for renaming a job menu using an example of renaming **Device Management** to **Hardware Management**.

1. Click the **Device Management** link under **Job name**.

   The dialog box for renaming a job appears as shown below:

   Figure 9–17: Dialog box for renaming a job

2. In **Job name**, enter **Hardware Management**, and then click the **OK** button.

   The job name in the left-hand preview area changes from **Device Management** to **Hardware Management**.

   Note

   At this point, this change has not been applied to the asset management database. If you now select another job menu or you exit the Web browser, the change is discarded.

3. Click the **Update** button.

   The change is applied to the asset management database, and the job menu is changed.

If you rename a job menu, the change also takes place for other user roles.

Note

Renaming a job menu has no effect on the name of the window that is used by each job. To rename a window, use the **Customize Managed Items** job menu. For details about how to rename windows, see *9.2.4 Changing the names and view/hide settings for buttons and tabs*.

9.4.3 Adding job categories

There are several job menus, such as **Device Management** and **Contract Management**. In addition to the default job menus, you can add job menus **Job to Customize 1** through **Job to Customize 8**.

You can display your new job menus by registering user reports that you create in job menus **Job to Customize 1** through **Job to Customize 8**. This capability is useful for managing user reports in separate categories from the default job menus.

For details about registering user reports, see *9.5.8 Registering a created user report*.

You can change the job menu names for the added job menus in the same manner as for the default job menus.

9.5 Adding windows for routine jobs (Create User Report)

In addition to the windows provided by Asset Console, you can add windows for searching unique information (user reports).

As a user report, you can create a window for searching the asset information managed in the asset management database and displaying the results. A window for registering or summing up data cannot be created.

You can display added windows from added job menus in the same manner as with other windows. You can also assign them by user role using the Customize Job Menu window.

To add a window, start from the Create User Report window, which is displayed by clicking the **Create User Report** job menu.

The figure below shows the Create User Report window.

Figure 9–18: Create User Report window
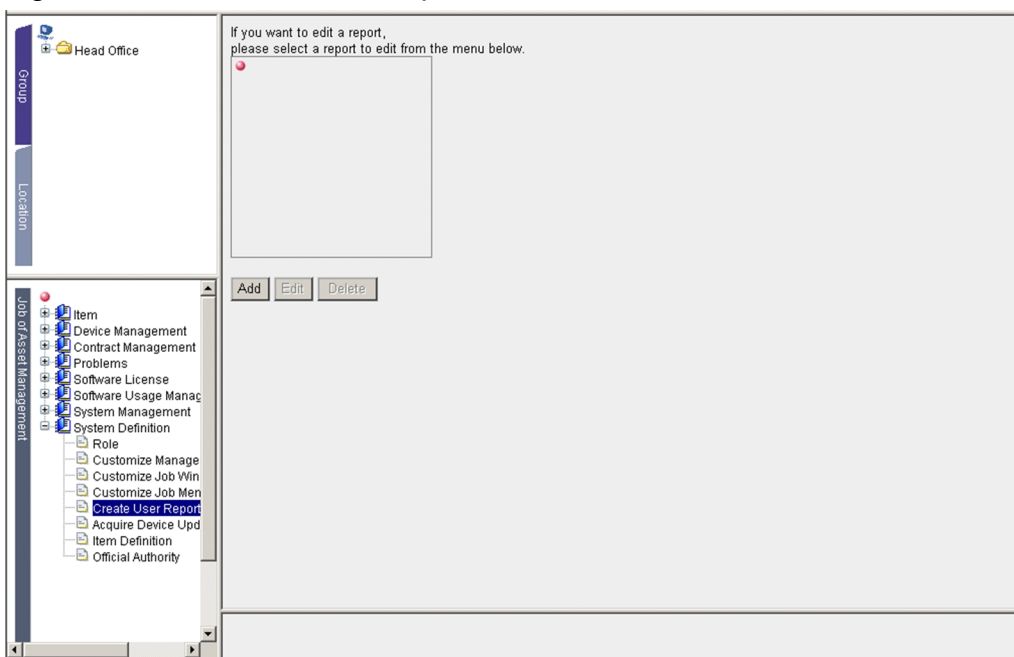
From this window, you can start the creation of user reports. To create a new user report, click the **Add** button.

To edit an existing user report, select it from the job menu tree, and then click the **Edit** button. To delete an existing user report, select it from the job menu tree, and then click the **Delete** button.

You can execute a created user report from the command line. If you execute a user report from the command line, you should use variable names that are easy to remember as arguments when you define search conditions.

This section describes the procedure for creating a user report.

The following figure shows the user report creation procedure.

Figure 9–19: Procedure for creating a user report

Select the search method	See 9.5.1
↓	
Specify the class of the search target	See 9.5.2
↓	
Define the search conditions	See 9.5.3
↓	
Set the output items	See 9.5.4
↓	
Set the sort order and display width of the output items	See 9.5.5
↓	
Specify whether or not to include duplicated data in the search results	See 9.5.6
↓	
Check the creation results in the preview	See 9.5.7
↓	
Register the created user report	See 9.5.8
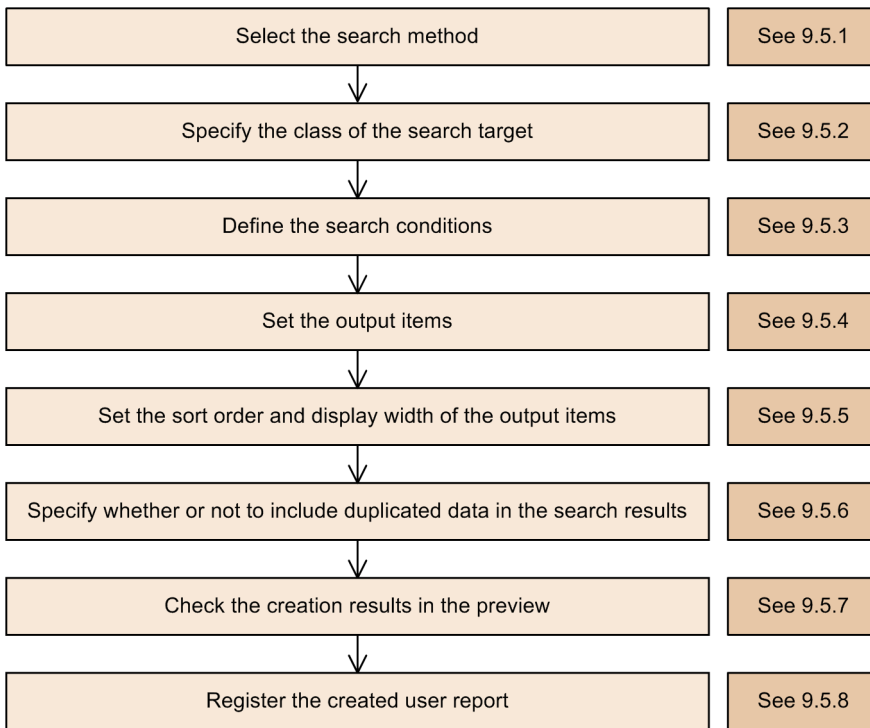
To create a user report according to a provided example, see *9.5.12 Example of creating a user report*.

9.5.1 Selecting a search method

In the window that is displayed by clicking the **Add** button in the Create User Report window, you select a search method appropriate to the information to be searched for in the window.

From the items displayed in the search method specification field, select the desired search method, and then click the **Next** button.

The following figure shows the search method specification field.

Figure 9–20: Search method specification field


```
Select how to search by pull down.

Class search          ▼
Class search
Associated class search
Joined class search
```
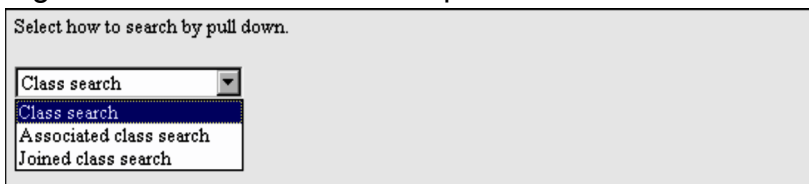
(1) Types of search methods

There are three ways to search asset information in the asset management database:

- Class search
  This method searches information in only one class.
- Associated class search
  This method searches information in classes that are associated by association class.

- Joined class search

  This method searches information in classes that are not associated by association class. Use this method when you are defining an association between new classes for searching information or associating more than two classes for searching information.

(2) Procedure for determining the search method

The following figure shows the procedure for determining the search method.

Figure 9–21: Procedure for determining the search method
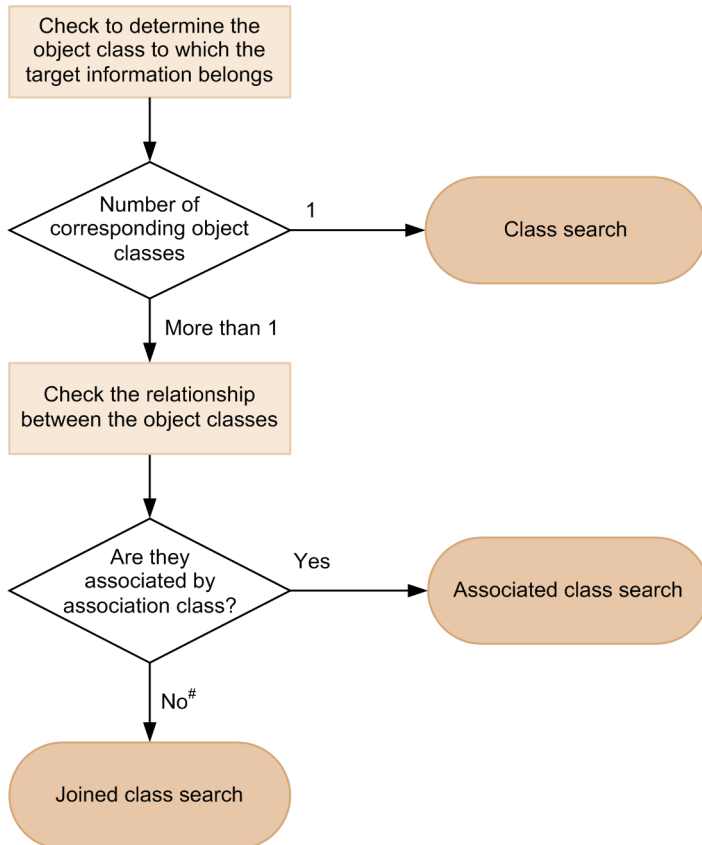
#: Applicable when there are more than two corresponding object classes.

For details about classes and the relationship between classes, see *Chapter 14. Management Information Details*.

9.5.2 Specifying classes to be searched

After selecting the search method, specify the classes that contain the target information.

- When **Class search** was selected as the search method

  From the target object class specification field, select the class that contains the target information.

  The following figure shows the target object class specification field.

Figure 9–22: Target object class specification field

Use the pulldown list to select the object class that will become a search object
and use check boxes to select the properties to be output.

IP group information ▼

- When Associated class search was selected as the search method

  From the target association class specification field, select the class that contains the target information.

  The following figure shows the target association class specification field.

Figure 9–23: Target association class specification field

Use the pulldown list to select the association class that will become a search object
and use checkboxes to select the properties to be output.

Change log link ▼

- When **Joined class search** was selected as the search method

  In the class join method specification field, select **Association class** or **Specify class**, and then specify the class that contains the target information.

  The following figure shows the class join method specification field.

Figure 9–24: Class join method specification field

Use the pulldown list to select the class join method.
When joining more than one class, use the Add button.

Association ▼	Change log link	▼	Order
Class name join	Asset information	▼	Key property	Asset ID	▼
Class name join to	Transfer log	▼	Key property	Asset ID	▼
Join type	INNER ▼		Add	Delete

For details about how to specify classes when Joined class search is selected, see *9.5.9 Specifying a class join method*.

9.5.3 Defining search conditions

To define search conditions, use each item on the **Screen** tab.

The following shows the **Screen** tab.

Figure 9–25: Definition items for search conditions (Screen tab)

Search condition | Screen | Command Argument

Show	Column		Condition code	Value		Condition
☑	(▼	Group information.Group code ▼	= ▼		▼	OR ▼
☑	▼	Group information.Cost group code ▼	= ▼		) ▼	AND ▼
☑	▼	Group information.Group name ▼	= ▼		▼	Add

1. **Show**

   Specify whether each search condition is to be displayed in the window. Selecting a check box enables the corresponding search condition to be specified in the window.

   When a check box is selected, the **Value** field is disabled.

2. **Column**

Specify the information to be searched for. The drop-down list displays information in the format *class-name*.*property-name*.

3. **Condition code**

Specify one of the conditional expressions listed below that indicates the relationship between the property specified in **Column** and the value specified in **Value**.

The following table lists the conditional expressions.

Table 9–1: List of conditional expressions

Conditional expression	Data type of property specified in Column	Character string displayed in user report or drop-down list
=	--	equal
!=	--	not equal
<	--	less than
<=	--	less than or equal to
>	--	greater than
>=	--	greater than or equal to
LIKE	--	including
NOT_LIKE	--	not including
OPTIONS	Date	• before • after
	Numeric value	• not greater than • not less than
	Character string	• match all the words • match part of the words • match beginning of the words • match end of the words

Legend:

--: Not applicable

When a group or location is specified as the search condition, information is always searched based on right truncation.

4. **Value**

Specify the value determined for the information specified in **Column**.

When the Show check box is selected to specify the value in the window, this field is disabled

If the property value is defined as a code, specify the code.

5. **Condition**

Specify AND or OR to connect the search items when multiple search items are to be set.

6. **Parentheses**

Specify parentheses to enclose multiple search items. Note that double parentheses are not permitted.

7. **Add** button

Click this button to add a field for specifying a search item.

Defining the variable names to be used as arguments

To execute the same search as for the created user report, specify the conditions that are specified by window operation as arguments. In this case, each search condition is represented by a variable name.

On the **Command Argument** tab, you can change the variable names that are used when you specify arguments to names that are easy to remember.

The following figure shows the **Command Argument** tab.

Figure 9–26: Definition items for search conditions (Command Argument tab)

Define the variable names corresponding to the search conditions whose **Show** check boxes are selected on the **Screen** tab. By default, Variant*n* (*n*: sequential number beginning at 1) is set.

A permitted variable name consists of 1 to 32 bytes of alphanumeric characters and is case sensitive. The same variable name cannot be specified more than once.

If you specify **OPTIONS** in **Condition code** on the **Screen** tab, = is displayed in **Condition code** on the **Command Argument** tab.

9.5.4 Setting the output items

You use the output item specification fields to set the items to be output to the search results list.

The following figure shows the output item specification fields.

Figure 9–27: Output item specification fields

The information that can be specified in **Output Items** is displayed according to the class specified as the search target. Select the check boxes of the items that you want to output to the search results list.

Settings for displaying details from the search results list

You can make a setting to display a dialog box containing details from the search results list, as is the case with the search results of **Device List**.

The dialog boxes that can be displayed from a search results list are Device Details, Installed Software Details, and Contract Details.

If you are specifying **Asset No.** for asset information and **Contract ID** for contract information as output items, select either **Show details** or **Hide details**.

How to display properties defined as codes

For a property value defined as a code, you can select the display name, value, or both as the information to be displayed for the code as well as the normal display method. For example, in the case of **Status**, Stock or Active would be its display name, and 1 or 2 would be its value.

9.5.5 Setting the sort order and display width of the output items

On the **Screen display information** field, set the sort order and display width for the items that are displayed in the list of search results.

The following figure shows the **Screen display information** field.

Figure 9–28: Screen display information field
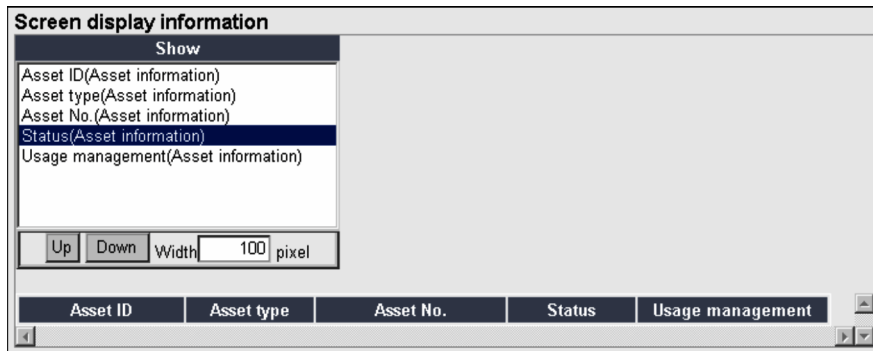
The items are listed from left to right in the order shown in the **Show** column. To change the sort order, select the item whose order is to be changed from the **Show** column and then click the **Up** or **Down** button.

To change the display width, select the item whose display width is to be changed from the **Show** column and then in the **Width** column, specify a numeric value from 0 to 999. The default is 150 pixels.

9.5.6 Specifying whether to include duplicated data in the search results

If the search results contain duplicated data, select whether to output the results as is. You specify this item only when **Joined class search** is selected as the search method.

The figure below shows the settings for specifying whether search results can contain duplicated data.

Figure 9–29: Field for specifying whether duplicated data is included
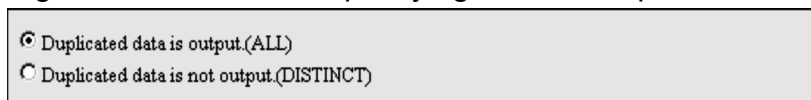
Select either **Duplicated data is output** or **Duplicated data is not output**. By default, **Duplicated data is output** is selected.

9.5.7 Checking the results in the preview window

You use the preview window to check the specified settings, such as the search method, target class, search conditions, output items, and whether duplicated data is to be output.

Clicking the **Preview** button displays the created window that enables you to execute an actual search for purposes of checking the search results.

If **Joined class search** was selected for creating a report, the error message An error occurred during script execution or Processing cannot continue due to a database access error might be displayed

depending on the join method. Before registering the user report, use the preview window to execute a search and make sure that the correct search results are obtained.

If the message `The data size to be registered exceeds the maximum` is displayed, the data size for the specified search conditions or items to be output exceeds the upper limit. Reduce the number of search conditions or output items.

9.5.8 Registering a created user report

You must register a created user report. Once registered, the user report is displayed and can be selected from the job menu in the same manner as with other jobs.

To register a user report, use the window that is displayed by clicking the **Next** button in the window for defining search conditions. The figure below shows the window used to register a user report.

Figure 9–30: Window for registering a user report
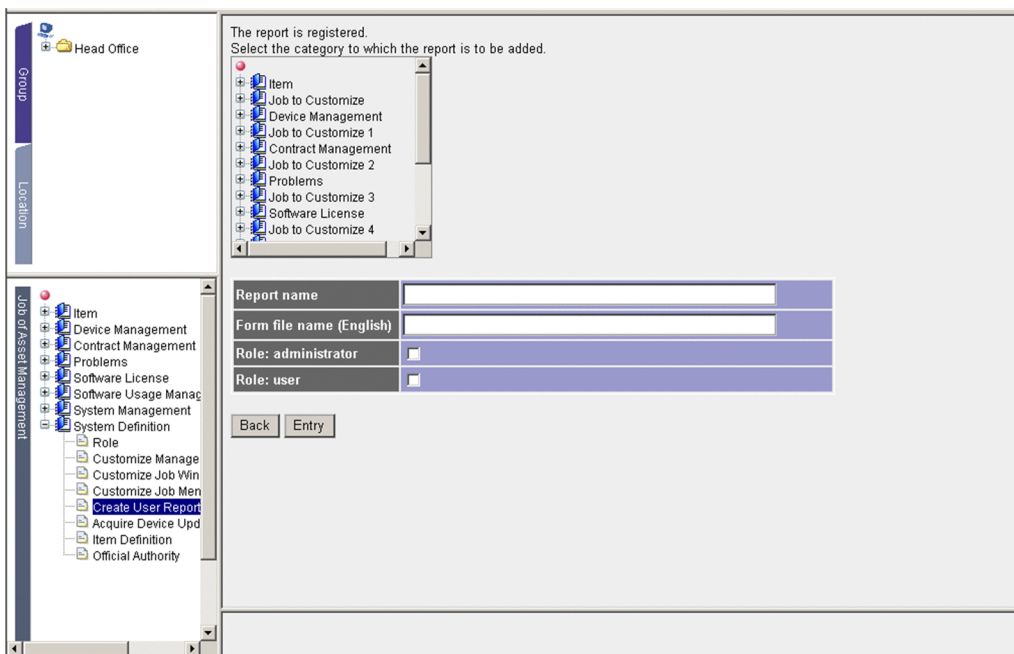
To register a user report:

1. Select a job category.

   From the tree, select the job menu category to which the user report is to be added. If nothing is selected, the user report is added in the same level as the job menu categories.

2. Set **Report name**, **Form file name**, and the applicable roles.

   Set the name for the user report, specify whether to output a form in PDF format, and then set the applicable user role.

   - **Report nam**e

     Specify a desired name. When this item is omitted, the ID that is assigned automatically is set as the name.

     To execute the created user report from the command line, specify a unique name. A user report whose name is duplicated cannot be executed from the command line.

   - **Form file name**

To output search results as a form in PDF format, specify the form file (`.fms`) created by EUR. You must store the form file specified here in *Asset-Console-installation-folder*\eur.

For details on how to create a form file, see the documentation for EUR. For details about settings required for outputting a form in PDF format, see *5.3 Setting up the asset management server*.

- **Role**

  Select the check box for the user role that is to use the created user report. If this item is omitted, the user report will not be added to the job menu.

You can use the Create User Report window or Customize Job Menu window to change the **Report name**, **Form file name**, and **Role** settings for a user report once it has been registered.

3. Click the **Entry** button.

   The created user report is registered.

Note

If **Joined class search** was selected in creating the report, the error message `An error occurred during script execution` or `Processing cannot continue due to a database access error` might be displayed depending on the join method. Before registering the user report, use the preview window to execute a search and make sure that the correct search results are obtained.

9.5.9 Specifying a class join method

A class join method is specified only when **Joined class search** is selected. You can define a new class join method and create a window with unique search conditions. The figure below shows the fields for defining a class join method when **Joined class search** is selected as the search method.

Figure 9–31: Fields for specifying a class join method

Select one of the two join methods for classes:

- **Association**

  Select this method to search the object classes that are associated as association classes.

  When this join method is selected, the values of **Class name join**, **Class name join to**, and **Key property** are specified based on the contents of the object classes associated as association classes.

- **Specify class**

  Select this method to search the object classes by joining classes that are not associated as association classes.

  When this method is selected, drop-down list for specifying **Class name join**, **Class name join to**, and **Key property** are enabled.

Order of **Class name join** and **Class name join to**

If you are specifying more than two classes, **Class name join** and **Class name join to** must be specified in the correct order. For example, to join classes A and B and then join classes B and C, specify as follows:

- Joining classes A and B

  Specify class A in **Class name join**.

- Joining classes B and C

  Specify class B in **Class name join**.

If you select Association as the class join method, use the **Order** button to place **Class name join** and **Class name join to** in the correct order.

Adding and deleting key properties

If you need to identify the search target by multiple items, add key properties. There is no need to add key properties if you have selected **Association** as the class join method.

Clicking the **Add Key** button displays the fields for specifying key properties, where you can add key properties.

To delete key properties, click the **Delete Key** button.

Inner join and outer join

Separately from the association between classes, select Join type for classes.

To output information about the device only when it contains the key values of both join source and target, select **INNER** (inner join).

To output the item as null information even when the join target does not contain the key value of the join source, select **OUTER** (outer join).

9.5.10 Deleting a user report

To delete a created user report, use the Create User Report window that is displayed by clicking the **Create User Report** job menu.

In the tree view that displays created user reports, select the user report you wish to delete, and then click the **Delete** button.

9.5.11 Executing a search from the command line

This subsection gives the function, format, options, return value, notes about command execution, and an execution example of the `jamUserReport` command, which executes a search using the created user report.

The executable file for the command is stored in the following folder:

Asset-Console-installation-folder`\exe`

(1) Function

The `jamUserReport` command executes a search using a user report created by the **Create User Report** job menu. The search result is output to the standard output in the CSV format.

(2) Format

```
jamUserReport
      -n "report-name"
      { [ -cv "variable-name=condition-value" [ -cv "variable-
name=condition-value" ] ] |
        [ -cf "condition-value-definition-file-name" ] }
      [ -pf "output-file-name" ]
```

(3) Options

-n "*report-name*"

Specifies the report name used to execute the search. A report name assigned to multiple reports cannot be specified. This option is mandatory.

-cv "*variable-name=condition-value*"

Specifies the search condition. The -cv option can specify a condition during a search using a user report. The -cv and -cf options are mutually exclusive. If the specified variable name is undefined or the condition value is omitted, this option is ignored.

variable-name

Specifies the variable name defined on the **Command Argument** tab in **Search condition** when a user report was created.

condition-value

Specifies the condition value for the variable. The following describes how to specify the condition value according to the property specified in the search condition:

- If the property is managed based on its correspondence with code, specify a display name for the condition value, not a numeric value.

- To specify a date, use the format *yyyy/mm/dd* or *yyyy/mm/dd* Δ *hh:mm:ss* (Δ indicates a space).

- To specify a numeric value, specify a value such as 1000. Do not use commas such as 1,000.

- For the hardware information **Hard disk sizes** and **Hard disk free space** and the device catalog information **Hard disk sizes**, specify a value in gigabytes. The search result is output in megabytes.

- For the group information, there is no access permissions depending on the login user, such as in window operations.

- If the length of a numeric value is predefined, such as an IP address, you can specify as 11.111.111.1 (there is no need to use zeros to adjust the length).

-cf "*condition-value-definition-file-name*"

Specifies the name of the file that defines the condition value (condition value definition file). The -cf and -cv options are mutually exclusive.

The condition value definition file is useful when frequently used search conditions or multiple search conditions are to be combined.

The following shows the format of the condition value definition file:

```
variable-name,condition-value
variable-name,condition-value
   :
```

Specify a variable name in column 1 and condition value in column 2, separated by a comma. Create the file in the CSV format.

`-pf "`*output-file-name*`"`

> Specifies the name of the search result output file. If you specify a path, the search result is output to the specified folder. If you specify only a file name, the search result is output to the same folder as for the command's executable file, not the standard output.
>
> If the specified output file name already exists, that file is overwritten. If the command terminates with an error, the contents of the existing file are cleared.

(4) Return value

The command returns the following values.

Return value	Description
0	Normal termination
1	Search result contains no item.
11	Processing was cancelled because the specified command option was invalid.
21	Processing was cancelled because the specified report name was invalid.
22	Processing was cancelled because the specified variable name was invalid.
23	Processing was cancelled because the specified condition value was invalid.
24	Processing was cancelled because the specified condition variable value definition file was invalid.
25	Processing was cancelled because the specified output file was invalid.
31	There is not enough memory.
52	Processing was cancelled by the user.
101 or greater	The command terminated due to other error.

(5) Notes during command execution

- A user with administrator permissions must execute the `jamUserReport` command.

- To specify a character string that contains a space in the command's option argument, the entire character string must be enclosed in double quotation marks (`"`).

(6) Execution example

```
jamUserReport -n "List of Devices" -cv "Variant1=Head Office/IT Management
Dept." -pf "C:\kiki.csv"
```

If you create a batch file (`.bat`), you can output the search results to a printer by executing the `EUR` command. The following is an example of a batch file:

```
jamUserReport -n "List of Devices" -cv "Variant1=Head Office/IT Management
Dept." -pf "C:\kiki.csv"
IF errorlevel 1 then goto error
eurps C:\kiki.fms,C:\kiki.csv
IF errorlevel 1 then goto error
goto end
error:
```

```
echo Outputting to a printer failed.
end:
```

9.5.12 Example of creating a user report

This section describes the creation procedure using an example of searching for IP addresses that are in use and checking their usage status.

(1) Examining the information to be searched

To search for the IP addresses that are in use, first examine the class to be searched.

The **IP address**, **Asset No.**, **Device name**, **Device type**, **User name**, **Group name**, and **Location** items are output to the search results list.

Next, search for the classes that have the above items as their properties. The correspondence between items and classes is as follows:

Items to be output to the search results list	Class
IP address	`NetworkInfo`
Asset No.	`AssetInfo`
Device name	`HardwareInfo`
Device type	`HardwareInfo`
User name	`UserInfo`
Group name	`GroupInfo`
Location	`LocationInfo`

(2) Examining the class join method

Once the information to be searched and their classes have been determined, examine the class join method.

The following figure shows an example of examining the class join method.

Figure 9–32: Example of examining the class join method
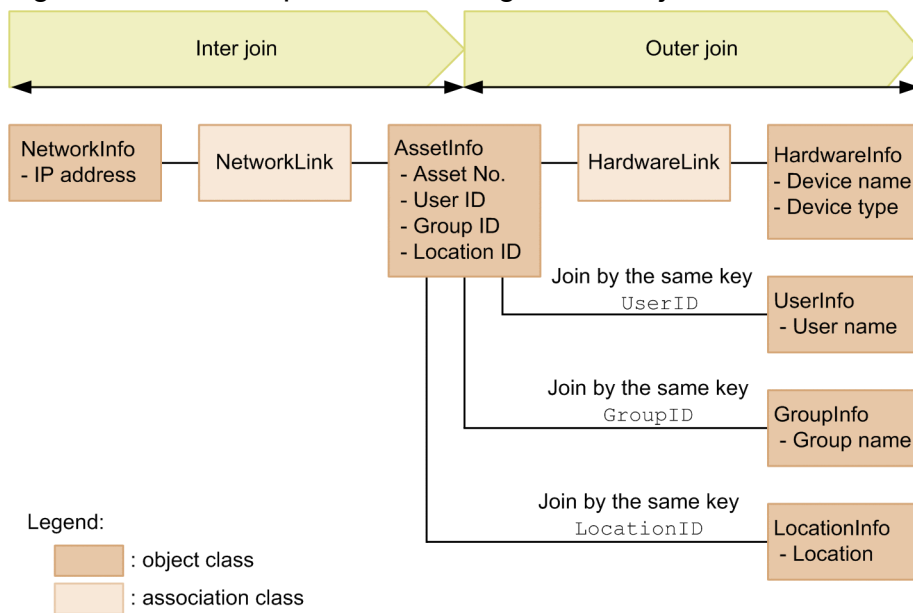
Relationship between classes

- NetworkInfo and AssetInfo are joined by association class NetworkLink.

- AssetInfo and HardwareInfo are joined by association class HardwareLink.

- AssetInfo and UserInfo, GroupInfo, and LocationInfo are not joined by association class. Therefore, use the same key to join them.

Inner and outer joins

- To identify the devices that are currently using the IP addresses, those devices with no IP address are removed from the search results. Therefore, NetworkInfo and AssetInfo have an INNER relationship (inner join).

- Information about **Device name**, **User name**, **Group name**, and **Location** is output to the search results even if there is no value. Therefore, AssetInfo and Hardware, UserInfo, GroupInfo, and LocationInfo each have an OUTER relationship (outer join).

To define class join in the window, define the inner join and then the outer join in this order.

For the order of source class (**Class name join**) and target class (**Class name join to**), if all classes are joined to a single class (AssetInfo) as in this example, specify AssetInfo as the source class for all classes.

(3) Examining the search conditions to be specified in the window

Separately from the items to be output as the search results, examine the items to be specified as the search conditions in the window and the search method.

To narrow down the IP addresses in use by managerial group or by location of the devices, this example defines these two items as the search conditions. To narrow down the IP addresses by range, define the IP address as a search condition.

(4) Procedure for creating a user report in windows

This step defines the selected join method for each class and search conditions in windows and creates a user report for searching for the IP addresses in use.

To create a user report in windows:

1. From the job menu, select **Create User Report**.
   The Create User Report window appears.

2. Click the **Add** button.
   The window for selecting search conditions appears.

3. Select **Joined class search**, and then click the **Next** button.
   The window for defining the search conditions appears.

4. Define the join method for each class.
   Define each join method between classes. To add an area for specifying the class join method, click the **Add** button.
   The figure below shows an example of defining the class join method.

   Figure 9–33: Example of defining the class join method

   Define the join method between classes NetworkInfo and AssetInfo
   > After selecting **Association** as the class join method, select **Network link**. For **Join type**, select **INNER**.

   Define the join method between classes AssetInfo and Hardware
   > After selecting **Association** as the class join method, select **Hardware link**. For **Join type**, select **OUTER**.

   Define the join method between classes AssetInfo and UserInfo
   > Specify **Specify class** as the class join method, and then specify as follows:
   > **Class name join**: `Asset information`, **Key property**: `User ID`
   > **Class name join to**: `User information`, **Key property**: `User ID`
   > **Join type**: `OUTER`

   Define the join method between classes AssetInfo and GroupInfo
   > Specify **Specify class** as the class join method, and then specify as follows:
   > **Class name join**: `Asset information`, **Key property**: `Group ID`
   > **Class name join to**: `Group information`, **Key property**: `Group ID`
   > **Join type**: `OUTER`

   Define the join method between classes AssetInfo and LocationInfo
   > Specify **Specify class** as the class join method, and then specify as follows:

Class name join: `Asset information`, **Key property**: `Location ID`

Class name join to: `Location information`, **Key property**: `Location ID`

Join type: `OUTER`

5. Define the search conditions.

The following figure shows how to specify search conditions on the **Screen** tab.

Figure 9–34: How to specify search conditions on the Screen tab
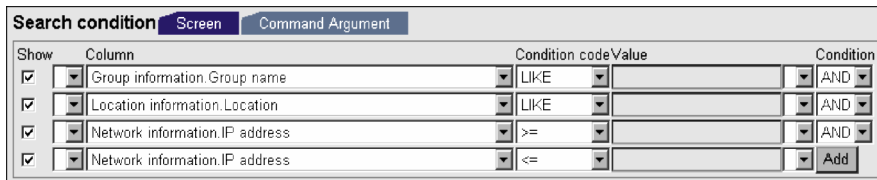
Select the check boxes of the search conditions that are to be displayed in the window.

If **Group name** or **Location** is defined as the search condition, there is no need to specify **Condition code**. Right truncation is always assumed for search.

The following figure shows how to specify search conditions on the **Command Argument** tab.

Figure 9–35: How to specify search conditions on the Command Argument tab
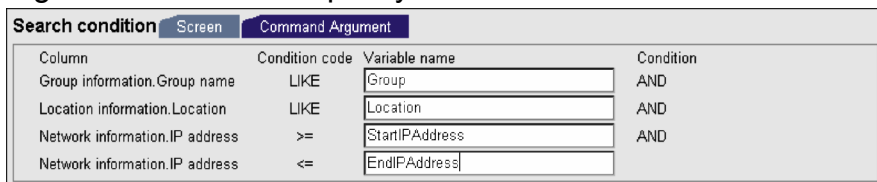
6. Specify the output items.

Specify the following output items:

- **IP address** of **Network information**

- **Asset No.** of **Asset information**

  Select either **Show details** or **Hide details** to specify whether to display from the search results list a dialog box providing details.

- **Device name** of **Hardware information**

- **Device type** of **Hardware information**

  Select **Display name**, **Value**, or **All** to specify whether to display the code (value) indicating the type and the display name.

- **User name** of **User information**

- **Group name** of **Group information**

- **Location** of **Location information**

7. Specify the sort order and display width of output items.

In the **Screen display information** field, specify the order and display width of output items.

The following figure shows an example of the order of output items.

Figure 9–36: Example of the order of output items

8. Select **Duplicated data is not output**.

9. Click the **Preview** button.

Check the specified information, and close the preview window.

10. Click the **Next** button.

The window for registering the user report appears.

11. Select the job category to which the user report is to be added.

From the tree, select **Device Management**.

12. Specify **Report name** for the user report and the user role that can use the user report.

Specify each item as follows:

- **Report name**: Specify `List of IP Addresses in Use`.

- **Form file name**: Specify the form file (`.fms`) created by EUR.

  You must store the form file specified here in *Asset-Console-installation-folder*\eur.

- **Role**: Select the check boxes for both **Role: administrator** and **Role: user**.

The following figure shows the user report registration window with items specified.

Figure 9–37: User report registration window
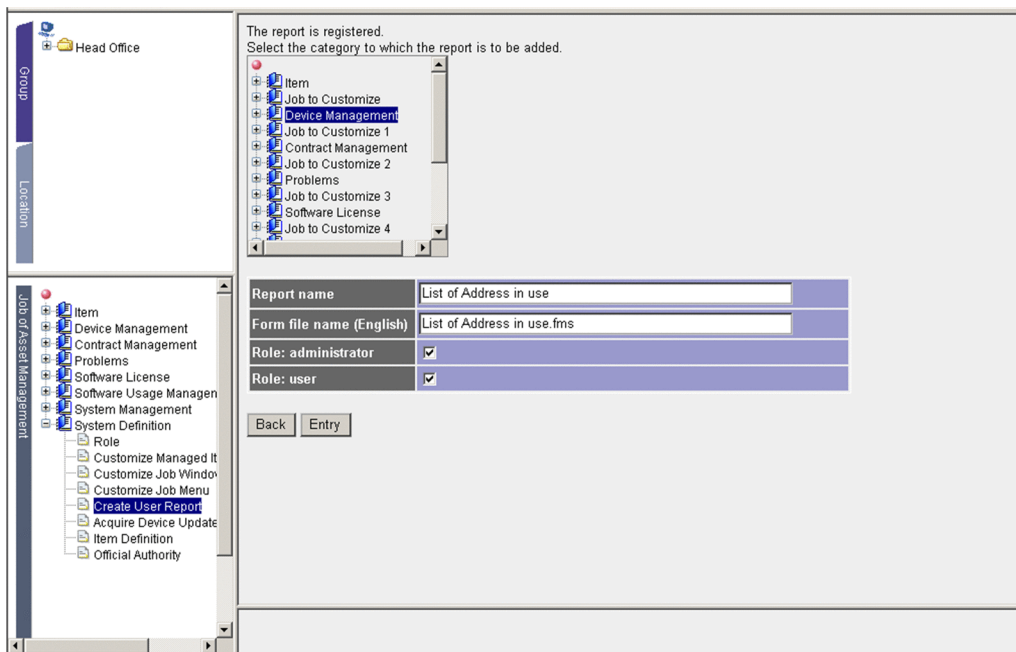
13. Click the **Entry** button.

The user report for searching for the IP addresses that are in use is created.

9.5.13 Example of executing a user report

This subsection describes how to execute the user report created in *9.5.12 Example of creating a user report* by window operation and from the command line.

(1) Example of execution by window operation

Under **Device Management**, select the **List of Address in Use** job menu to display the created user report window.

The figure below shows the created user report window.

Figure 9–38: User report window for searching for the IP addresses in use
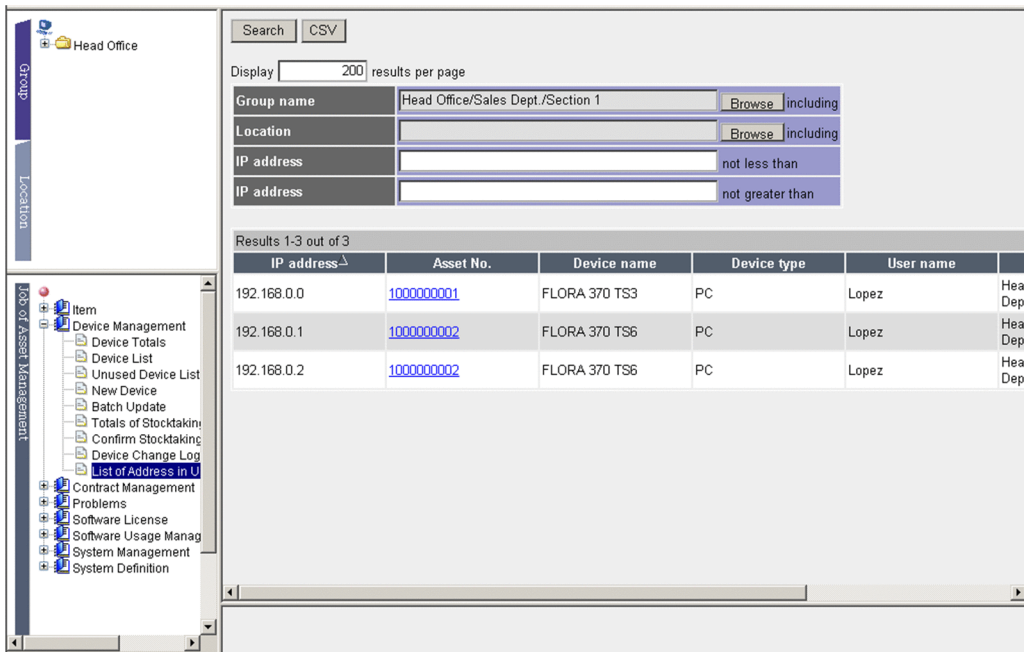
If you specify a search condition and then click the **Search** button, the list of IP addresses in use is displayed. As the search result, this example displays the devices that are using the IP addresses from 10.*XXX.XX*.200 to 10.*XXX.XX*.210 in Section 1.

In the search results, clicking a column title sorts the list in ascending or descending order of the data in that column.

Downloading the search results

By clicking the **CSV** button, you can download to a CSV file the information displayed as the search results.

Outputting the search results

By clicking the **PDF** button, you can output the information displayed in the Search result list to a form in PDF format. To do so, linkage with EUR is required. For details about how to link with EUR, see *5.3 Setting up the asset management server*.

Displaying and editing details

Clicking an **Asset No.** link displays the Device Details dialog box that enables you to view and edit details about that device.

(2) Example of execution from the command line

In this example, a user with administrator permissions searches the **List of Address in Use** user report from a command line, and outputs the results to `C:\Machine.csv`.

- When no search condition is specified

```
jamUserReport -n "List of Address in Use" -pf "C:\Machine.csv"
```

- When groups and an IP address range 10.*XXX.XX*.200 to 10.*XXX.XX*.210 are specified as search conditions

```
jamUserReport -n "List of Address in Use" -cv "Group=Head Office/Sales
Dept./Section 1"
```

```
-cv "StartIPAddress=10.XXX.XX.200" -cv "EndIPAddress=10.XXX.XX.210"
-pf "C:\Machine.csv"
```

9.6 Selecting the items to be acquired as device change logs (Acquire Device Update Record Items)

You can select the items that are to be acquired as device change logs according to management purposes.

The device change log is acquired when the inventory information of JP1/IT Desktop Management 2 - Manager is registered. Therefore, to manage the device change log, linkage with JP1/IT Desktop Management 2 - Manager is required.

You can change the items to be acquired as device change logs from the Acquire Device Update Record Items window, which is displayed by clicking the **Acquire Device Update Record Items** job menu. The following figure shows the Acquire Device Update Record Items window.

Figure 9–39: Acquire Device Update Record Items window
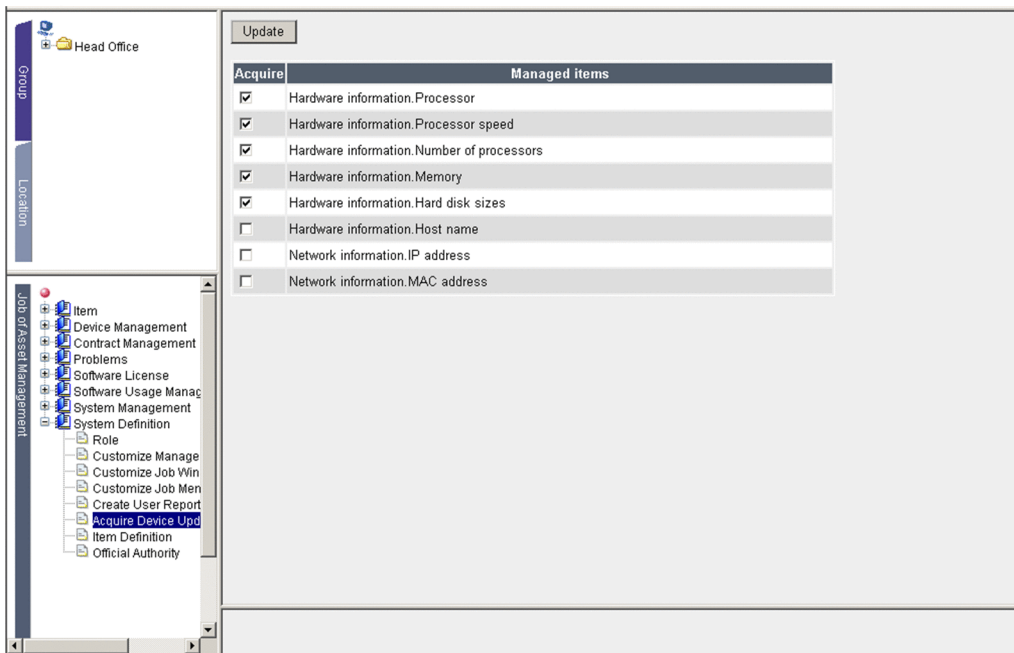
This window lists the items that can be acquired as device change logs. If user-specific hardware information is used to manage the device information, you can also acquire a change log for the user-specific information. You can view the change log acquired based on the settings specified here using the **Device Change Log** job menu under **Device Management** and the **Update Records** tab in the Device Details dialog box.

To acquire information about an item as device change log, select its **Acquire** check box and then click the **Update** button.

To remove an item from the device change log, clear its **Acquire** check box and then click the **Update** button.

Email notification for device change log

If a device change log has been acquired, the number of changed devices can be reported to the asset manager by email notification. For details about how to notify the asset manager about the number of changed devices by email, see *5.9.8 Notification of device information change*.

Notes

- In the **Customize Managed Items** job menu, if you hide the items that can be acquired as device change logs, the device change log is not acquired. They will no longer be displayed in this window.

- If the device change log is to be acquired for the item **Network information.IP address** or **Network information.MAC address**, a large amount of information about devices used in DHCP operation might be acquired. You can use the Server Setup dialog box to select whether the device change log is to be acquired for IP and MAC addresses during DHCP operation. For details about the settings for acquiring the device change log of IP and MAC addresses, see *5.3.4(13) Acquisition of DHCP address update log.*

- If the device change log is to be acquired for the item **Network information.IP address** or **Network information.MAC address**, the device change log for IP and MAC addresses is acquired using the MAC address as the key value. Therefore, if you set to not acquire the MAC address in the device change log, the device change log might be acquired even when there is no change to the IP address.

10

Item Definition

This chapter describes how to define Items in order to use Items in executing asset management jobs. It first provides an overview of the Item definition procedure, and then explains how to define official authorities and Items.

The chapter uses a FAQs format to highlight key points of Item definition.

10.1 Overview of Item definition

To use Items to execute an asset management job, you must define Items that are appropriate to the nature of the job.

Item definition starts in the Item Definition window, which is displayed by clicking the **Item Definition** job menu. The figure below shows the Item Definition window.

Figure 10–1: Item Definition window
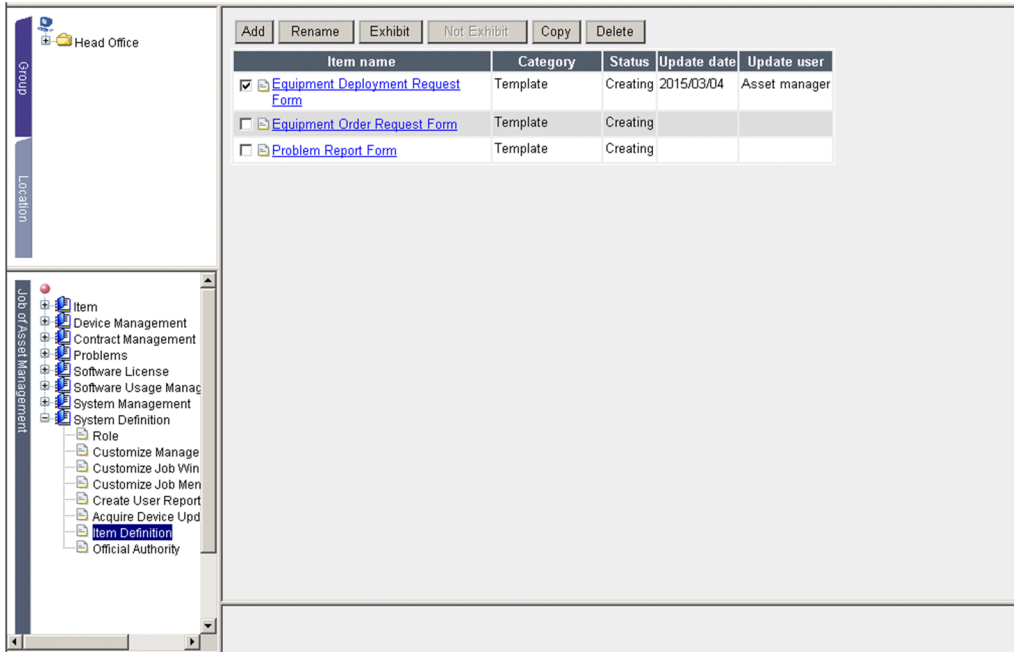
The Item Definition window displays a list of Items that have already been defined and can be used or that are still being created and are currently stored.

From this window, you can define new Items and change registered Items.

By default, the sample Items provided by Asset Console are registered. You can change the definition of an Item by clicking its **Item name** link.

An efficient way to define a new Item that is similar to one of the sample Items is to copy and edit the sample Item. For details about defining an Item by using an existing Item as a template, see *10.7 Changing registered Items*.

10.1.1 Definition steps and procedure

This subsection describes the steps required in defining an Item and the definition procedure.

Figure 10–2: Item definition procedure

1. Design the job
   Workers | Route | Worker's role
   Window components | Processing Details | Operation methods

2. Define official authority — Job menu
   Problem receivers | Problem solvers — Official Authority

3. Add an item category
   Device management | Error management — Code

4. Define the route
   Applicant → Problem Reception Desk → Problem Resolution Desk → Applicant — Item Definition / Flow Designer

5. Define the Items window
   Error report form — Item Definition / Form Designer

6. Define the processing
   Register error information → Asset management database — Item Definition / Activity Designer

7. Define the item options
   Whether or not to send notification email | Set a deadline — Item Definition / Flow Designer

8. Use the item
   Change the Items window | Change the route — Item Definition

1. Design the job.

   Examine the details of the job that is to use the Item. When a job is designed, the items requiring examination include the groups or people (called *workers*) involved, the range of each asset management task, the route, the workers' role, application and notification information, window components, timing of applying information to the asset management database and the details of processing, migration from an existing job, and scheduling including completion notification.

   For details about the items to be examined at the job design stage, see *10.1.2 Designing a job that uses Items*.

2. Define official authority.

   Define the authority for executing each task, such as authorization, by a user with appropriate processing privilege, and then register the applicable user. In addition to the execution authority, also define the permission to reference the latest Item details, and then register the applicable user. You must define official authorities from the **Official Authority** job menu before defining an Item. For details about how to define official authorities, see *10.2 Defining authority for processing the Item (Official Authority)*.

3. Add an Item category.

Each Item belongs to an appropriate category. In the window for selecting a new Item (New Item window), Items are displayed on tabs classified by Item category.

If you need to add a new Item category, use the **Code** job menu to add the category prior to Item definition. For details about how to add an Item category, see *4.8.1 Adding codes* in the *Administration Guide*.

4. Define the route.

Define the route of the Item's flow in terms of the workers and processing. After the route is defined, specify the details of the workers and the processing that they execute on the route.

To define the route of an Item, use the Flow Designer that is displayed from the Item Definition window. For details about how to define a route, see *10.3 Defining the route (Flow Designer)*.

5. Define the Item windows.

Define the Item windows that will be used by the workers. An Item window must be defined for each worker on the route as appropriate to the input information to be handled and the nature of the processing to be performed.

To define an Item window, use the Form Designer that is displayed from the Flow Designer. For details about how to define an Item window, see *10.4 Defining the Item window (Form Designer)*.

6. Define the processing.

Define the procedures for applying the contents of Item windows to the asset management database. If all that is needed is to send the Item to the next worker, this definition is not necessary. A processing definition is required when data in the asset management database is to be registered or updated when the Item is sent to the next worker. For example, in the case of an Item that involves requesting approval of an application and registration after final authorization, processing definition is required only for the final authorization.

To define processing, use the Activity Designer that is displayed from the Flow Designer. For details about how to define processing, see *10.5 Defining each node's task (Activity Designer)*.

7. Define the Item options.

After you finish defining the workers on the route and the details of the processing, the last step is to define options for the Item. The Item options include whether email notification is to be sent to the next worker when the Item is ready to be sent to that worker, and whether a deadline is to be specified for the Item. You define these Item options as required.

You use the Flow Designer to define Item options. For details about how to define Item options, see *10.6 Setting the Item options (Flow Designer)*.

8. Use the Item.

As you use an Item, some changes to the job might occur, necessitating changes to the existing definitions.

To change the definition of an exhibited Item, copy and edit the Item, and then re-register it as a new Item.

You can update an Item version by exhibiting a new Item, and then withdrawing use of the previous version of the Item.

For details about how to change a registered Item, see *10.7 Changing registered Items*.

10.1.2 Designing a job that uses Items

Design the job that is to be executed using Items. The following describes the items required in order to define a job:

- Related group or persons (workers) and the range of the asset management task
  Determine the group or persons (workers) that are involved in the job. Also clarify the range of the tasks that each worker is responsible for.

- Route

  Once the nature of the job has been defined, examine the route of the Item's processing flow by determining the tasks required in order to execute the job as well as the order of the tasks.

- Worker's privilege

  Determine whether the route contains any task that requires processing by a specific worker, such as **Approve**.

- Application and notification information

  Examine the information to be requested by means of an Item and any notification that is to be sent. All processing executable from Items must be predefined. For details about the types of processing that can be executed from Items, see *10.5.2 Selecting tasks to be executed*.

- Window components

  Once the route has been determined, examine the components of the window that is used by each worker on the route. Determine the settings and buttons to be placed in each window and clarify the processing to be executed from each window.

- Timing of applying information to the asset management database and the processing details

  Examine the details of the processing in conjunction with the window components. The types of processing available from an Item are predefined. In addition to the details of the processing, examine issues such as whether processing is to be executed on multiple targets and the base values when it is to be executed on multiple targets.

  You should also examine the Item route in terms of the timing for registering or updating information.

- Migration from an existing job and scheduling including completion notification

  To migrate an Item job that has already been placed in use, such as because changes to the route or the workers have occurred, estimate the migration period and determine how to notify all the users.

10.1.3 Notes about definition

You should note the following points about defining Items:

- The route of an Item is fixed, and cannot branch from a worker depending on specified conditions.

- If you edit the Item window, make sure that the activity defining the task is re-registered. Even if there is no need to change the task, register the activity as is. This prevents Item execution from failing because if an Item defined by Activity Designer is changed by Form Designer, the Item will not execute correctly.

- If a single user logs in to Asset Console from more than one browser to edit the same item, a malfunction might occur. You must create or edit an item from a single browser.

10.2 Defining authority for processing the Item (Official Authority)

Separately from the role of the user who logs in to the asset management system, you must define the role for executing the Item (official authority). When an Item is defined, a registered official authority is allocated. Therefore, official authorities must be defined before an Item is defined.

Official authority is defined as an independent role group separately from the Item definitions. This means that you can allocate the same official authority to the nodes for multiple Items. The official authority has no effect on the Item definitions even if the target user for the official authority changes due to personnel changes.

To define official authority, use the Official Authority window, which is displayed by selecting the **Official Authority** job menu.

The figure below shows the Official Authority window.

Figure 10–3: Official Authority window
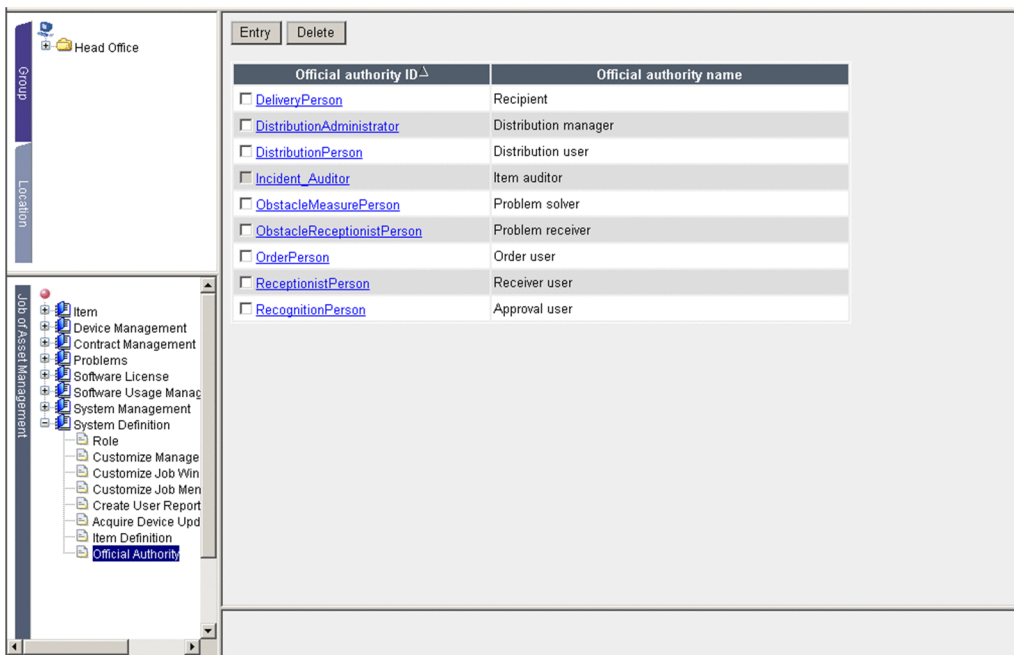
This window lists the defined official authorities. Clicking an **Official authority ID** link displays the details of that official authority.

10.2.1 Adding a new official authority

To add a new official authority:

1. In the Official Authority window, click the **Entry** button.
   The Add Official Authority dialog box appears.
   - **Official authority ID**
     Specifies an ID unique to each official authority. This Item is mandatory.
   - **Official authority name**
     Specifies a name for the official authority. When this Item is omitted, the specified official authority ID is also used as the official authority name.

- **Description**

    Specifies a description of the official authority being registered, if necessary.

    To cancel, click the **Close** button.

2. Click the **OK** button.

    The official authority is registered based on the specified information and the Add Official Authority dialog box closes.

The figure below shows the Add Official Authority dialog box in which each Item has been specified.

Figure 10–4: Add Official Authority dialog box
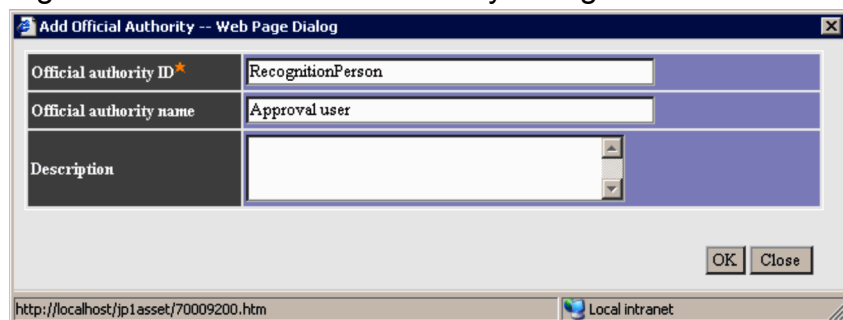
10.2.2 Changing official authority details

This subsection describes how to change the details of an official authority by registering and changing the name and target users for an existing official authority.

(1) Changing an official authority name

To change the name of an official authority:

1. In the Official Authority window, click the **Official authority ID** link of the official authority that you wish to change.

    The Official Authority Details dialog box appears.

    To cancel, click the **Close** button.

2. On the **Official Authority** tab, change the name shown for **Official authority name**, and then click the **Update** button.

    The official authority name is changed.

(2) Registering and changing the target users

To register and change the target users for an official authority:

1. In the Official Authority window, click the **Official authority ID** link for the applicable official authority.

    The Official Authority Details dialog box appears.

2. Click the User tab.

    The registered target users are displayed.

    - To remove a user as a target

        Select the check box for the user to be released, and then click the **Delete** button.

To cancel, click the **Close** button.

3. Click the **Add** button.

   The Search Users dialog box appears.

4. If necessary, specify search conditions, and then click the **Search** button.

   The list is searched and the users who satisfy the conditions are retrieved.

   In the **Official authority user** option, specify whether the target users for other official authorities are also to be searched. By default, **Include official authority user** is selected.

5. Select the check boxes for the users to be added as target users, and then click the **OK** button.

   You cannot add the user IDs admin, JP1_IM, and JP1_IM_SS, which are created by default, as targets for official authority.

6. Click the **Close** button.

   The Search Users dialog box closes and the selected users are added as target users.

The figure below shows the procedure for adding target users in the Official Authority Details dialog box.

Figure 10–5: Procedure for adding target users
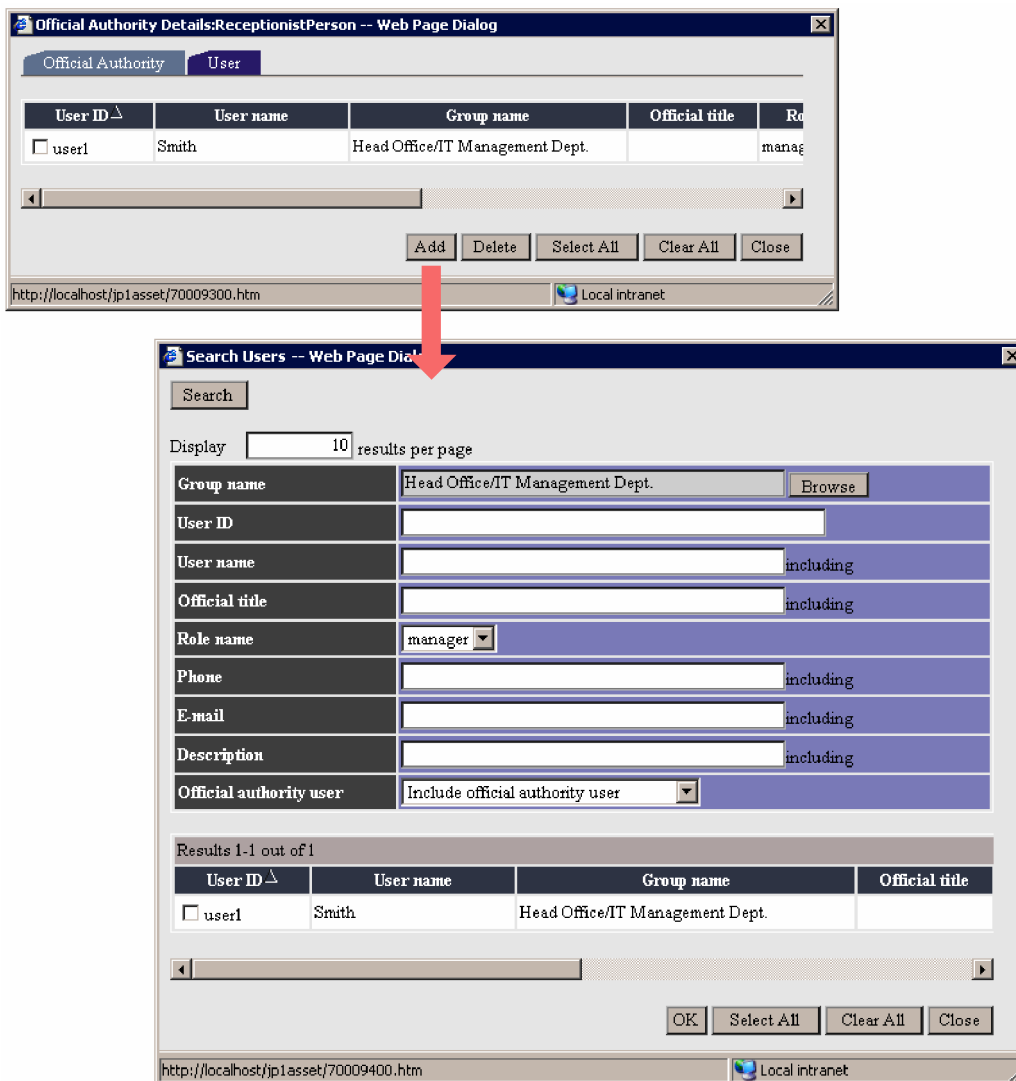
10.2.3 Deleting official authorities

To delete official authorities, in the Official Authority window, select the check boxes for the official authorities that you wish to delete, and then click the **Delete** button. Note that you cannot delete an official authority while target users are registered for it or an official authority that is in use by exhibited Items.

Furthermore, you cannot delete the official authority *Item auditor* (`Incident_Auditor`).

10.3 Defining the route (Flow Designer)

This section describes how to define the route of an Item.

Flow Designer, which is displayed from the Item Definition window, is used to define the route of an Item. The route definition produced by Flow Designer becomes the basis for Item definition.

There are two ways to display Flow Designer:

- By clicking the **Add** button

  This method enables you to define a new route from scratch. If you specify an Item name in the dialog box for specifying Item names, a Flow Designer with only one node defined is displayed.

- By clicking the **Item name** link

  This method enables you to edit an Item that is being defined or reference the settings of a defined Item.

  To use a defined Item as a template for creating a new one, first create a copy of the Item, and then click the **Item name** link.

  Whether the Item is displayed as being editable by Flow Designer depends on the status of the Item. An Item whose status is **Creating** is displayed as being editable, while an Item whose status is **Exhibit** or **Not exhibit** can only be viewed and cannot be edited.

  Note that Flow Designer cannot be displayed for an Item that is being edited by another user.

10.3.1 Names of Flow Designer components and how to use them

This subsection presents the name of each Flow Designer component and how to use it.

The figure below shows the Flow Designer.

Figure 10–6: Flow Designer
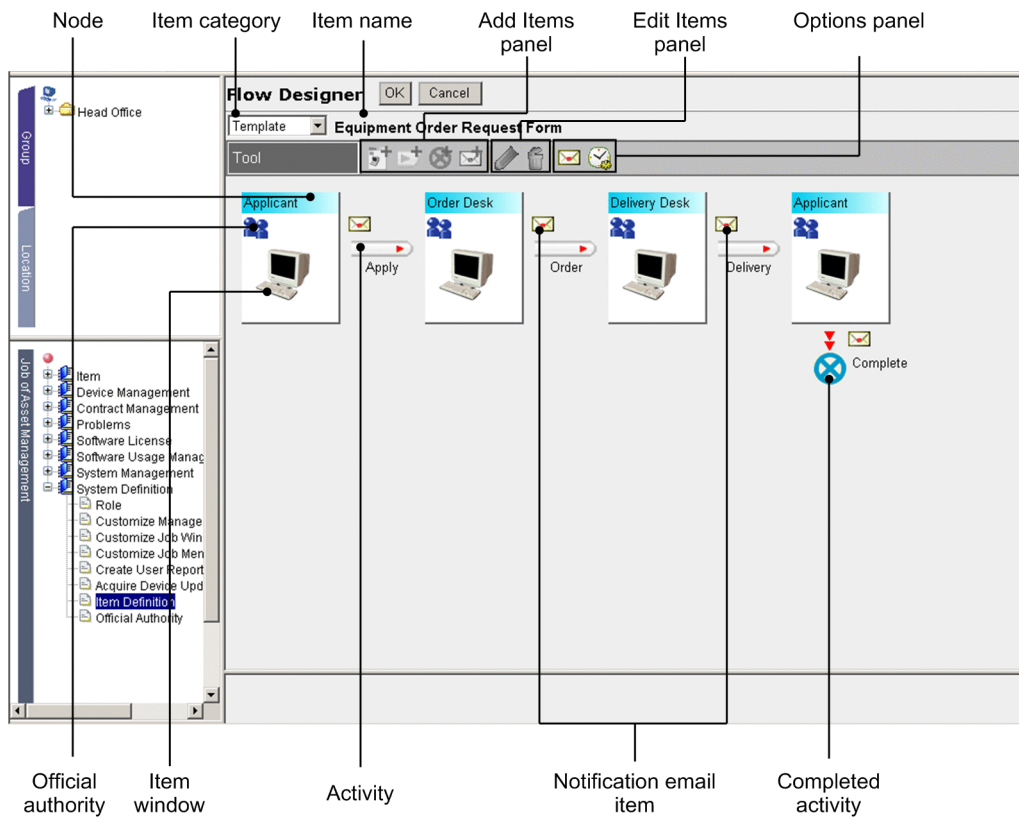
You can use the **Tool** buttons to add nodes and activities to be placed on the Flow Designer. Each button is enabled only when it is available to the target selected on the Flow Designer.

The following describes each **Tool** button for each panel.

Add Items panel

📋 : **Add Node**

Adds a node to the right of the node selected in Flow Designer. A maximum of 20 nodes can be defined on an Item route.

📧 : **Add Activity**

Adds an activity to the node selected in Flow Designer.

🔵 : **Add Completion Activity**

Adds a completion activity to the node selected in Flow Designer in order to complete the Item.

✉ : **Add Notification Email**

Adds a notification email that reports the arrival of an Item to each worker for the activity selected in Flow Designer.

Edit Items panel

✏ : **Edit**

Edits the definition of an activity, of an Item window icon, of an official authority icon, or of a notification email selected in Flow Designer.

This button also enables you to rename nodes.

 : **Delete**

Deletes the node and activity selected in Flow Designer. Note that the leftmost node cannot be deleted.

If an activity has been defined for the node selected in Flow Designer, deleting the node also deletes the activity.

Options panel

 : **Edit Emails**

Defines a subject line and text for email to be used to notify a worker of the arrival of the Item. Set notification by email, if necessary.

This button is enabled when nothing is selected in Flow Designer.

 : **Set Deadline**

Sets a deadline (since the first worker sent the Item) for completing the Item. Setting a deadline is optional. If you set a deadline, any Items whose deadline has passed are displayed in red in the Inbox and the Outbox. This button is enabled when nothing is selected in Flow Designer.

10.3.2 Placing workers and processing

This subsection describes how to define the route by using Flow Designer to place the Item's workers and processing.

Item definition involves defining information, such as manipulation of windows and the asset management database, on the basis of the layout of the workers and the processing steps defined by the Flow Designer. Therefore, if you determine the route for the Item before specifying detailed definitions, Item definition goes smoothly.

This example defines the same route from the Flow Designer, which is displayed by clicking the **Add** button, as for the provided sample **Equipment Deployment Request Form**.

1. Select a desired Item category.

   By default, only the **Template** category is provided. To add a new category, in the Edit Code window, add the code to **MatterCategory of Others (None)**. For details about how to add code, see *4.8.1 Adding codes* in the *Administration Guide*.

2. Select the node name field for the node **Applicant**, and then click the **Add Node** button.
   A dialog box for specifying a node name appears.

3. Specify **Approval user** as the node name, and then click the **OK** button.
   The dialog box closes and the node **Approval user** is added to the right of the node **Applicant**.

   Select the node name field for the added node and repeat steps 2 and 3 to add nodes **Acceptance Desk**, **Distribution Management Group**, and **Applicant**.

4. Select the first node **Applicant** at the left, and then click the **Add Activity** button.
   A dialog box for specifying an activity name appears.

5. Specify **Apply** as the activity name, and then click the **OK** button.
   The dialog box closes and the activity **Apply** is added to the right of the node **Applicant**.

   Similarly, select the nodes **Approval user**, **Acceptance Desk**, and **Distribution Management Group**, and then repeat steps 4 and 5 to add the activities **Approve**, **Distribution request**, and **Distribution**.

6. Select the last node **Applicant** at right and click the **Add Completion Activity** button.
   A dialog box for specifying the name of the completion activity appears.

7. Specify **Complete** as the name of the completion activity, and then click the **OK** button.

   The dialog box closes and the completion activity is added below the last node **Applicant** at right.

   The completion activity is used to complete the Item. You can add the completion activity anywhere on the route for the purpose of completing the Item.

The Item route has now been defined. To save the definitions, click the **OK** button.

To set the details of the official authority of users who are to execute the processing at each node, the Item windows, and the activities, click the applicable icon, and then click the **Edit** button on the **Tool**.

For details about how to set official authority, see *10.3.3 Setting official authority for a node*. For details about how to define the Item window, see *10.4 Defining the Item window (Form Designer)*. For details about how to define activities, see *10.5 Defining each node's task (Activity Designer)*.

10.3.3 Setting official authority for a node

This subsection describes how to set official authority for a node so that only authorized users, such as **Approval user** and **Acceptance Desk**, can execute the task.

An official authority is always set on the basis of selecting a predefined official authority. For details about how to define an official authority, see *10.2 Defining authority for processing the Item (Official Authority)*.

Note

   The official authority *Item auditor* (`Incident_Auditor`) is not set for a node of an Item.

To use Flow Designer to set official authority for a node:

1. Choose the **Official authority** icon ( )of a node to set its official authority and then click the **Edit** button.

   The Definition of Official Authority dialog box appears.

2. Select the **Official authority user** radio button and select the check box for the applicable official authority.

3. Click the **OK** button.

   The Definition of Official Authority dialog box closes and the specified official authority is set for the node.

The figure below shows the Definition of Official Authority dialog box.

Figure 10–7: Definition of Official Authority dialog box
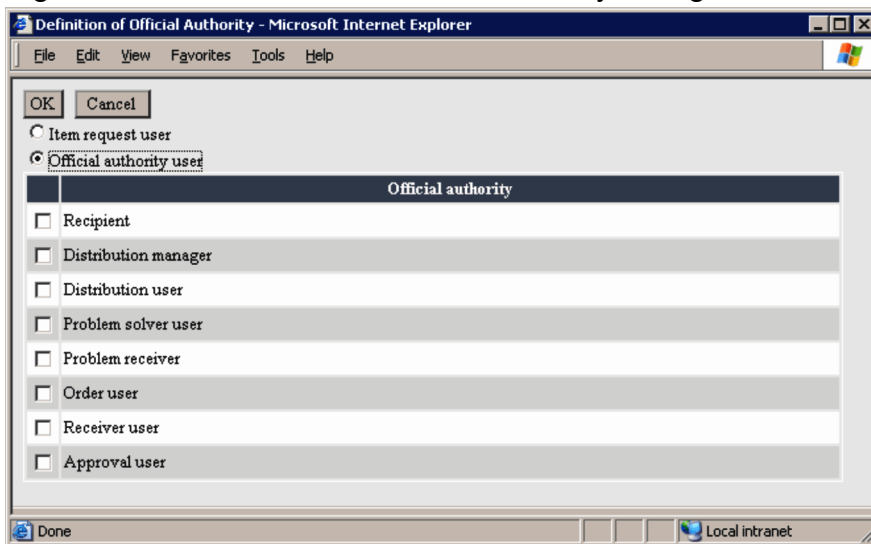
When the Item is to be returned for completion to the user who submitted it initially

For a route where the user who first submitted the Item checks the results and then completes the Item, such as **Equipment Deployment Request Form**, set **Item request user** for the last node in the Item.

If this option is selected, the Item is sent back automatically to the user who requested the Item without displaying the Select Destination dialog box when the preceding worker finishes the processing.

Note that if you select the Item request user radio button, the **Official authority** check box is disabled.

Canceling official authority settings

In the Definition of Official Authority dialog box, select the Official authority user radio button and clear all the **Official authority** check boxes.

10.4 Defining the Item window (Form Designer)

This section describes how to define each worker's window (Item window) that is used when an Item is processed.

Form Designer is used to define each worker's window that is used to process an Item. To display Form Designer, click the **Items Window** icon ( ) for the node defined in Flow Designer, and then click the **Edit** button.

If the status of the Item displayed from Flow Designer is **Exhibit** or **Not exhibit**, the Item's definition cannot be edited.

Item window definition sequence

Define the Item windows sequentially beginning with the first node at the left that was defined by Flow Designer. The Item window for this first node is for the worker who creates the Item. This Item window becomes the template for defining the Item windows for the other nodes. This helps you define the Item windows efficiently.

The *items* defined in the Item window for the first node at the left are inherited by the Item windows for all subsequent nodes. If you add an *item* to the Item window for a node other than the first node, the Item window is no longer inherited to the subsequent nodes.

Therefore, basically, you define all *items* that can be used for the Item in the Item window for the first node at the left. If any of these *items* are not needed for a particular worker, you can hide them at that stage.

Note

A session is not closed while Form Designer is displayed in editable status (the time setting of **Communication-less monitoring time** for **Session Information** in the Server Setup dialog box does not apply). Therefore, you must close Form Designer when you are no longer using it.

10.4.1 Names of Form Designer components and how to use them

This subsection presents the name of each Form Designer component and how to use it.

The figure below shows Form Designer.

Figure 10–8: Form Designer
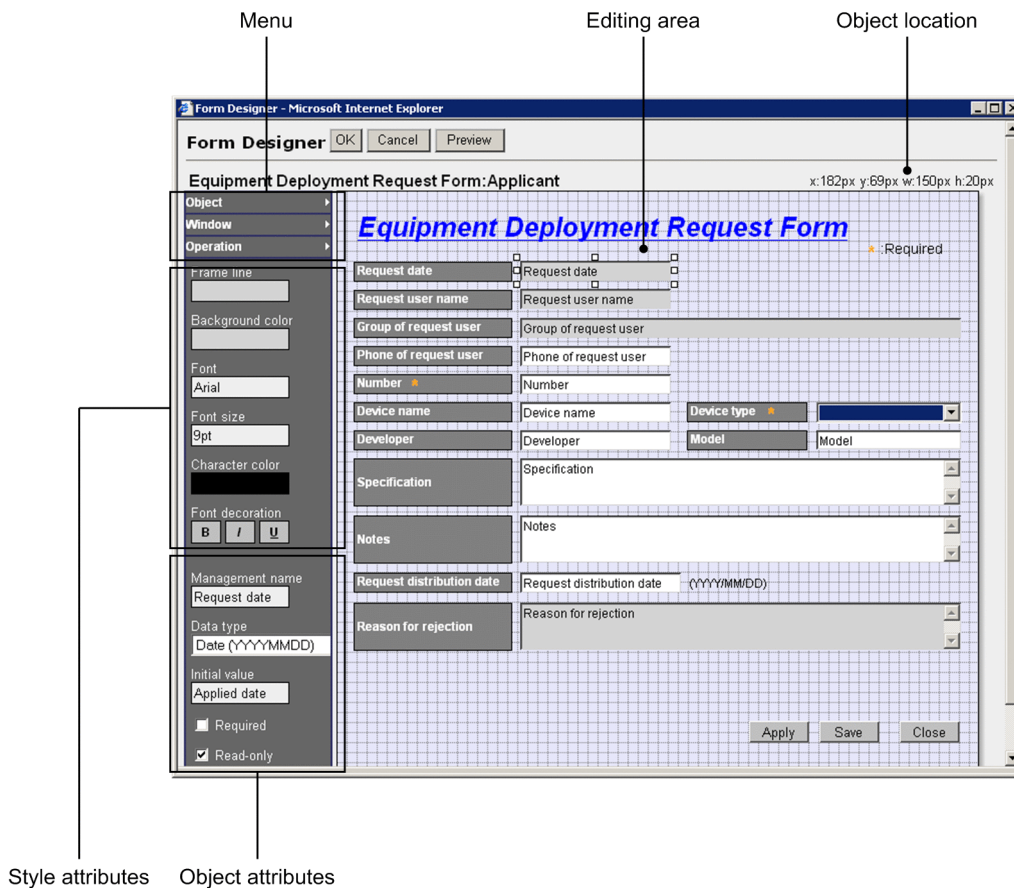
Form Designer is used to set the components of an Item window (*objects*) and the attributes of the Item window (*window*).

- Menu

  Clicking the **Object** menu displays the object types in cascade. Choosing a desired object inserts it in the editing area.

  To insert objects, you must use the **Object** menu. You cannot insert objects from the Microsoft Internet Explorer menu.

  Clicking the **Window** menu displays in cascade the items for which window attributes are to be set.

  Clicking the **Operation** menu displays a menu for copying and pasting style attributes for the object. You can copy the style of an object selected in the editing area and paste it to other objects.

- Editing area

  This area is displayed in an Item window when an Item is actually used. You can set the size and background using the **Window** menu and place each object added from the **Object** menu to set style and object attributes.

- Object location

  Displays the object selected in the editing area in pixels. You can use this location information to adjust the locations of objects.

- Style attributes

  Sets the style of an object, such as color and font. This area displays only those items that can be set for the object selected in the editing area.

- Object attributes

Sets attributes, such as data type and maximum, minimum, and initial values, according to the details specified for each object when the Item is actually used. This area is also used to specify such attributes as whether the Item is required and whether the Item is to be displayed in the window for each worker's processing.

This displays only those items that can be set for the object selected in the editing area.

10.4.2 Defining a window

This subsection explains how to use Form Designer to define window attributes.

You define a window by setting the size, background color, and background image of the Item window. You can display each setting by clicking Form Designer's **Window** menu.

The following shows the **Window** menu.

Figure 10–9: Window menu
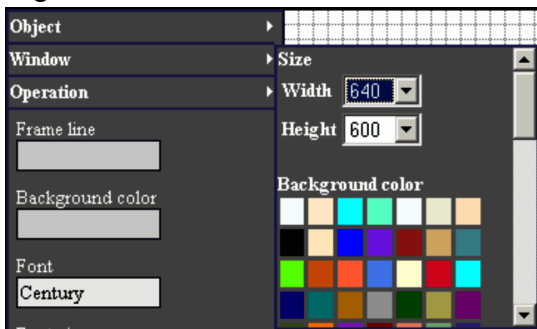
(1) Size

Select the desired width and height from the following values (in pixels):

- Width
  480, 640, 800, 1,024, 1,280
  The default is 640.

- Height
  480, 600, 768, 1,024
  The default is 480.

(2) Background color

Click the desired color under **Background** color. Also click a gradation pattern.

(3) Image

To set a background image:

1. In **Set image**, click the **Browse** button.
   The Browse User Library dialog box appears.
   To view the file contents before setting an image, click the **Show** button.
   To cancel, click the **Cancel** button.

2. Click the **File/Folder name** link for the desired image file and then click the **OK** button.

The Browse User Library dialog box closes and the specified image is set as the background image. The specified files are tiled in the window.

To clear the specified image:

To clear the settings for the specified image, click the **Browse** button again in **Set image**. In the displayed Browse User Library dialog box, click the **Clear** button.

The figure below shows the Browse User Library dialog box.

Figure 10–10: Browse User Library dialog box
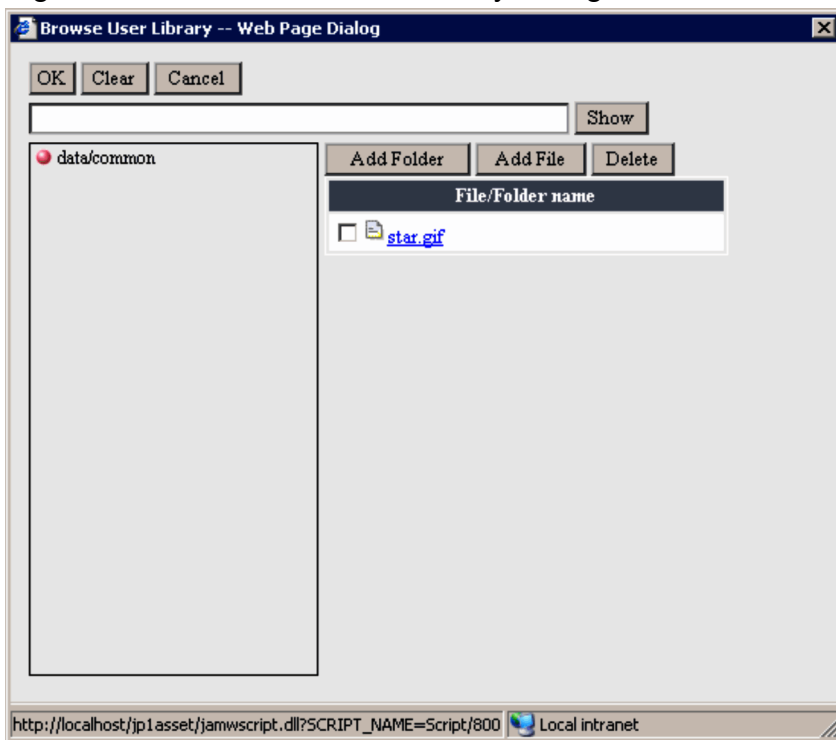
The user library is used to share images among Items by uploading them to the asset management server. You must register in the user library all the images that you wish to insert in Item windows with Form Designer.

To add a file to the user library:

1. Click the **Add File** button.

The File Registration dialog box appears.

- **File name when saved**

Specify the file name to be registered in the user library.

- **Upload file**

Specify the file to be registered.

2. Click the **OK** button.

The File Registration dialog box closes and the specified file is added.

To add a folder to the user library, click the **Add Folder** button and specify the name of the folder.

To delete a folder or file from the user library, select the check box for the applicable folder or file, and then click the **Delete** button.

10.4.3 Inserting objects

This subsection describes how to define the items (objects) that constitute an Item window in Form Designer.

You can insert objects by selecting them from Form Designer's **Object** menu.

The following shows the **Object** menu.

Figure 10–11: Object menu
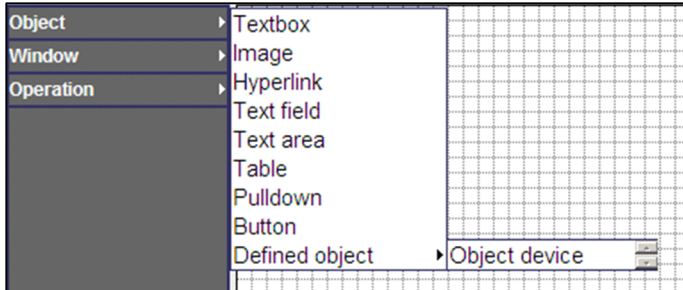
To delete an inserted object, select the object in the editing area, and then press the **Delete** key.

(1) Types of objects that can be inserted

The following types of objects can be inserted:

- Textbox
- Image
- Hyperlink
- Text field
- Text area
- Table
- Pulldown
- Button
- Defined object

This subsection describes how to define each type of object.

(a) Textbox

A text box inserts a character string in the window, such as the name of an item to be specified.

The following shows an example of a text box.

Figure 10–12: Example of a text box

From the **Object** menu, select **Textbox**. A text box is inserted in the editing area. Specify the desired character string in this text box.

For details about how to set the character style (such as color and font), see *(2) Setting the style of an object*.

(b) Image

You can insert an image in the window, such as a company logo or an eyecatcher.

The following shows an example of an image.

Figure 10–13: Example of an image
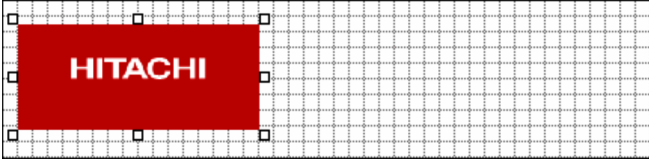
To insert an image:

1. From the **Object** menu, select **Image**.
   The Browse User Library dialog box appears.

2. Click the **File/Folder name** link to select the file that you wish to insert, and then click the **OK** button.
   The Browse User Library dialog box closes and the specified image is inserted in the editing area. Adjust the location and size of the image.
   For details about how to set the order of inserted images, see *(2) Setting the style of an object*.
   For details about how to use the Browse User Library dialog box, see *10.4.2(3) Image*.

(c) Hyperlink

You can register a file to be set as a file attachment to the Item or a link to a specific website for referencing.

The following shows an example of a hyperlink.

Figure 10–14: Example of a hyperlink

From the Object menu, selecting Hyperlink inserts Hyperlink in the editing area. In the editing area, specify an applicable character string to the inserted Hyperlink. For details about how to set the character style (such as color and font), see *(2) Setting the style of an object*.

For details about how to set a URL as a hyperlink, see *(3)(g) URL*.

(d) Text field and text area

You can insert input fields to enable each worker to enter information in the Item window.

The following shows an example of a text field.

Figure 10–15: Example of a text field
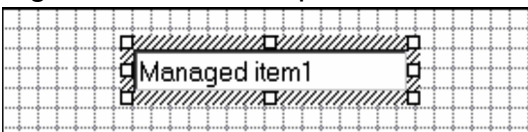
From the **Object** menu, selecting **Text field** or **Text area** inserts a text field or text area in the editing area. If necessary, resize the object in the editing area.

Because values entered in text fields and text areas are registered in the asset management database, you must also set object attributes.
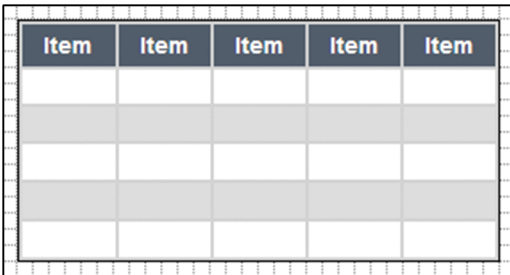
For details about the object attributes required when text fields and text areas are inserted and how to set the object attributes, see *(3) Setting object attributes*.

(e) Table

You can insert input fields to enable each worker to enter multiple Items in the Item window.

The following shows an example of a table.

Figure 10–16: Example of a table

(f) Pulldown

You can insert an area from which a worker can select an item (drop-down list) in the Item window.

The following shows an example of a pulldown.

Figure 10–17: Example of a pulldown
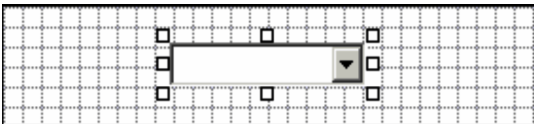
From the **Object** menu, selecting **Pulldown** inserts a drop-down list in the editing area. If necessary, resize the drop-down list.

Because values selected from drop-down lists are registered in the asset management database, you must also set object attributes.

For details about the object attributes required when Pulldown is inserted and how to set the object attributes, see *(3) Setting object attributes*.

(g) Button

You can insert in the Item window buttons for executing or canceling processing.

The following shows an example of a button.

Figure 10–18: Example of a button

From the **Object** menu, selecting **Button** displays an area where you can select a button. Choosing a desired button inserts it in the editing area.

The figure below shows the area for selecting a button.

Figure 10–19: Area for selecting a button
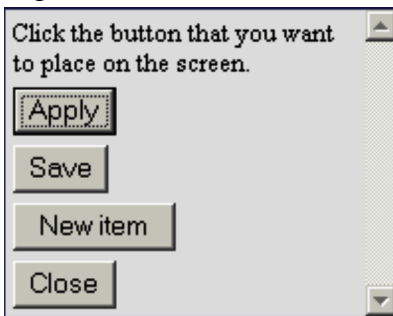
The five types of buttons that can be inserted in the Item window are those that are used for executing activities defined in Flow Designer and those that are used for common purposes: **Complete**, **Save**, **Reject**, **New item**, and **Close**. Note that the **Complete** button can be used only for the node immediately before the completed activity.

If a button used to execute an activity is to update data in the asset management database when the button is clicked, you must use Activity Designer to define the nature of the processing (activity) to be performed by clicking the button.

If a button is used simply to check the contents and send them to the next worker or for common purposes, there is no need to define an activity.

The following describes the types of buttons that can be inserted:

• Buttons for executing activities

These buttons have the activity names defined in Flow Designer. To assign a different name, insert the applicable button in the editing area and then change the name.

• **Complete**

Completes the Item.

• **Save**

Saves the Item in the Outbox without sending it to the next worker.

• **Reject**

Rejects the Item and sends it back to the immediately preceding worker or to the first worker.

• **New item**

Displays an Item window for creating a new Item.

• **Close**

Closes the Item window.

(h) Defined object

You can insert in an Item an object defined for another node. This feature is used so that the Item window for a subsequent node can inherit items defined with Flow Designer in the Item window for a preceding intermediate node on the Item route.

For example, suppose that an intermediate worker clicked the **Browse** button to specify a device and then sent it to the next worker. In order to enable the next worker to determine the received device, you must insert a **Defined object**.

Choosing **Defined object** from the **Object** menu and then selecting the management name of the object to be inserted inserts the selected object in the editing area. For the inserted object, you can set the style and attributes in the same manner as for other objects.

(2) Setting the style of an object

For each object inserted from the **Object** menu, you can set its style, such as a frame line, background color, and type font.

Selecting an object in the editing area displays a style attribute column that contains the styles available to the selected object.

The figure below shows the style attribute column.

Figure 10–20: Style attribute column

Clicking a desired style item displays the available colors or values. Choose an appropriate value, and set the style as required.

The following describes the types of styles that can be set and their values:

- **Frame line**

  Click the set color area and then select either **Non-frame** or a color from the color palette.

- **Background color**

  Click the set color area and then select **Transparent** or a color from the color palette. To set gradation, click the desired gradation pattern.

  Gradation cannot be set for **Pulldown** objects.

- **Font**

  Click the set font area, and then select the desired front.

- **Font size**

Click the set font size area and then select the desired font size. Available sizes are 5 to 72 points.

- **Character color**
  Click the set color area and then select **Default** or a color from the color palette. When **Default** is chosen, the Web browser settings take effect.

- **Font decoration**
  Choose **B** (bold), **I** (italic), or **U** (underline).

(a) Copying style attributes

You can copy a set of style attributes specified for one object to another object. To use a uniform style for the items in the window, set the style, such as background color and font, for one object, copy the style attributes, and then paste them to the other objects. This saves time in setting the style for each item.

To copy and paste a style:

1. In the editing area, select the object whose style is to be copied, and from the **Operation** menu, click **Copy attribute**.

2. In the editing area, select the object to which you wish to paste the style, and from the **Operation** menu, click **Paste attribute**.
   The copied style attributes and size are pasted to the object selected in the editing area.
   You can select multiple objects to which you will paste a style.

(b) Setting the display order

To set the display order of an object that has been inserted in the editing area:

1. In the editing area, select the object whose display order you wish to change, and from the **Operation** menu, select **Front** or **Back**.
   The selected object moves to the front or back.
   You can select multiple objects.
   Note that display order cannot be set for **Pulldown** objects.

(3) Setting object attributes

You can define the attributes of each object, such as an appropriate data type, whether it is mandatory, and whether it is to be displayed in the window.

When you select an object in the editing area, the attributes available to the selected object are displayed in the object attribute column.

Clicking a desired attribute displays available values and a dialog box for entering a value.

In the case of a **Table** object, the **Table Designer** button is displayed. Click this button to open the definition window (Table Designer) for the selected **Table** object. For details about Table Designer, see *10.4.5 Defining a table (Table Designer)*.

The table below provides a cross-reference of object types and object attributes that can be set.

Table 10–1: Cross-reference of object types and object attributes

Object type	Object attribute													
	Mn	Dt	Ml	Max	Min	Iv	Rr	C	URL	Rq	R-o	Nd	EI	Subject
Text box	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Image	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Hyperlink	N	N	N	N	N	N	N	N	M	N	N	N	N	N
Text field	M	M	M[#1]	M[#1]	M[#1]	Y	Y[#1]	N	N	Y	Y	Y	N	Y[#1]
Text area	M	M	M	N	N	Y	N	N	N	Y	Y	Y	N	Y
Table	M	N	N	N	N	N	N	N	N	N	Y	Y	N	N
Pulldown	M	N	N	N	N	Y	N	M	N	Y	Y	Y	N	N
Button	N	N	N	N	N	N	N	N	N	N	N	N	Y[#2]	N

Legend:

    Mn: Management name

    Dt: Data type

    Ml: Maximum length

    Max: Maximum

    Min: Minimum

    Iv: Initial value

    Rr: Reference range

    C: Code

    URL: Uniform Resource Locator

    Rq: Required

    R-o: Read-only

    Nd: Non-display

    EI: Execution item

    M: Mandatory

    Y: Can be set

    N: Cannot be set

#1

    The attribute might not be supported depending on the specified data type. For details, see *(b) Data type*.

#2

    The attribute can be set only for a **New item** button.

(a) Management name

When you define an item for entering a value (such as a text field) in the Item window, this attribute sets a management name for the entered value.

The management name set here is used to define the item. It is not the management item for another job menu. Therefore, you can set any name without having to know classes and properties.

To set a management name, select a text field, text area, or drop-down object in the editing area and, then click the **Management name** specification area. In the displayed dialog box, enter a management name, and then click the **OK** button.

For text fields and text areas, you can select an object and then directly enter a management name in the editing area.

Processing steps are defined in the Item window with Activity Designer on the basis of the management name specified here.

Notes

- All management names in the Item windows for the same Item must be unique except for objects that have been inherited from the Item creator's Item window or objects that have been inserted as **Defined object**.

- In the case of multiple objects with the same management name, you must ensure that they have identical object attributes.

(b) Data type

Data type sets the data type or item specification method for registration into the asset management database.

Data type can be set for **Text field**, **Text area**, and **Pulldown** object types.

The table below provides a cross-reference of data types and applicable object types.

Table 10–2: Cross-reference of data types and object types

Data type	Object type		
	Text field[#1]	Text area	Pulldown
Any double-byte character string	Y	Y	N
Any single-byte character string	Y	Y	N
Alphabetic	Y	Y	N
Alphanumeric	Y	Y	N
Group reference	Y	N	N
Location reference	Y	N	N
User reference	Y	N	N
Code reference	N	N	Y
File reference	Y	N	N
Device reference	Y	N	N
Browse Software	Y	N	N
Reference Software	Y	N	N
Numeric[#2]	Y	N	N
Date (YYYYMMDD)	Y	N	N
Date (YYYYMM)	Y	N	N
Date (MMDD)	Y	N	N
Time (HHMMSS)	Y	N	N
Time (HHMM)	Y	N	N

Legend:
   Y: Can be set
   N: Cannot be set

#1
   The following data types can be set when the object attribute is **Subject**:

- **Any double-byte character string**
- **Any single-byte character string**
- **Alphabetic**
- **Alphanumeric**
- **Date (YYYYMMDD)**
- **Date (YYYYMM)**
- **Date (MMDD)**

#2

Because integers are used in **Numeric** fields defined by Form Designer for Item jobs, digits to the right of the decimal point are discarded.

For text fields and text areas that are specified directly, set the permitted data type.

For text fields that specify a group, location, user, file, device, software name, or software asset, set the data type for specifying applicable information using the **Browse** button.

The following describes the data types that are specified using the **Browse** button:

Group reference, **Location reference**, **User reference**, and **File reference**

When any of these types is set, the **Browse** button appears next to a text field. In the actual Item window, the user can specify applicable information from the dialog box that is displayed when this button is clicked.

Device reference

When this data type is set, the **Browse** button appears next to a text field. In the actual Item window, the user can search for and specify the applicable device managed by Asset Console from the dialog box that is displayed when this button is clicked.

The figure below shows the procedure for adding a device from the Reference Devices dialog box that is displayed when the **Browse** button is clicked.

Figure 10–21: Procedure for adding a device from the Reference Devices dialog box
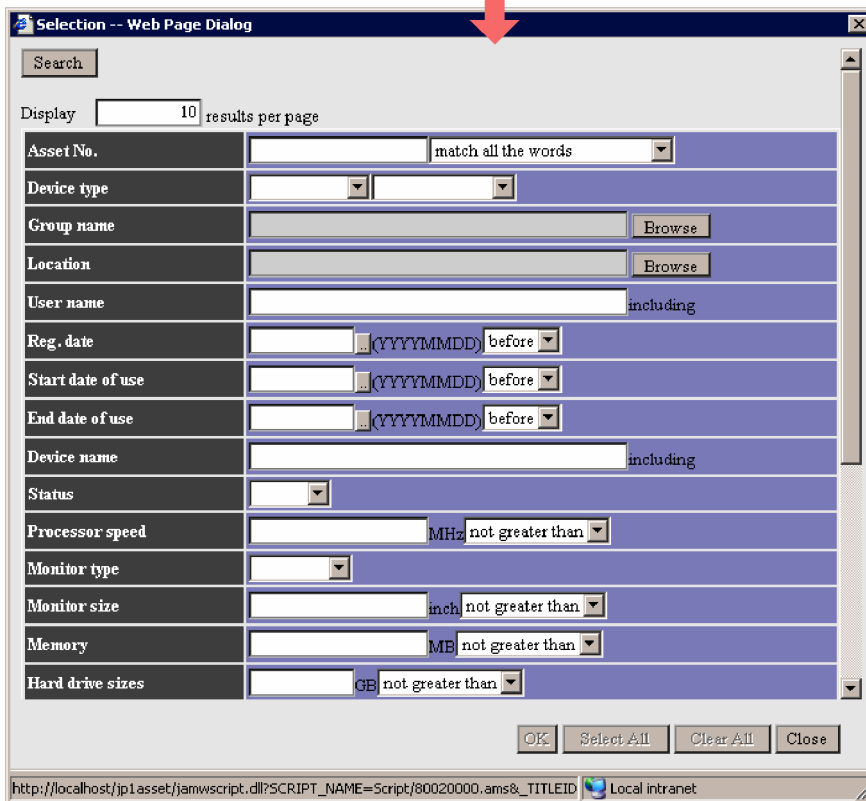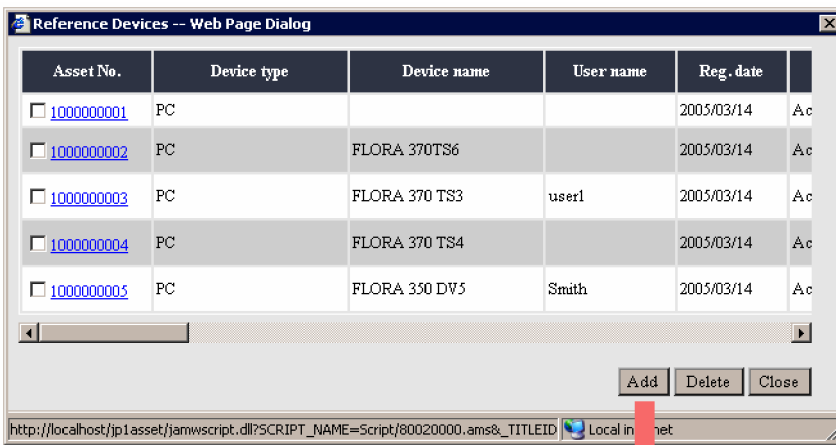
Selecting a desired device from the list of search results in the Selection dialog box and then clicking the **OK** button adds the device to the Reference Devices dialog box.

Browse Software

When this data type is set, the **Browse** button appears next to a text field. In the actual Item window, the user can specify a software name from the dialog box that is displayed when this button is clicked.

The figure below shows the Browse Software dialog box that is displayed when the **Browse** button is clicked.

Figure 10–22: Browse Software dialog box
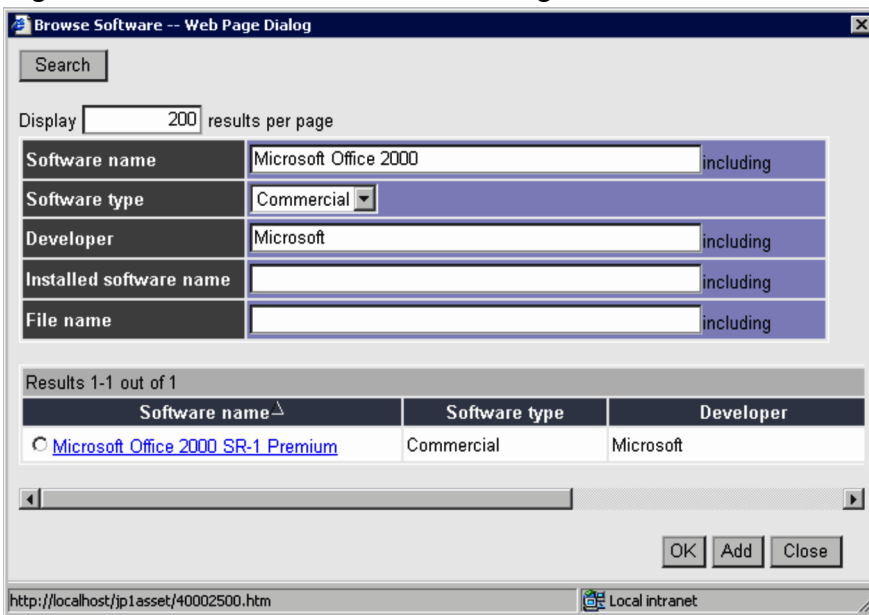
Reference Software

When this data type is set, the **Browse** button appears next to a text field. In the actual Item window, the user can specify a software asset from the dialog box that is displayed when this button is clicked.

The figure below shows the Reference Software dialog box that is displayed when the **Browse** button is clicked.

Figure 10–23: Reference Software dialog box
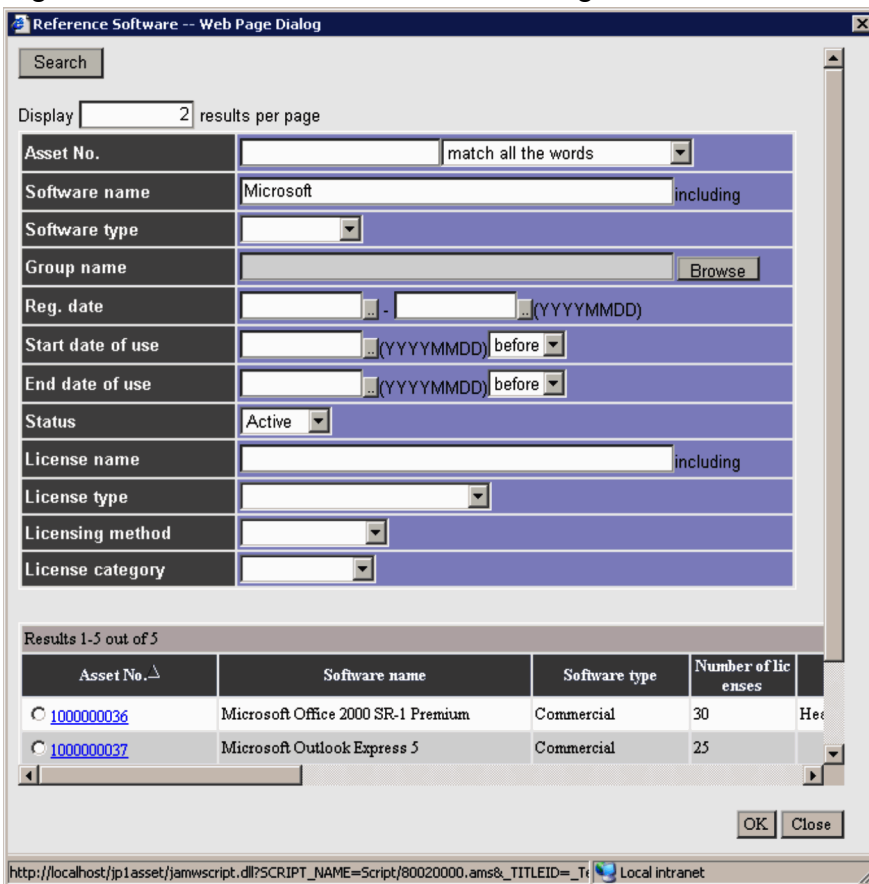
When a software asset is specified in the Item window, the character string Selected appears in the specification field. To check the specified information, click the **Browse** button. In the displayed Reference Software dialog box,

click the link for the asset number to the right of the **Search** button. The Software Details dialog box appears where you can check the specified software asset.

To check the software asset specified by the previous worker in the Item window, click the **Browse** button to display the Software Details dialog box, from where you can confirm the specified software asset.

Date (YYYYMMDD), **Date (YYYYMM)**, and **Date (MMDD)**
> When these data types are set, a button for displaying a calendar next to the text field is displayed. A numeric value entered in the field is treated as a date. You can select any of the three date formats.

(c) Maximum length, Maximum, and Minimum

These object attributes specify the maximum length for an item that is expressed as a character string, and the maximum and minimum values for an item that is expressed as a numeric value.

A maximum of 1,024 bytes of characters is permitted for **Maximum length**. The value range permitted for **Maximum** and **Minimum** is -2,147,483,648 to 2,147,483,647.

(d) Initial value

Initial value sets an initial value to be displayed in the Item window. The permitted initial value depends on the data type.

For data types **Group reference**, **User reference**, **Date**, and **Time**, you can set a user group name, user name, date, and time to their initial values when the Item is executed, according to the information displayed in the Item window.

For data type **Code reference**, you can set the initial value from selections. For other data types, you set a fixed character string.

For a text area, \n in a character string specified as an initial value is regarded as a linefeed.

(e) Reference range

Reference range selects either **Reference the range of filtering** or **Reference all** as the range of groups and users to be referenced.

If access is restricted by the organizational hierarchy, this attribute specifies whether the value is to be specifiable from within the restricted range (**Reference the range of filtering**) or from all organizational hierarchies (**Reference all**).

This attribute is applicable only to text fields whose data type is **Group reference** or **User reference**.

(f) Code

Code defines the selection items (contents of a drop-down list) that are displayed in a drop-down list in the Item window. Selection items in a drop-down list are selected by codes managed in the asset management database. For details about how to add code, see *4.8.1 Adding codes* in the *Administration Guide*.

To define a selection item to be displayed in a drop-down list:

1. In the **Code** specification column, click the **Edit** button.
   The Edit Code dialog box appears.

2. Click the **Add** button.
   The Select Code dialog box appears.

3. In **Managed class**, click the link for the class that contains the code to be displayed.

A list of codes is displayed.

4. Select the check box for the code that you wish to add, and then click the **OK** button.
The Select Code dialog box closes and the specified code is displayed in the Edit Code dialog box.
To delete a code, select the check box for the code that you wish to delete, and then click the **Delete** button.

5. Click the **Close** button.
The Edit Code dialog box closes and the specified code is displayed in the **Code** drop-down list.

The figure below shows the Edit Code dialog box in which codes have been added.

Figure 10–24: Edit Code dialog box
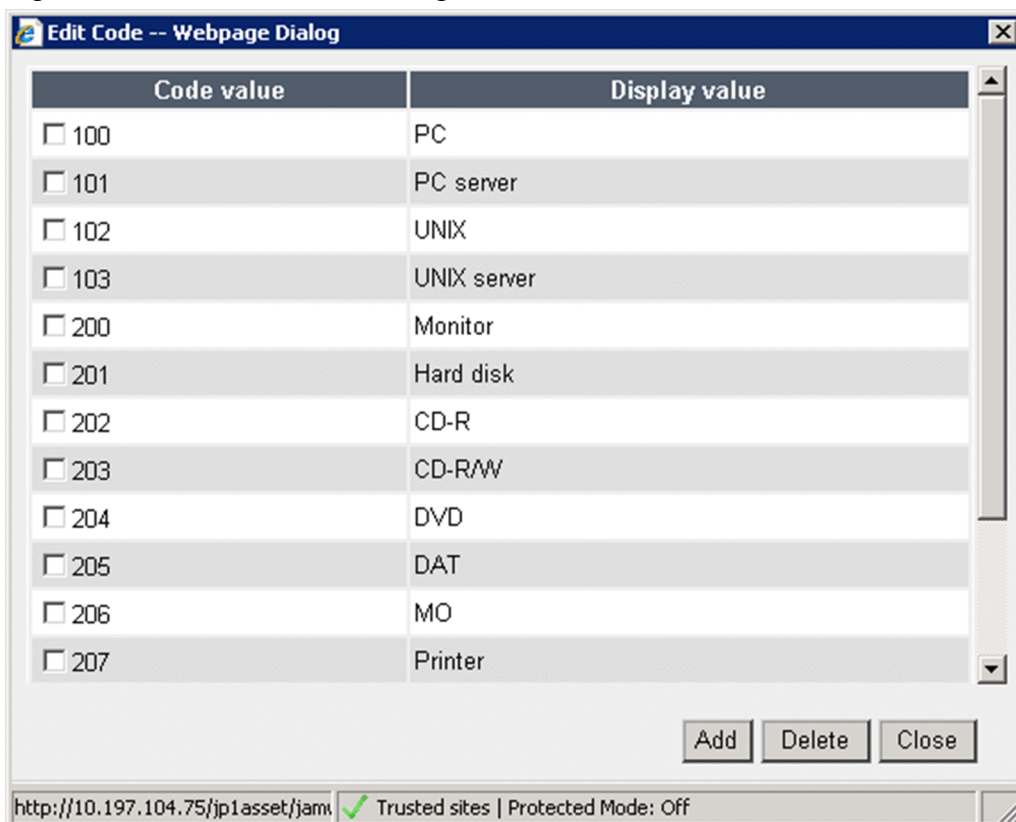
(g) URL

URL sets the target of a hyperlink object.

Two types of targets are available:

- **URL jump**
  Specifies the URL of the target.

- **File jump**
  Specifies the management name of a target file. Select the management name from text field objects with the **File reference** data type that were defined in the previous worker's Item window.
  When the specified data type is **File reference**, only one file can be referenced.

(h) Required

Required sets an item whose specification in the Item window is mandatory.

To set a mandatory item, select the object, and then select its check box.

(i) Read-only

Read-only displays the applicable object as read-only in the Item window. Use this attribute when you wish to ensure that information entered by a previous worker will not be changed.

To set an object as read-only, select the object and then select its check box.

(j) Non-display

Non-display hides an object that is required as Item information but that you do not wish to display in an Item window. For example, suppose that the Item execution date is to be registered in the asset management database. If you insert a text field for entering the date, set the execution date as its initial value, and then hide the field. You can register the execution date and the worker can process the Item without having to know about it.

To hide an object, select the object, and then select its check box.

(k) Execution item

Execution item sets the Item to be displayed by the **New item** button. This attribute is applicable only to Items whose status is **Exhibit**.

If this setting is omitted, clicking the **New item** button displays the Select New Item dialog box for selecting an Item to be executed. If the set Item is no longer in **Exhibit** status, clicking this button also displays the Select New Item dialog box.

(l) Subject

Subject sets the item that is displayed as the subject of the Item in the Inbox, Outbox, and Execution Item Management windows. When multiple Items have the same name, the subject is useful for identifying each Item.

To set the subject, select the object and select the check box.

To display the subject of the Item in the Inbox, Outbox, and Execution Item Management windows:

1. Click the **Customize Managed Items** job menu and then in the displayed window, click the managed class **VariousInfo** link.

2. In the displayed window, click the managed class **ValueText** link.

3. In the displayed window, select the **Show** check box for the property **Incident_Subject**.

4. Click the **Update** button.

Only the Item applicant can set the subject. If the subject is changed by any other user, the change is not applied to the subject in the Inbox, Outbox, or Execution Item Management window.

10.4.4 Adjusting an object's style and position

For an inserted object, you can copy and paste style attributes, change its display order, and adjust its position.

(1) Copying and pasting attributes

You can copy attributes selected in the editing area and paste them to another object.

- **Copy attribute**

  Copies the size and style attributes of the object selected in the editing area, such as color and font. Select only one object in the editing area whose attributes are to be copied.

- **Paste attribute**

  Pastes the attributes copied by **Copy attribute** to the object selected in the editing area. Note that an attribute is not applied to the selected object if it is not supported for that object.

(2) Changing the display order to front or back

You can change the display order of the object selected in the editing area to the front or to the back. Note that the display order of a **Pulldown** object cannot be changed.

(3) Aligning vertical and horizontal positions

You can align objects selected in the editing area vertically or horizontally. Of the selected objects, the one on top (or bottom, or left, or right) is used as the reference for aligning the set of objects.

10.4.5 Defining a table (Table Designer)

This subsection explains how to define a Table object inserted using Form Designer.

Use Table Designer to define the **Table** object that you selected from the Object menu of Form Designer and inserted. Table Designer is displayed when you select the Table object in the edit area and click the **Table Designer** button displayed under the object attribute.

(1) Names of various components of Table Designer and how to use them

The following figure shows Table Designer.

Figure 10–25: Table Designer
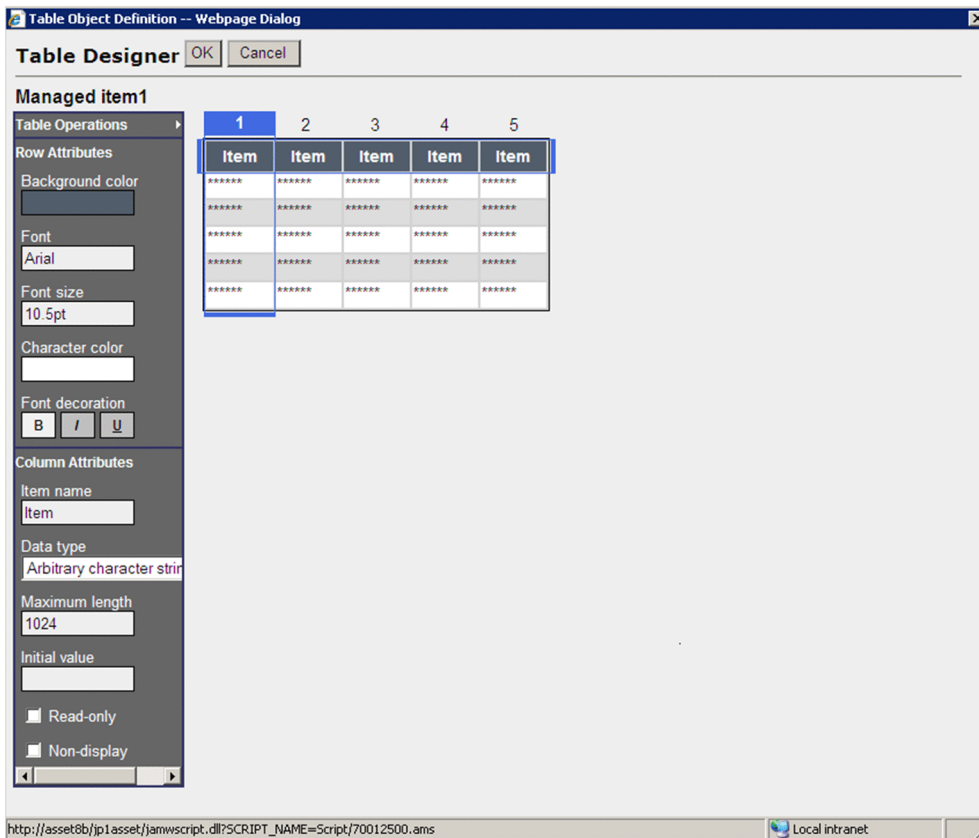
In Table Designer, you set the attribute of the items that constitute a table.

- **Table Operations**

  Displays the Table Operations menu. You can add or delete rows and columns.

- **Row Attributes**

  Sets a style for the selected row.

- **Column Attributes**

  Sets an object attribute for the selected column.

Click the **OK** button to save the **Table** object being edited and close Table Designer. Click the **Cancel** button to discard the **Table** object being edited and close Table Designer.

(2) Defining rows and columns for the table (Table Operations)

Click **Table Operations** to display a menu. Click the desired menu command and define rows and columns for the table. The following menu commands are displayed:

- **Add row**

  Adds a single row. The maximum number of rows that can be defined is 10.

- **Delete row**

  Deletes a single row. You cannot delete a row if the table has only a single row.

- **Add column**

  Adds a column to the last column. The maximum number of columns that can be defined is 10.

- **Delete column**

Deletes the selected column. You can delete only a single column. You cannot delete a column if the table has only a single column.

(3) Setting the row style (Row Attributes)

Click **Row Attributes** to define a row style. Selecting a row or column displays **Row Attributes**. The following styles can be defined:

- **Background color**

  Sets a background color for the selected row. Select a color from the color palette that is displayed when you click the set color area. To set gradation, click a gradation pattern.

- **Font**

  Sets a font for the selected row. Select a font from the font list that is displayed when you click the set font area.

- **Font size**

  Sets a font size for the selected row. Select a font size from the font size list that is displayed when you click the set font size area.

- **Character color**

  Sets a character color for the selected row. Select a color from the color palette that is displayed when you click the set color area.

- **Font decoration**

  Sets font decoration for the selected row. Choose **B** (bold), **I** (italic), or **U** (underline).

(4) Setting the column object attributes (Column Attributes)

Click **Column Attributes** to define an object attribute for each column. Selecting a row or column displays **Column Attributes**. The following object attributes can be defined:

- **Item name**

  Sets an item name for the selected column. Specify a double-byte or single-byte character string between 1 and 32 bytes. The default is **Item**.

- **Data type**

  Sets a column data type. Select the desired data type from the drop-down list. The data types that can be set are listed below. The default is **Any double-byte character string**.

  - **Any double-byte character string**
  - **Any single-byte character string**
  - **Alphabetic**
  - **Alphanumeric**
  - **Group reference**
  - **Location reference**
  - **User reference**
  - **Numeric**
  - **Date (YYYYMMDD)**
  - **Date (YYYYMM)**
  - **Date (MMDD)**
  - **Time (HHMMSS)**

- **Time (HHMM)**

- **Maximum length**

  Sets the maximum length for the data that can be input to a column item. The maximum value that can be set is 1,024 bytes. The default is 1,024 bytes.

- **Initial value**

  Sets the initial value for a column item. The initial value that can be set varies depending on the data type. The following table shows the initial value that can be set by data type.

Table 10–3: Initial values that can be set

Data type	Initial value that can be set
Group reference	Group of applied user
User reference	Applied user name
Date	Applied date
Time	Applied time
Other data type	Any

- **Reference range**

  Sets the range of column items that can be referenced. Select either **Reference the range of filtering** or **Reference all.** The default is **Reference the range of filtering**.

  This item is displayed when one of the following data types is set:

  - **Group reference**

  - **User reference**

- **Maximum** and **Minimum**

  Sets the maximum and minimum numeric values that can be specified for column items. The value range permitted for **Maximum** and **Minimum** is -2,147,483,648 to 2,147,483,647. The default for **Maximum** is 2,147,483,648. The default for **Minimum** is -2,147,483,647.

  This item is displayed when **Numeric** is set for the data type.

- **Read-only**

  When this check box is selected, the set columns are displayed as read-only when the Item window is displayed.

- **Non-display**

  When this check box is selected, the set columns are not displayed when the Item window is displayed.

Note that some object attributes cannot be set (displayed) depending on the data type. The following table shows the correspondence between data types and object attributes.

Table 10–4: Correspondence between data types and object attributes

Data type	Object attribute				
	Maximum length	Initial value	Reference range	Maximum	Minimum
Any double-byte character string	Y	Y	N	N	N
Any single-byte character string	Y	Y	N	N	N
Alphabetic	Y	Y	N	N	N
Alphanumeric	Y	Y	N	N	N

Data type	Object attribute				
	Maximum length	Initial value	Reference range	Maximum	Minimum
Group reference	N	Y	Y	N	N
Location reference	N	N	N	N	N
User reference	N	Y	Y	N	N
Numeric	N	Y	N	Y	Y
Date (YYYYMMDD)	N	Y	N	N	N
Date (YYYYMM)	N	Y	N	N	N
Date (MMDD)	N	Y	N	N	N
Time (HHMMSS)	N	Y	N	N	N
Time (HHMM)	N	Y	N	N	N

Legend:

Y: Can be set.

N: Cannot be set.

Note

When the number of rows or columns to be displayed is changed through a table operation or column display or non-display, the size of the entire table is changed based on the current row and column sizes.

10.4.6 Definition example of Item window

This subsection describes how to define an Item window with Form Designer using the sample **Item Equipment Deployment Request Form** provided by Asset Console.

1. Define the attributes of the window.

   From the **Window** menu, set the size and background color.

   You can change the window attributes at any time while you are defining objects.

2. Insert objects.

   From the **Object** menu, insert as many objects as needed in the Item window.

3. Define the style of the objects.

   Select one of the inserted objects and set style attributes, such as color, size, and font.

   Copy the style attributes of this object and paste them to other objects for which you wish to set the same style attributes. When style attributes are copied, the resulting objects have not only the same color and font, but also the same size. This makes it easy to adjust the layout of the Item window.

   You can change style attributes in a batch operation by selecting multiple objects.

4. Define the attributes of the objects.

   Define the attributes of each object. Unlike the style attributes, the object attributes cannot be copied or specified for multiple objects in a batch operation.

   You can reduce the workload of Item creation if you set attributes automatically, such as using the date and time the Item is displayed and the login user information to set the Item registration date, request user's name, and request user's group.

5. Add style and supplementary information according to the attributes of the object.

Attention is drawn to a mandatory item if the color of the item name is changed during an input operation.

If you have set the object attribute for a date, entry errors can be avoided if you add a note indicating that the date must be entered in the format *year/month/date* including the slashes (/), such as 2004/12/25. Such a note can be inserted as a supplementary information next to the input field.

Alternatively, a specification example can be displayed as the initial value in the input field.

6. Check the settings with a preview.

Check the Item window settings in the actual format that is displayed.

7. Register the Item window.

The Item window is displayed with the status **Creating** in the Item Definition window.

To actually use the Item window, change its status to **Exhibit**.

10.5 Defining each node's task (Activity Designer)

This section describes how to define details of the task (activity) at each node.

Activity Designer is used to define the details of the task at each node. In Activity Designer, you define how the contents of the asset management database are to be updated (added, changed, deleted) on the basis of the information specified by each worker in the Item window.

An activity is defined as a combination of specific processing actions on the asset management database (tasks), such as **Add new device**. By combining tasks, the nodes for Items can achieve a wide variety of processing. These tasks are different from those registered in Windows Task Scheduler.

Activity Designer is displayed from Flow Designer. To display Activity Designer, select an activity defined in Flow Designer (▶) and then click the **Edit** button. If an activity was registered before its definition was completed or if an Item whose status is **Exhibit** or **Not exhibit** is displayed from Flow Designer, the definition cannot be edited.

10.5.1 Names of Activity Designer components and how to use them

This subsection presents the name of each Activity Designer component and how to use it.

The figure below shows Activity Designer.

Figure 10–26: Activity Designer
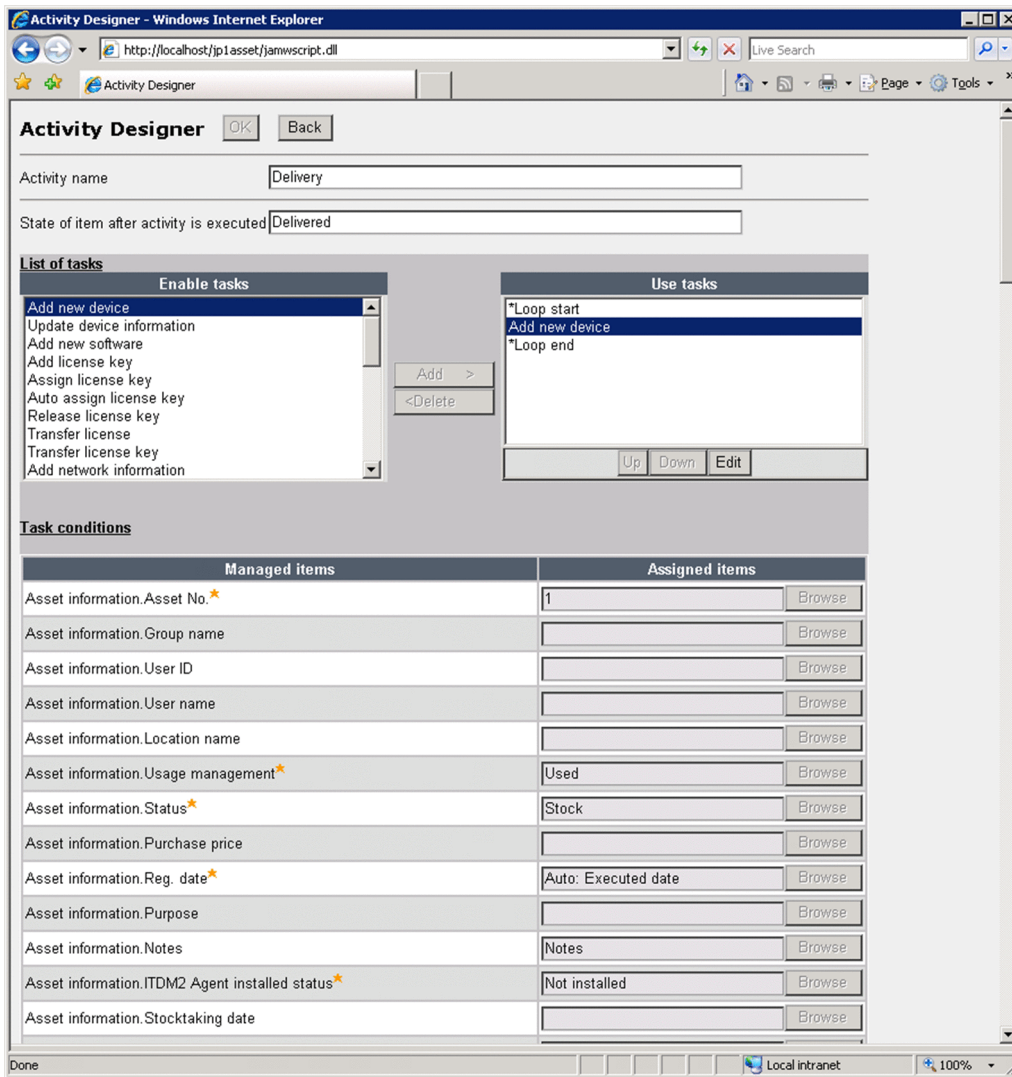
Activity Designer defines processing to be executed from the Item window by setting a task and assignment information for each managed item.

- **Activity name**

  Displays the name that was specified when the activity was added in Flow Designer. Change the activity name, if necessary.

- **State of item after activity is executed**

  Specifies the status of the Item after the activity being defined here has been executed. When this information is omitted, (*activity-name-defined-in-Flow-Designer*) Done is displayed.

- **List of tasks**

  Enable tasks displays definable processing. Select one of the tasks and add it to **Use tasks**. Each task that is added will execute in the order it is displayed in the **List of tasks**. To specify a range for repeating the same processing, add the tasks ***Loop start** and ***Loop end**.

  For details about the types of tasks and the details of each task, see *10.5.2 Selecting tasks to be executed*. For details about how to set the order of tasks, see *10.5.3 Setting the order of tasks to be executed*.

- **Task conditions**

  Sets the details of the task that has been added to **Use tasks**.

  Assigned items is set for each task's **Managed items**.

Managed items lists the following three types of items:

- Information to be managed in the asset management database (class properties)

    You can set the method for updating the information (class properties) managed in the asset management database by Item execution.

    For example, to register the execution date of an Item as the asset registration date, set the value indicating the item execution date using the **Browse** button for the managed Item `Asset Information.Reg.date`.

- Item for identifying the processing target

    You can set the item that identifies the target of the selected task (such as updating).

    For example, to update device information, set the value indicating the target's **Asset No.** using the **Browse** button for the managed item `Asset information.Asset No.`

- Item for setting a range of loop processing

    If you have added the ***Loop start** and ***Loop end** tasks, set the range of the loop.

    For details about how to set the assignment item for each managed item, see *10.5.4 Setting the information to be assigned to managed items*.

If an activity is registered before its definition is completed and integrity is lacking among assigned items or there is more than one managed item that is a mandatory item but no assigned item is set, **Now editing** will be displayed next to the **Back** button when this activity is displayed.

10.5.2 Selecting tasks to be executed

This subsection describes the types of tasks that can be selected in Activity Designer and the details of each task.

To define an activity, select the processing to be executed in the Item window from **Enable tasks**, and then add it to **Use tasks**.

The table below lists the tasks that can be selected in Activity Designer.

No.	Task that can be selected in Activity Designer	No.	Task that can be selected in Activity Designer
1	***Loop start**, ***Loop end**	2	**Add new device**
3	**Update device information**	4	**Add new software**
5	**Add license key**	6	**Assign license key**
7	**Auto assign license key**	8	**Release license key**
9	**Transfer license**	10	**Transfer license key**
11	**Add network information**	12	**Delete network information**
13	**Add new contract**	14	**Add new volume license**
15	**Update contract**	16	**Update volume license**
17	**Assign asset to contract**	18	**Assign asset to volume license**
19	**Release asset from contract**	20	**Release asset from volume license**
21	**Add new user**	22	**Update user information**
23	**Delete user information**	24	**Add new problem**
25	**Update problem**	26	**JP1 event notification**

Legend:
    --: Not applicable

The following describes each executable task:

1. ***Loop start** and ***Loop end**

   Use these tasks to specify the range of a processing repetition.

   You can incorporate a set of ***Loop start** and ***Loop end** within another set of ***Loop start** and ***Loop end**. There is no limitation on the number of these tasks.

   When you select a loop, you must set the target of the loop's processing. The following looping targets can be specified:

   - Number of objects selected on window
   - Number of lines of uploaded file
   - Number of table rows

   For details about how to set the loop target, see *10.5.4(2) Setting the details of loop processing*.

2. **Add new device**

   Use this task to register a new device. The two methods are to register a single device as is into the asset management database by registering the value specified for the item in the Item window, and to register multiple devices by obtaining the common part from the value specified in the Item window and the variable part that depends on the device from a CSV file.

   By combining this task with a network-related task, you can achieve a job such as device installation.

   When you set assigned items for this task, note the following:

   - For **User ID** and **User name**, and **User ID of administrator** and **administrator**, if both ID and name are set, the ID takes precedence over the name for assignment of the corresponding user.
   - If ID has not been set, the name is used as the key value to assign the applicable user.
   - If ID is used to assign information, the specified name is ignored.
   - If only the name is set in the assigned item without setting the ID, user information is searched by the name. If the matching name is found, the corresponding ID is registered. If the matching name is not found, this name is registered as is as the user name. If there are multiple matching names, an error results.
   - If there is no information that corresponds to the ID, an error results.
   - An error occurs if a value cannot be acquired for any of the following **Managed items: Asset information.Status**, **Asset information.Usage management**, and **ITDM2 Agent installed status**.

3. **Update device information**

   Use this task to change device information.

   As with adding a new device, there are two methods, updating a single device and updating multiple devices.

   When you set assigned items for this task, note the following:

   - **Asset No.** specified for **Target asset no.** is used as the key value to assign the information to be updated.
   - For **User ID** and **User name**, and **User ID of administrator** and **administrator**, if both ID and name are set, the ID takes precedence over the name for assignment of the corresponding user.
   - If ID has not been set, the name is used as the key value to assign the applicable user.
   - If ID is used to assign information, the specified name is ignored.
   - If only the name is set in the assigned item without setting the ID, user information is searched by the name. If the matching name is found, the corresponding ID is registered. If the matching name is not found, this name is registered as is as the user name. If there are multiple matching names, an error results.

- If there is no information that corresponds to the ID, an error results.

4. **Add new software**

   Use this task to register new software. This task registers software and license information.

   By combining this task with a license-related task, you can achieve a job such as software installation.

   The **Software name** specified in the Item is registered in the software list, if it has not been registered yet. Similarly, a specified **License name** is registered in the license information, if it has not been registered yet.

   An error occurs if a value cannot be acquired for any of the following Managed items: **Asset information.Status**, **Software list.Software name**, and **Software list.Software type**.

5. **Add license key**

   Use this task to register a license key for software. This task adds a license key to the registered software.

   To identify the target software, the **Asset No.** of the software and information about the owner group are required.

6. **Assign license key**

   Use this task to specify a license key and request use of the license. This task assigns a license for registered software to a device or user based on the specified key.

   To identify the target software, the **Asset No.** of the software and information about the owner group are required.

   When you set assigned items for this task, note the following:

   - If the license category is **Install license**, the applicable device is assigned by **Asset No.** . If the license category is **User license**, the applicable user is assigned by **User name**.

   - If multiple license keys with the specified value (license key, product ID, or serial No.) have been registered, one of the license keys is assigned. If license keys with the specified value have been registered but none of them is available, an error results.

7. **Auto assign license key**

   Use this task to request the use of a license without specifying a license key. This task automatically selects an available key from the registered software licenses and assigns it to the device or user.

   By combining with the **Add license key task**, you can achieve on-demand license addition and assignment.

   To identify the target software, the **Asset No.** of the software and information about the owner group are required.

   To assign license keys automatically, you must register license keys to the applicable software assets beforehand.

8. **Release license key**

   Use this task to release a license in use. This task releases the assignment of registered software licenses.

   To identify the target software, the **Asset No.** of the software and information about the owner group are required.

   To release a specific license, you must specify **License key**, **Product ID**, or **Serial No.**. If multiple license keys for the same software asset have been assigned to the same device or user, all applicable license keys will be released.

9. **Transfer license**

   Use this task when licenses are divided or groups have been changed for reasons such as reorganization. To transfer licenses to another group, this task copies the software information and distributes the numbers of licenses.

   When you select this task, note the following:

   - An error results if the same **Asset No.** is registered more than once at the source.

   - If the same software information whose status is **Active** is found at the target group, the software information is integrated. If multiple sets have been registered, the software information is integrated with one of them.

   - If the target has the same **Asset No.** but its software status is not **Active**, the software is registered as a new asset.

   - The task cannot transfer license keys to multiple groups at the same time. To transfer license keys to multiple groups, you must issue a request for each group.

   - When freeware software is transferred, the source software is not deleted.

- Licenses cannot be transferred if the number of licenses is unlimited at the source or the software is freeware, and the number of destination licenses has been specified. Also, licenses cannot be transferred if the number of licenses is unlimited at the source (not freeware), and the number of destination licenses is omitted.

10. **Transfer license key**

Use this task to transfer license keys for reasons such as reorganization. This task cannot transfer license keys to multiple groups at the same time. To transfer license keys to multiple groups, you must issue a request for each group.

Define license key transfer in the same activity as for the license transfer. An error results if the target does not have the software with the same **Asset No.** as the source.

To identify the target software, the **Asset No.** of the software and information about the owner group are required.

11. **Add network information**

Use this task to assign network information to a device (node name, computer name, IP address). The two methods of IP address allocation are automatic allocation and specified allocation.

When an IP address is specified to register network information, the task uses this IP address even if it is already in use by another device according to the inventory information (this means that there will be two devices with the same IP address).

When you set assigned items for this task, note the following:

- When you use automatic allocation, set the IP group name. If you also set the IP address, the task uses the specified IP address for allocation instead of performing automatic allocation.

- To update network information, specify the applicable IP address. You can change the IP address by specifying the new IP address after updating.

- Set **Target asset ID** if you wish to use the ID of an asset that has already been registered, such as a device registered by the previous task.

12. **Delete network information**

Use this task to delete network information assigned to a device (node name, computer name, IP address). This task uses the specified **Asset ID** (or **Asset No.**) and IP address to find the applicable network information and then deletes it. If multiple IP addresses have been assigned to the specified device, the task deletes all of them.

When you set assigned items for this task, note the following:

- Set **Target asset ID** if you wish to use the ID of an asset that has already been registered, such as a device registered by a previous task.

13. **Add new contract**

Use this task to register new contracts, such as lease, rental, and maintenance contracts.

An error occurs if a value cannot be acquired for any of the following Managed items: **Contract information.Category**, **Contract information.Contract No.**, **Contract information.Subject**, **Contract information.Contract date**, **Contract information.Contract start date**, **Contract information.Contract end date**, **Contract information.Contracted company**, and **Contract information.Status**.

14. **Add new volume license**

Use this task to register new volume contracts.

An error occurs if a value cannot be acquired for any of the following Managed items: **Volume Contract Information.Contract No.** and **Volume Contract Information.Status**.

15. **Update contract**

Use this task to update contract information, such as when contracts are renewed.

When an Item is used to register a contract, **Contract No.** is the only information that can identify the contract. Therefore, if you update contracts using Items, you must manage information in such a manner that **Contract No.** is unique.

16. **Update volume license**

Use this task to update volume contract information, such as when contracts are renewed.

When an Item is used to register a contract, **Contract No.** is the only information that can identify the contract. Therefore, if you update contracts using Items, you must manage information in such a manner that **Contract No.** is unique.

17. **Assign asset to contract**

Use this task combined with the **Release asset from contract** task to change the allocation of devices and software that require contracts, such as when new contracts are registered or existing contracts are renewed.

This task can assign only those contracts whose status is **Under contract**.

An error results if there is more than one applicable contract and the applicable asset has already been assigned to another contract of the same type.

18. **Assign asset to volume license**

Use this task combined with the **Release asset from volume license** task to change the allocation of software that requires a volume contract, such as when new contracts are registered or existing contracts are renewed.

This task can assign only those contracts whose status is **Under contract**.

An error results if there is more than one applicable contract and the applicable software asset has already been assigned to another contract.

19. **Release asset from contract**

Use this task to release the allocation of devices or software that require a contract, such as when existing contracts are renewed.

If the applicable device can be identified, such as when a previous task has changed its device status, specify **Asset information.Asset ID** to inherit **Asset ID** from the previous task.

20. **Release asset from volume license**

Use this task to release the allocation of software that requires a volume contract, such as when existing contracts are renewed.

If the applicable device can be identified, such as when a previous task has changed its device status, specify **Asset information.Asset ID** to inherit **Asset ID** from the previous task.

21. **Add new user**

Use this task to register new users, such as when new personnel have been added. This task registers user information and assigns a user role to each user. It does not set a password. Use the registered **User ID** to log in to Asset Console without entering a password and then use a window operation to set a password.

An error occurs if a value cannot be acquired for any of the following Managed items: **User Information.User ID** and **User Information.User name**.

22. **Update user information**

Use this task to change user information, such as name, telephone number, or email address, and to change the role of a user for reasons such as reorganization.

This task uses **User ID** or **User name** to find the target user. If **User ID** is not specified, the task searches asset information using **User name** as the key value. If more than one user with the same first and last names is registered, an error results.

23. **Delete user information**

Use this task when registered user information is no longer needed for reasons such as reorganization.

This task uses **User ID** or **User name** to find the target user. If **User ID** is not specified, the task searches information using **User name** as the key value. If more than one user with the same first and last names is registered, an error results.

24. **Add new problem**

When Items are used to manage problems, use this task to register problems that have occurred in the asset management system.

An error occurs if a value cannot be acquired for any of the following Managed items: **Maintenance.Managed No.**, **Maintenance.Status**, and **Maintenance.Overview of problem**.

25. **Update problem**

When Items are used to manage problems, use this task to add and update information until a problem is resolved, and to send the problem to the person in charge.

Specify **Asset information.Asset ID** to inherit **Asset ID** of a device for which information has been updated, such as when the previous task has changed the device information for error handling purposes.

26. **JP1 event notification**

Use this task to notify other linked products about Item transition by issuing an Item transition event. By defining this task for all Item-related activities, you can monitor the Item status. When you use the automatic action of JP1/IM to execute the desired command, other linked products can execute processing using the Item transition as a trigger.

An Item transition event is issued when an Item transitions normally (when an activity that contains the task is processed normally). If an Item that has transitioned normally is returned, rejected, or deleted, an Item status change event or Item deletion event is automatically issued.

For details about the JP1 events that are issued in conjunction with Item transition, see *13.2 Details of JP1 events issued from Asset Console*.

10.5.3 Setting the order of tasks to be executed

This subsection describes how to set the order of the tasks that have been added to Activity Designer's **Use tasks**.

Each task added to **Use tasks** is executed in the order displayed in the list. To change the execution order, select a task whose execution order is to be changed from the **Use tasks** list, and then click the **Up** or **Down** button.

When setting the order in **Use tasks**, pay attention to the logical order of information. For example, when you execute the **Add new device** and **Add network information** tasks, you must execute the **Add new device** task first to register information about the device to which network information is assigned.

When you have added loop processing, make sure that ***Loop start** and ***Loop end** are always paired.

The following are examples of settings in the **Use tasks** field when software installation, license usage, and device transfer requests are executed:

- Example of settings for software installation request

```
*Loop start
Add new software
*Loop end
*Loop start
Add license key
*Loop end
```

In this example, **Number of lines of uploaded file** is selected under **Managed items in Task conditions**, and after the number of software information items equaling the number of lines in the CSV file attached to the Item are registered, the license key for the registered software is added.

- Example of settings for license usage request

```
*Loop start
Assign license key
*Loop end
```

In this example, **Number of lines of uploaded file** is selected under **Managed items** in **Task conditions**, and the license is assigned using the specified key to the software already registered for each line in the CSV file attached to the Item. If **Assign license key** is replaced with **Auto assign license key**, available key information is assigned automatically.

- Example of settings for device transfer request

```
*Loop start
Update device information
*Loop end
```

In this example, **Number of objects selected on window** is selected under **Managed items** in **Task conditions**, and the device information is updated the number of times equaling the number of devices selected in the Item window or the number of lines in the CSV file attached to the Item.

10.5.4 Setting the information to be assigned to managed items

This subsection describes how to set the information to be assigned to managed items in Activity Designer's **Task conditions**. By setting the information that is assigned to managed items, you set the information to be updated by tasks added to **Use tasks**, the method for identifying the target of the processing, and the range of loop processing.

To display **Task conditions**, select a desired task from **Use tasks**, and then click the **Edit** button. From the list of **Managed items**, select the item to be processed, and then set the assigned item.

Managed items displays the information managed in the asset management database (in the format *class.property*), the item for identifying the target of the selected task process, and the item for setting a range of loop processing. From the displayed **Managed items**, you set the assigned items as needed. Make sure that you set the items identified by a star (★) in the **Managed items** field.

If you have selected ***Loop start** as **Use tasks**, select **Loop target** before setting an assigned item. For details about how to specify settings when ***Loop start** is selected as **Use tasks**, see *(2) Setting the details of loop processing*.

(1) Setting assigned items for tasks

Clicking the **Browse** button for each assigned item displays the Assigned Setting From Screen dialog box. The following figure shows an example of the Assigned Setting From Screen dialog box.

Figure 10–27: Example of the Assigned Setting From Screen dialog box
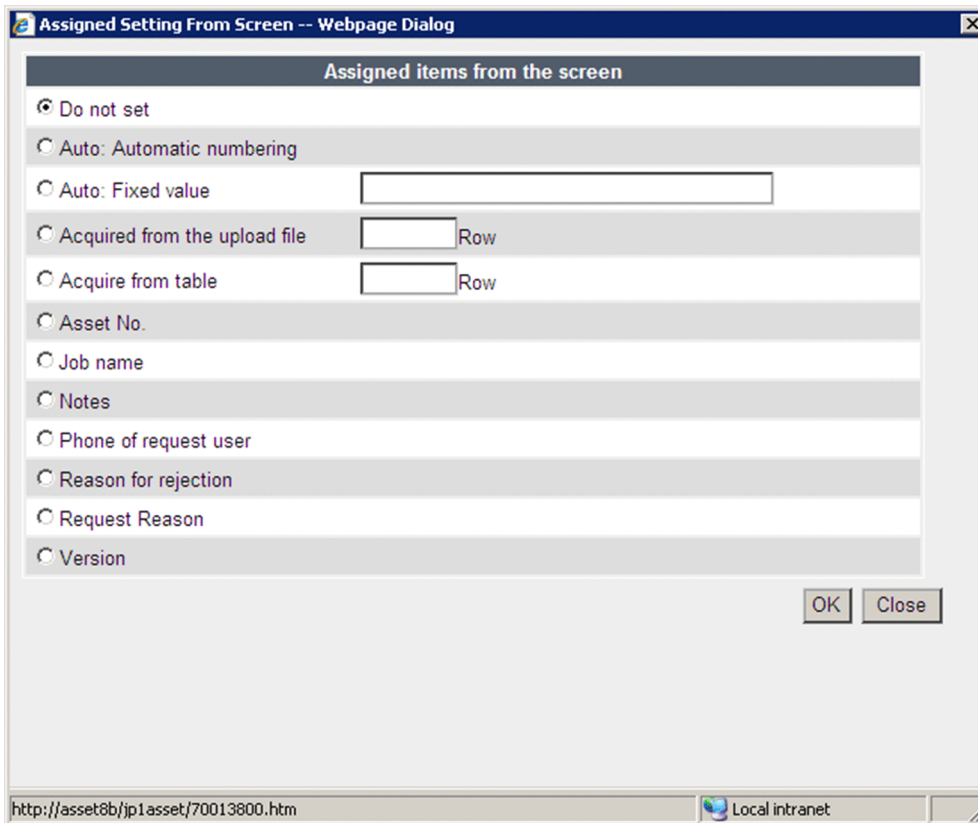
This dialog box lists the items that are set automatically and the management names that were defined in the Item window. Select the information that you wish to assign to each managed item.

Select one of the following assigned items that are displayed in the Assigned Setting From Screen dialog box:

- **Do not set**

  Does not set an assigned item for the selected managed item.

- **Auto: Automatic numbering**

  Sets the value automatically obtained by the asset management system.

- **Automatic: Fixed value**

  Always sets the specified value. When you select this item, make sure that you specify a fixed value.

- **Auto: Executed date**

  Sets the date the Item executes. If a date has already been registered for the same managed item, it will be overwritten.

- **Automatic: Executed date (Register if there is no value)**

  Sets the date the Item executes. If a date has already been registered for the same managed item, it will not be overwritten.

- **Acquired from the upload file**

  Assigns the value in the CSV file that is uploaded as a file attachment to the Item. Only CSV files are supported for assignment of values. When you select this item, make sure that you specify the location of the value that is to be obtained from the file.

  Also add *Loop start and *Loop end before and after the selected task, and in **Task conditions** for *Loop start, specify **Number of lines of uploaded file** in **Loop target**.

- **Acquired from table**

Assigns the value that was defined as the **Table** object in the Item window. When this item is selected, you must also specify the table column from which the value is to be acquired.

Also add ***Loop start** and ***Loop end** before and after the selected task, and in **Task conditions** for ***Loop start**, specify **Number of table rows** in **Loop target**.

- **Acquired from the reference devices**

  Assigns the value of the device specified from the **Browse** button in the Item window. When this item is selected, add ***Loop start** and ***Loop end** before and after the selected task, and in **Task conditions** for ***Loop start**, specify **Number of objects selected on window** in **Loop target**.

- **Acquired from the reference software**

  Assigns the value of the software asset specified from the **Browse** button in the Item window. When this item is selected, add ***Loop start** and ***Loop end** before and after the selected task, and in **Task conditions** for ***Loop** start, specify **Number of objects selected on window** in **Loop target**.

- **Acquired from the task executed immediately before**

  Enables you to assign a value by acquiring applicable information from the immediately preceding task, as defined by the order defined in **Use tasks**. For example, if **Add new device** is defined to be executed immediately after **Add new user**, the user ID registered in **Add new user** can be assigned to **Asset information.User ID** for **Add new device**.

  This item can be set for the following tasks and managed items:

  - Add new device:

    Asset information.User name, **Asset information.User ID**, **Asset information.User name of administrator**, and **Asset information.User ID of administrator**

  - Assign license key:

    Target device's **Asset information.Asset No.** or **Asset information.User ID**, and target software's **Asset information.Asset No.**

  - Auto assign license key:

    Target device's **Asset information.Asset No.** or **Asset information.User ID**, and target software's **Asset information.Asset No.**

  - Add network information:
    Network info ID.Asset ID

  - Assign asset to contract:
    Asset information.Asset ID

  - Assign asset to volume license:
    Asset information.Asset ID

  - Update problem:
    Maintenance log ID.Asset ID

- (Management name defined by Form Designer)

  Displays a managed item defined by Form Designer that has the matching data type. In the Item window, the value entered for the selected item is assigned.

Note

　　If the assigned value is null, when the Item is processed, the null value is used for updating. However, an error results if the null value is assigned to a mandatory managed item.

(2) Setting the details of loop processing

This subsection describes how to set assigned items when the ***Loop start** and ***Loop end** tasks are added to Activity Designer's **Use tasks**.

When a single task is to be repeated, such as when multiple devices are to be registered or deleted, ***Loop start** and ***Loop end** are used to set the range of the repetitive task. The number of times one task is to be repeated is set in **Task conditions**.

Set the repetition count in **Task conditions**, which is displayed by selecting ***Loop start** from **Use tasks**, and then click the **Edit** button.

After selecting the target to be repeatedly executed in **Loop target**, specify an assigned item from the **Browse** button.

The following describes the value to be selected in **Loop target** and how to set the assigned item:

- **Number of objects selected on window**

  Executes the loop processing in the Item window as many times as there are devices or software assets selected from the **Browse** button.

  For **Assigned items**, set the management name of the object for which the data type **Device reference** or **Software reference** was specified in Form Designer.

- **Number of lines of uploaded file**

  Executes the loop processing as many times as there are lines in the CSV file attached in the Item window.

  For **Assigned items**, set the management name of the object for which the data type **File reference** was specified in Form Designer.

- **Number of table rows**

  Executes loop processing the number of times equaling the number of lines defined as the **Table** object in the Item window. For **Assigned items**, set the management name of the **Table** object.

(3) Information set in a managed item to which no value is assigned

When no assigned item has been set or when value acquisition fails, a value is set automatically in some items. The following table shows these items and the values that are set.

Task	Managed item	Value that is set
Add new device	Asset information.Reg. date	Execution date of Item
	Hardware information.Device type	`PC`
Add new software	Asset information.Reg. date	Execution date of Item
Add new user	User information.User name (English)	User ID
Problems	Maintenance log.Reg. date	Execution date of Item
	Maintenance log.Registrar	Login user name
	Maintenance log.Importance	`Emergency`
	Maintenance log.Problem type	User registered

If no assigned item is set for the following managed items, or if value acquisition fails, Item processing results in an error:

- **Add new contract**

Contract information.Contract date, Contract information.Contract start date, Contract information.Contract end date, Contract information.Contracted company

- **Problems**

  Maintenance log.Reg. date, Maintenance log.Overview of problem

10.5.5 Examples of activity definitions

This subsection illustrates the procedure for defining activities with Activity Designer using the example of software installation request jobs.

There are two possible situations for software installation request activities:

- Registering one software asset and multiple license keys (when only one software asset is registered)
- Registering multiple software assets and multiple license keys for each software asset (when multiple software assets are registered)

The following subsections describe each definition example.

(1) Example of activity definition (when only one software asset is registered)

This activity registers the requested software asset and license keys. It assumes that the Item window has been defined in such a manner that the following items are specified and attached:

```
Request user name, Group of request user, Phone of request user, Software
name (mandatory), Number of licenses (required), License keys (required)
(file attachment), Notes, Reason for rejection
```

The following shows the contents of the file attachment for the license keys. **License key**, **Product ID**, and **Serial No.** are specified in the file.

```
Key101,aaa-aaa-aaa,123456789
Key102,bbb-bbb-bbb,123456789
Key103,ccc-ccc-ccc,123456789
Key104,ddd-ddd-ddd,123456789
Key105,eee-eee-eee,123456789
```

Settings in **Use tasks**

The tasks to be selected and their order are as follows:

```
Add new software
*Loop start
Add license key
*Loop end
```

Settings in **Task conditions** for **Add new software**

The following shows an example of setting assigned items for **Add new software**.

Figure 10–28: Example of setting assigned items for Add new software (when only one software asset is registered)

Managed items	Assigned items	
Asset information.Asset No.*	Asset No.	Browse
Asset information.Group name	Group of request user	Browse
Asset information.Status*	Active	Browse
Asset information.Purchase price		Browse
Asset information.Reg. date*	Auto: Executed date	Browse
Asset information.Purpose		Browse
Asset information.Notes	Notes	Browse
Asset information.Stocktaking date		Browse
Asset information.Start date of use		Browse
Asset information.End date of use		Browse
Asset information.Managed group		Browse
Asset information.administrator		Browse
Software information.Number of licenses	Number	Browse
Software information.Purchase point		Browse
Software list.Software name*	Software name	Browse
Software list.Developer		Browse
Software list.Software type*	Commercial	Browse
License information.License name	Software name	Browse
License information.License type	Install license	Browse
License information.Upgrade assurance	No	Browse
License information.Downgrade	Disable	Browse
License information.Licensing method	Package	Browse
License information.License category	Install license	Browse
License information.Description		Browse
License information.Notes		Browse

Because only one software asset is registered, for **Asset No.**, set the management name of the object that specifies **Asset No.** . For other required items, set a fixed value.

Settings in **Task conditions** for ***Loop start**

To register the license keys specified in the CSV file, set **Number of lines of uploaded file** for **Loop target** and the management name of the object that specifies **License key** for **Assigned items**.

Settings in **Task conditions** for **Add license key**

The following shows an example of setting assigned items for **Add license key**.

Figure 10–29: Example of setting assigned items for Add license key (when only one software asset is registered)

Managed items	Assigned items	
Target asset no. of software*	Asset No.	Browse
Target group name*	Acquired from the reference softw	Browse
Software key information.Product ID	2	Browse
Software key information.License key	1	Browse
Software key information.Serial no.	3	Browse
Software key information.Notes		Browse

For **Target asset no. of software** and **Target group name**, set the management names of the objects that specify their values. For **Target group name**, you can specify only the object for which **Group reference** was selected as the object attribute **Data type**.

For **Product ID**, **License key**, and **Serial No.**, set the applicable column numbers in the CSV file.

(2) Example of activity definition (when multiple software assets are registered)

This activity registers requested multiple software assets and multiple license keys for each software asset. It assumes that the Item window has been defined in such a manner that the following items are specified and attached:

```
Request user name, Group of request user, Phone of request user, Software
(required) (file attachment), License keys (required) (file attachment),
Notes, Reason for rejection
```

The following shows the contents of the file attachment for the software. **Asset No.**, **Software name**, **Number of licenses**, and **License name** are specified in the file.

```
Asset000001,Software001,2,License001
Asset000002,Software002,2,License002
Asset000003,Software003,2,License003
```

The following shows the contents of the file attachment for the license keys. **Asset No.**, **License key**, **Product ID**, and **Serial No.** are specified in the file.

```
Asset000001,Key101,aaa-aaa-aaa,123456789
Asset000001,Key102,bbb-bbb-bbb,123456789
Asset000002,Key103,ccc-ccc-ccc,123456789
Asset000002,Key104,ddd-ddd-ddd,123456789
Asset000003,Key105,eee-eee-eee,123456789
Asset000003,Key106,fff-fff-fff,123456789
```

When multiple software assets are registered, you must specify **Asset No.** to identify each software asset.

Settings in **Use tasks**

The tasks to be selected and their order are as follows:

```
*Loop start
Add new software
*Loop end
*Loop start
Add license key
*Loop end
```

The loop processing itself can be structured hierarchically. However, this example does not use a hierarchical structure because if the license keys to be registered vary from one software asset to another, a hierarchical structure cannot provide the intended processing.

This example requires assignment of information between the CSV files for the **Add new software** and **Add license key** tasks. It is therefore necessary to specify the assigned key in both CSV files. In this example, **Asset No.** is the assigned key.

Settings in **Task conditions (*Loop start)**

To register the information specified in the CSV file, set **Number of lines of uploaded file** for **Loop target**. For **Assigned items**, set the management name of the object that specifies **Software** or **License key**.

Settings in **Task conditions (Add new software)**

The following shows an example of setting assigned items for **Add new software**.

Figure 10–30: Example of setting assigned items for Add new software (when multiple software assets are registered)

Managed items	Assigned items	
Asset information.Asset No.★	1	Browse
Asset information.Group name	Group of request user	Browse
Asset information.Status★	Active	Browse
Asset information.Purchase price		Browse
Asset information.Reg. date★	Auto: Executed date	Browse
Asset information.Purpose		Browse
Asset information.Notes	Notes	Browse
Asset information.Stocktaking date		Browse
Asset information.Start date of use		Browse
Asset information.End date of use		Browse
Asset information.Managed group		Browse
Asset information.administrator		Browse
Software information.Number of licenses	3	Browse
Software information.Purchase point		Browse
Software list.Software name★	2	Browse
Software list.Developer		Browse
Software list.Software type★	Commercial	Browse
License information.License name	4	Browse
License information.License type	Install license	Browse
License information.Upgrade assurance	No	Browse
License information.Downgrade	Disable	Browse
License information.Licensing method	Package	Browse
License information.License category	Install license	Browse
License information.Description		Browse
License information.Notes		Browse

For **Asset No.**, **Software name**, **Number of licenses**, and **License name**, set the applicable column numbers in the CSV file. For **Group name** and **Notes**, set the management names of the objects that specify their values. For other required items, set fixed values.

Settings in **Task conditions** (**Add license key**)

The following shows an example of setting assigned items for **Add license key**.

Figure 10–31: Example of setting assigned items for Add license key (when multiple software assets are registered)

Managed items	Assigned items	
Target asset no. of software★	1	Browse
Target group name★	Acquired from the reference softw	Browse
Software key information.Product ID	2	Browse
Software key information.License key	1	Browse
Software key information.Serial no.	3	Browse
Software key information.Notes		Browse

For **Target asset no. of software** and **Target group name**, set the management names of the objects that specify **Asset No.** and **Group name**, respectively. For **Product ID**, **License key**, and **Serial No.**, set the applicable column numbers in the CSV file.

10.6 Setting the Item options (Flow Designer)

This section describes how to set Item options.

When you send a created Item, you can specify whether a completion deadline is to be set and whether an email notification is to be sent to the next worker.

Flow Designer is used to set these Item options.

10.6.1 Setting a deadline

You can set a deadline for completing a new Item, based on an interval (number of days) since the Item is sent. This setting is optional. If you set a deadline, an Item whose deadline has passed is displayed in red in the Inbox.

To set a deadline for an Item:

1. In Flow Designer, from **Tools**, click the **Set Deadline** button.
   A dialog box for specifying the deadline in days appears.
   The permitted maximum value is 999 days.

2. Specify the deadline in days, and then click the **OK** button.
   The dialog box for specifying the deadline closes and the specified deadline is set.
   For an Item for which a deadline has been set, you can determine the **Expiration date** in the Inbox and Outbox windows.

To release the set deadline:
   In the procedure for setting the deadline, specify 0 or blank as the deadline.

10.6.2 Selecting email transmission

When a worker sends an Item to the next worker after processing the Item, an email notification can be sent alerting the next worker that the Item has been sent. Whether an email is to be sent is specified for each Item or each activity.

To send email notification:

1. In Flow Designer, click the **Edit Emails** button.
   Mail Designer appears.

2. Specify the default text to be displayed in **Subject** and **Contents**.
   You can specify a maximum of 64 bytes of text in **Subject** (the subject line) and a maximum of 1,000 bytes of text in **Contents** (the body of the email).
   The texts set here can be edited when each worker sends the email.
   If no texts are specified, the email transmission setting does not take effect.

3. Click the **OK** button.
   Mail Designer closes and the specified email transmission setting takes effect. When the settings take effect, the notification email item ( ) is added to all activities for the Item.
   Whether the email is actually to be sent can be selected when the Item is sent.

4. Select the notification email item (✉) whose email transmission settings are to be changed, and then click the **Edit** or **Delete** button.

You can edit the email transmission settings for each activity.

If you click the Edit button, Mail Designer is displayed. Specify the desired information. If you click the OK button, the specified email transmission settings take effect and the notification email item is changed for the activity (✉). If you click the **Delete** button, a dialog box asking whether the notification email item is to be deleted is displayed. Click the **OK** button. If you do not wish to specify email transmission settings for each activity, skip step 4.

To add a notification email item that was deleted once, select the target activity and then click the **Add Notification Email** button (✉).

The figure below shows Mail Designer.

Figure 10–32: Mail Designer
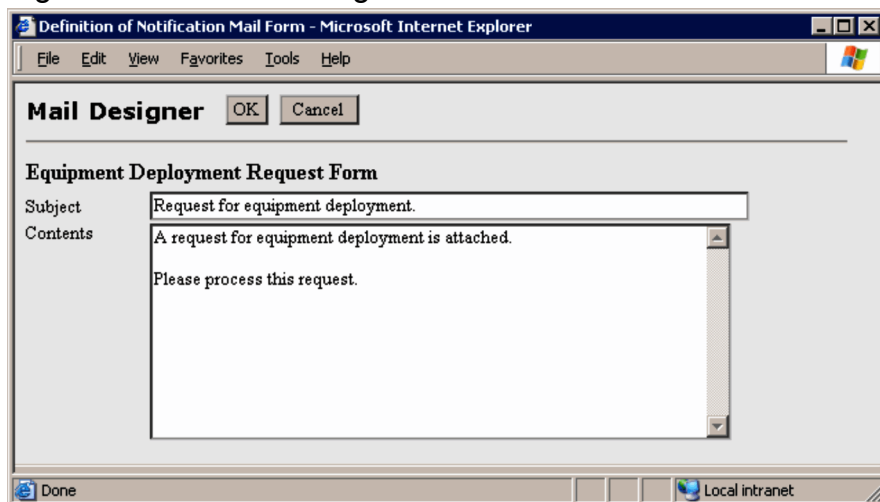
To change the email transmission settings for each activity to settings for each Item

Use the procedure for setting email transmission to delete all character strings specified in **Subject** and **Contents**. Clicking the **OK** button displays a dialog box asking whether you want to change the email transmission settings to settings for each Item. Click the **Yes** button.

To release the email transmission settings for each Item

In the procedure for setting the email transmission, delete the texts for **Subject** and **Contents**.

Clicking the **OK** button deletes all notification email items whose email transmission settings are enabled for each Item.

Note

Email for notifying Item transmission is sent on the basis of the email address registered in the user information. This means that if a user's email address has not been registered, email will not be sent to this user even if the email transmission setting has been specified. If no email address has been registered for the Item handler (email sender), the email address set in **Sender's e-mail address** in the Server Setup dialog box is used as the sender's email address.

- Settings in Microsoft Internet Information Services

  To send email notification of Item transmission, settings in Microsoft Internet Information Services are required in addition to the settings in Flow Designer.

  - Executing the SMTP Virtual Server

    Make sure that the SMTP Virtual Server is executing. For details about how to set the SMTP Virtual Server, see *5.10.1 Executing the SMTP virtual server*.

- Relaying received email to a remote domain

  By adding a remote domain to the SMTP Virtual Server, received email can be relayed to the remote domain. For details about how to relay received email to a remote domain, see *5.10.2 Adding a remote domain*.

10.7 Changing registered Items

This section describes how to change an Item that was saved before completion and the sample Items provided by Asset Console.

You can define Items efficiently by using registered Items or by editing the sample Items that have been registered.

To modify a registered Item, select the Item Definition job menu to display the Item Definition window, and then modify the Item from the window.

10.7.1 Renaming an Item

You can rename an Item while its status is **Creating**.

To rename an Item:

1. In the Item Definition window, select the check box for the Item you wish to rename, and then click the **Rename** button.
   A dialog box for specifying an Item name appears.

2. Specify an Item name.
   You can register the same name for multiple Items.
   To cancel, click the **Cancel** button.

3. Click the **OK** button.
   The dialog box for specifying the Item name closes and the Item is renamed to the specified character string. In the **Update user** field, the name of the user that made this change appears.

10.7.2 Setting an Item to Exhibit or Not exhibit

You can change the status of an Item from **Creating** to **Exhibit**, so that a new Item can be created. Additionally, you can change the status of an Item from **Exhibit** to **Not exhibit**, so that a new Item cannot be created.

To change the Item status to **Exhibit** (or **Not exhibit**):

1. In the Item Definition window, select the check box for the Item whose status is to be changed, and then click the **Exhibit** (or **Not Exhibit**) button.

2. When the confirmation dialog box appears, click the **OK** button.
   To cancel, click the **Cancel** button.
   The status of the selected Item changes. In the **Update user** field, the name of the user that made this change appears.
   You can also change the status of the Item from **Not exhibit** back to **Exhibit**.

10.7.3 Changing Item definitions

For a registered Item, you can change its definitions only while its status is **Creating**. For an Item in **Exhibit** or **Not exhibit** status, you must create a copy to change its definitions.

For an Item in **Creating** status, click its **Item name** link to display Flow Designer, where you can change the definitions.

To create a copy of an Item in **Exhibit** or **Not exhibit** status:

1. In the Item Definition window, select the Item name check box for the Item whose definitions are to be changed, and then click the **Copy** button.
A dialog box for specifying the Item name appears. You can register the same name for multiple Items.
To cancel, click the **Cancel** button.

2. Specify an Item name, and then click the **OK** button.
The dialog box closes.

3. Click **Item name** for the Item that was copied in the Item Definition window.
Flow Designer is displayed in editable status.

10.7.4 Deleting Items

You can delete Items that are in **Creating** or **Not exhibit** status. Note that an Item in **Not exhibit** status cannot be deleted while it is executing.

You can delete Items that are executing from the window that is displayed by clicking the **Execution Item Management** job menu. For details about how to delete Items that are executing, see *3.4 Managing Items (Execution Item Management)* in the *Administration Guide*.

To delete unneeded Items:

1. In the Item Definition window, select the **Item name** check box for the Item you wish to delete, and then click the **Delete** button.
To cancel, click the **Cancel** button.

2. When the confirmation dialog box appears, click the **OK** button.
The dialog box closes and the selected Item is deleted.

10.8 FAQs (Item definitions)

This section describes in the format of FAQs some of the problems that might occur during Item definition, along with the possible causes and actions to be taken.

10.8.1 The Edit Emails and Set Deadline buttons cannot be selected because they are disabled

When a node or activity is selected, the **Edit Emails** and **Set Deadline** buttons cannot be selected. Select somewhere other than a node or activity, such as a blank space in the background.

For details about how to use Flow Designer, see *10.3.1 Names of Flow Designer components and how to use them*.

10.8.2 How can I change the email text that is created in Flow Designer for each node?

When you execute the Item, you can change the email text in the Select Destination dialog box.

For details about how to edit email at the time of sending it, see *3.1.1 Creating new Items* in the *Administration Guide*.

10.8.3 How can I add and change the Item category?

In the Code window, click the managed class (**Others**) and then click the code ID **MatterCategory**. In the displayed window, add categories.

For details about how to add a code, see *4.8.1 Adding codes* in the *Administration Guide*.

10.8.4 How can I interrupt at an intermediate point on the Item route?

Add a completed activity to the node on the route where you wish to interrupt.

For details about how to add completed activities, see *10.3.2 Placing workers and processing*.

10.8.5 What happens to an Item for which a deadline is set when its deadline passes?

An icon indicating that the deadline has passed is displayed in the Outbox. Additionally, the Item information other than the Item name is displayed in red. An Item whose deadline has passed can still be executed.

For details about the Items that are displayed in the Outbox, see *3.3.1 Checking the status of a sent Item* in the *Administration Guide*.

10.8.6 What is the difference between normal activities and completed activities?

For a normal activity, you can add the next node because it is sent to the next worker for further processing. For a completed activity, you cannot add a node because it is to complete the Item.

For details about how to add activities in Flow Designer, see *10.3.2 Placing workers and processing*.

10.8.7 How can I set the objects to uniform attributes in Form Designer?

In Form Designer, you can use the Operation menu to set each object's attributes, such as color and size, to a uniform value.

For details about how to set objects to uniform attributes, see *10.4.4 Adjusting an object's style and position*.

10.8.8 How can I align the position of objects in Form Designer?

In Form Designer, you can use the **Operation** menu to align the tops, bottoms, right sides, or left sides of selected objects.

For details about how to align objects, see *10.4.4 Adjusting an object's style and position*.

10.8.9 In Form Designer, I specified an Item name for the New Item button, but why is it not displayed in the Select New Item dialog box?

The specified Item name is not displayed if the status of the specified Item is **Not exhibit**.

10.8.10 How can I display the objects, such as text fields, that were added at an intermediate node on the route also?

If you have defined a new object using the Form Designer for an intermediate node on the route, to inherit the same objects by the subsequent node, select the applicable objects from **Defined object**, which is displayed by selecting Form Designer's **Object** menu.

For details about how to add defined objects in Form Designer, see *10.4.3(1)(h) Defined object*.

10.8.11 I defined the New Item button in Form Designer, but why is the desired Execution Item not displayed?

For **Execution item**, you can specify only those Items whose status is **Exhibit**. Other Items must be selected by the workers during Item execution or only their category can be specified.

For details about how to define the **New item** button in Form Designer, see *10.4.3(3)(k) Execution item*.

10.8.12 I edited an Item window in Form Designer, but why is its OK button disabled, preventing me from registering it?

You may have edited an exhibit Item. You cannot edit an Item in **Exhibit** status. The same applies when email cannot be edited or an expiration date cannot be set or added.

If an Item has already been registered, its definitions can be edited only if its status is **Creating**. To change the definitions of an Item whose status is **Exhibit** or **Not exhibit**, make a copy, and then edit its definitions.

For details about how to create a copy of an Item, see *10.7.3 Changing Item definitions*.

10.8.13 What happens if no activity is defined for the last node?

During Item execution, only confirmation takes place at the last node.

10.8.14 Why has nothing been defined for the Apply, Approve, Distribution request, and Complete activities for the provided standard Items?

This is because the asset management database is not updated.

Definition of an activity is required only if data is to be registered or updated in the asset management database when the Item is sent to the next worker. If the Item is to be simply sent to the next worker, no definition is required.

10.8.15 Why did my attempt to delete an Item fail (a message was displayed)?

An Item in **Exhibit** status cannot be deleted.

For details about how to delete Items, see *10.7.4 Deleting Items*.

11

Troubleshooting

This chapter describes the procedures for handling errors in the asset management system.

11.1 Troubleshooting procedure

This section describes the procedure for handling errors in the asset management system. For details about the principal causes of errors and how to handle them, see sections 11.5 through 11.10.

The following figure shows the recovery procedure starting from the point of error occurrence.

Figure 11–1: Error handling procedure
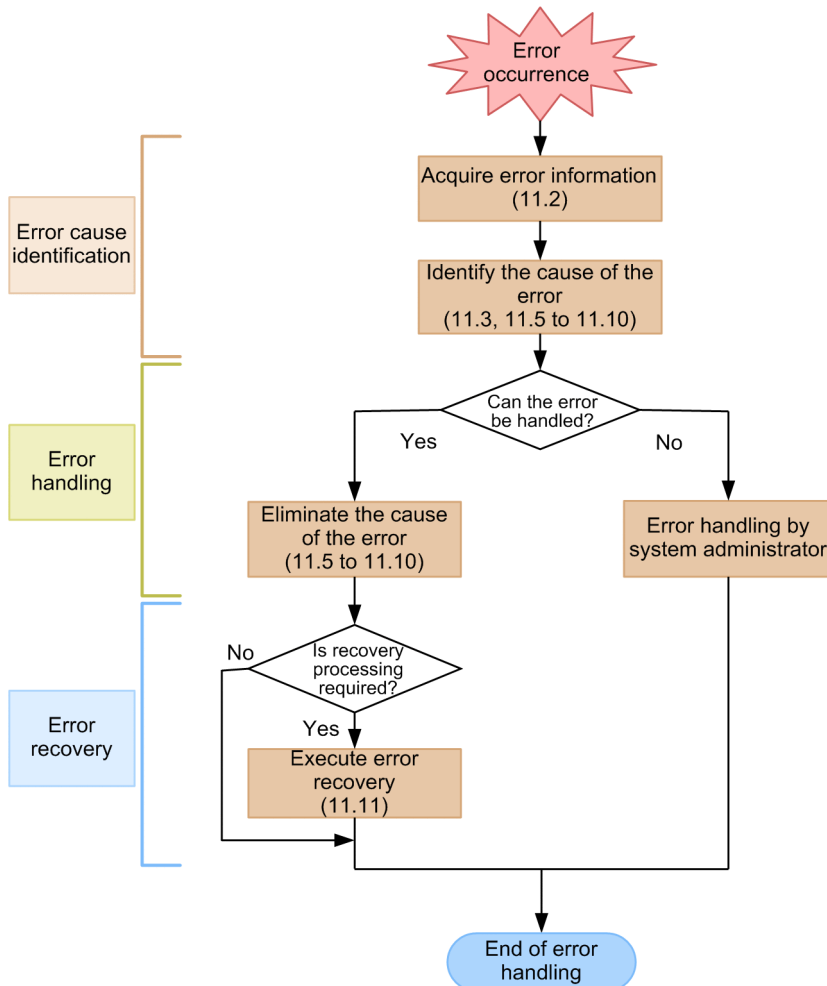
- Acquiring error information

    In the event of an error, first obtain error information. For details about how to acquire error information, see *11.2 Acquiring error information*.

- Identifying the cause of the error

    Identify the cause of the error on the basis of the error message and events.

- Eliminating the cause of the error

    If it is possible to handle the error, eliminate the cause of the error.

- Handling the error by system administrator

    If the error cannot be corrected, the system administrator eliminates the cause of the error.

- Executing error recovery

    Execute error recovery processing, if necessary.

Before handling an error, make sure that no other processing is under execution. For details about transaction processing in the asset management system, see *11.4 Transactions in the asset management system*.

11.2 Acquiring error information

For troubleshooting information, view the log file located under *Asset-Console-installation-folder*\log.

When you contact Hitachi regarding an error in Asset Console, execute the batch file provided with the product and provide the error information collected by the batch operation.

The procedure for executing the batch file to collect error information is described below. Obtain the error information on the machine where the asset management server is running. When executing an Asset Console command in a 64-bit OS, you must execute it using the 32-bit command prompt. For the execution procedure, see *F.2 Notes on executing commands and tasks in a 64-bit OS*.

1. Log in to the asset management server as a user with administrator permissions.

2. Execute ASTTRBL.BAT.

   ASTTRBL.BAT is stored in the following folder:

   Asset-Console-installation-folder\exe

   The error information available at that point is output to the specified destination folder.

Format of the error information acquisition batch file (ASTTRBL.BAT)

The format of ASTTRBL.BAT is as follows:

```
ASTTRBL.BAT "output-destination-folder-name"
```

output-destination-folder-name

Specifies the full or relative path of the folder to which the acquired error information is to be output. Specification of an output destination folder name is mandatory.

11.3 Identifying the error cause

This section describes how to identify the cause of an error.

To determine how to handle an error, you need to identify the cause of the error on the basis of the error message and events. This section explains how to identify and interpret messages. It also explains the functions that become restricted when an error occurs in the asset management system.

11.3.1 How to identify the cause of an error

This section explains how to check errors on the asset management server and with a Web browser.

(1) How to identify an error at the asset management server

1. Check the message log file for error messages.

2. If an error message has been issued, identify the nature of the error, which will be one of the following:

   - Error in the asset management database

   - Error in a program that is linked to Asset Console

   - Error in Microsoft Internet Information Services

3. For an access error in the asset management database, check the message log.

4. For an error in a program that is linked to Asset Console, check the message log file for a program linkage error.

5. For an error in Microsoft Internet Information Services, check the log of Microsoft Internet Information Services for a communication sequence error.

   If there is no error in the communication sequence, an error might have occurred between Microsoft Internet Information Services and the Web browser.

(2) How to identify an error in the Web browser

If a runtime error occurs, an unsupported version of Windows Internet Explorer might be running. Make sure that a supported version of Windows Internet Explorer and all required service packs have been installed. For details about the Windows Internet Explorer versions, see *4.1.1(2) Prerequisite programs on the administrator's computer*.

11.3.2 Checking messages

In the event of an error, first check the event log, standard output, or the log file created by the asset management server for error messages.

When an error message has been issued, you can identify the program in which the error occurred and the cause of the error from the error message type. For details about error messages, see *11.3.3 How to interpret messages*.

The error messages for serious errors in the asset management system are output to the event log file. Check the event log file.

The asset management server outputs error messages to a file. This file is stored at the following location:

Asset-Console-installation-folder\log

The log folder is created automatically when Asset Console is installed. The following table shows the message log files that are output under the log folder by the asset management server.

Table 11–1: Files created in the log folder

File name	Description
ASTCIM*n*.LOG	• Contains the message log of a database access API.
ASTMES*n*.LOG	• Contains information messages, such as startup and termination of the asset management server, warning messages (such as program, communication, and database errors), and error messages. • Can be used to check the operating status of the asset management system.

Legend:

n is a sequential number (1-9) indicating a file name.

When the current file becomes filled with log data, another log file is created by incrementing the number by 1. When the number reaches 9, it starts at 1 again. To identify the most recent log file, check the file attributes (date and time).

Do not change *Asset-Console-installation-folder*\log\exp.def.

11.3.3 How to interpret messages

This section explains how to interpret the messages that are output to the standard output message log, and to message log files.

(1) How to interpret a standard output message log entry

The message log that is output by the asset management server consists of a message ID and message text that follows.

Message format

KDAM *nnnn-m message-text*

KDAM

Indicates that the message was issued by the asset management server.

nnnn

Indicates the component code that issued the message (the first *n*) + a serial number. The following are the component codes:

- 7: Command

- 8: Import and export

m

Indicates the type of message:

- E (ERROR)

  Fatal error that required termination of the program

- W (WARNING)

  Error that does not require program termination, but that disables some functions

- Q (QUESTION)

  Message that requires a response from the user

- `K` (WORKING)

  Message that processing is in progress

- `I` (INFORMATION)

  Message providing information

(2) How to interpret a message log file

The message log file that is output by the asset management server consists of a message output time, a message ID, and message text that follows.

Message format

yyyymmddhhmmss`.`*ttt* *pid*`(`*tid*`)` `KDAM` *nnnn*`-`*m* *message-text*

yyyymmddhhmmss`.`*ttt*

Indicates the message output date and time.

pid

Indicates the ID of the process that issued the message.

tid

Indicates the ID of the thread that issued the message.

`KDAM`

Indicates that the message was issued by the asset management server.

nnnn

Indicates the component code that issued the message (the first *n*) + a serial number. The following are the component codes:

- `0`: Installation and setup

- `1`: Asset management server

- `2`, `3`: Extension

- `4`, `5`: Database access DLL

- `6`: Asset Console's LIB and DLL files

- `7`: Command

- `8`: Import and export

- `9`: Common DLL

m

Indicates the type of message:

- `E` (ERROR)

  Fatal error that required termination of the program

- `W` (WARNING)

  Error that does not require program termination, but that disables some functions

- `Q` (QUESTION)

  Message that requires a response from the user

- `K` (WORKING)

  Message that processing is in progress

- I (INFORMATION)

  Message providing information

11.3.4 Function restrictions after an error

When an error occurs in the asset management system, the asset management server issues a message of type E. The functions of the asset management system that become restricted by errors are explained below.

(1) When urgent or serious system errors occur

If an urgent or serious system error occurs from which recovery is not possible or which might corrupt information if operations are continued, all services of the asset management system are stopped.

Urgent or serious system errors are as follows:

- Invalid settings or read errors in the environment definition file
- Detection of damaged meta table
- Program exceptions, such as a general protection exception
- Internal program errors

(2) When system errors that are not urgent or serious occur

A system error that is not urgent or serious might occur from which recovery is possible over time and which will not corrupt information. When such an error occurs, even if operations continue, the process in which the error was detected will be terminated.

System errors that are not urgent or serious are as follows:

- Invalid format of messages from Web browser
- Message log output errors
- Database connection broken by the DBMS
- Notification of errors in a program linked to the asset management system
- Access error notification during addition, updating, or deletion of asset information (except when there is no property data that becomes the key)
- Internal program errors

(3) When operational errors occur

If either of the following operational errors occurs in the asset management system, no asset management system services will stop:

- Login error due to invalid user ID or password
- Import errors during asset management system operation and while importing information from JP1/IT Desktop Management 2 - Manager

(4) When temporary errors occur

If a temporary error occurs from which recovery is possible by re-executing the command after some time, the executing process in which the error was detected is terminated, releasing the session.

The following are examples of temporary errors:

- Memory allocation errors and database connection errors
- Database lock errors
- Import errors during asset management system operation and while importing information from JP1/IT Desktop Management 2 - Manager

11.4 Transactions in the asset management system

This section describes transaction processing in the asset management system during Web browser execution and during command execution.

11.4.1 Transaction processing during Web browser execution

The asset management system regards each request from the Web browser as one process, but it does not have a function for managing transactions. Using the DBMS's transaction management function, the asset management system treats an output access to the asset management database and an addition or update operation on multiple related tables as a single transaction. This not only prevents lack of conformity between asset management database tables but also enables the asset management system to discard active transactions in the event of an error at the asset management server.

For example, an asset management database transaction is not discarded, even if an error is reported to the Web browser. If a timeout or communication error occurs in the Web browser, re-execute the processing that was underway immediately before the error.

11.4.2 Transaction processing during command execution

The `jamimport` (import) command does not manage transactions in order to enable a large amount of table data to be input to the asset management database in a batch operation.

Therefore, if an error occurs during command execution, the relationship among the tables might have become inconsistent. In such a case, re-execute the command, register all data, and recover the tables in the asset management database.

11.5 Principal causes of errors in Asset Console and how to handle them

If an error occurs during Asset Console environment setup, check for errors in the settings in the Server Setup dialog box and in the DBMS settings.

The following sections explain the principal causes of errors that might occur during Asset Console environment setup or during an operation following login. They also explain how to handle such errors.

11.5.1 Error during asset management server setup

This section describes the error that might occur during asset management server setup, and its principal cause and action.

(1) A message such as "Not installed" is displayed, and Asset Console does not start

Asset Console might have been installed incorrectly. Re-install Asset Console.

(2) An error with the "0xC0000022 error (application cannot be initialized correctly)" message is output during system startup

An error with the `0xC0000022 error (application cannot be initialized correctly)` message might be output during system startup. Such an error might occur if the `System Path` variable contains a network drive name (the path to another machine) and access permissions have not been provided for that machine. In addition, Service Control Manager might output warning messages with event IDs `7009` and `7000`. Make sure that access permissions are provided for the specified machine.

11.5.2 Errors during creation of the asset management database

This subsection describes the errors that might occur during the creation of an asset management database, the main causes of the errors, and the actions to be taken.

(1) A message such as "Invalid value was specified for environment information" is displayed

Settings in the Server Setup dialog box might have not been specified. Specify the necessary settings in the Server Setup dialog box.

(2) Due to a database user authentication failure, a message such as "Failed to create the initial data for the asset management system" is displayed

`ASTCIMn.LOG` file or `ASTMESn.LOG` file containing the following messages is output to the log folder:

- `Invalid password for authorization identifier HiRDB`

The **Login ID** and password that are set under **Database Information** in the Server Setup dialog box might be invalid. In the Server Setup dialog box, specify the correct **Login ID** and password under **Database Information**.

(3) A message such as "Unable to add due to existing key" is displayed

The database might have already been created.

This message is displayed if the creation of the asset management database is executed once and then is re-executed, but there is no effect on the database. To re-create a table, delete the table and all views, and then execute the creation of the asset management database.

(4) An error occurs and the setup process terminates

The database might be full (reached the capacity specified during database creation).

Uninstall Asset Console, and then re-install it. The target disk must have enough space for both the database capacity set during installation and for the management area that is automatically allocated by the database. For details about the space required for the management area, see *Release Notes*.

11.5.3 Error during login to Asset Console

This section describes the errors that might occur during login to Asset Console. It also explains principal causes of those errors and what actions to take.

(1) No login window is displayed

The following are the possible causes:

- Microsoft Internet Information Services was installed after Asset Console was installed.
  After installing Microsoft Internet Information Services, re-install Asset Console.
- World Wide Web Publishing Service or World Wide Web Publishing is not running.
  Make sure World Wide Web Publishing Service or World Wide Web Publishing is active.
- In the Windows Internet Explorer settings, **Active scripting** is set to **Disable**.
  From **Internet Options**, on the **Security** tab, open the Security Settings dialog box by clicking the **Custom Level** button, and then check the settings for **Active scripting**.
- If Windows Server 2012, Windows Server 2008, or Windows Server 2003 is used as the asset management server, the Web service extension with the name `jp1asset` that is created when Asset Console is installed was mistakenly deleted.
  If you cannot find `jp1asset`, re-create it. For details about how to create a Web service extension, see *11.5.5 Re-creating the jp1asset Web service extension*.

(2) A message such as "Server is starting up. Wait a while and then log in again" is displayed, and the status remains the same for a while

The following are the possible causes:

- Cannot connect to the DBMS.
  Check the DBMS operating status.
- The settings for Microsoft Internet Information Services are invalid.

Check the virtual directory settings using Internet Information Service Manager.

- An ODBC data source does not exist.
  Create an ODBC data source for connecting to a database. For details about how to create an ODBC data source, see *5.5 Creating a data source*.

- The asset management database has not been created.
  Confirm that the asset management database was created.

- The asset management database cannot be connected.
  Determine whether the user ID or password specified during connection is correct.

(3) The login window opens but you cannot log in

The following are the possible causes:

- The asset management server cannot connect to the asset management database.
  For details about the creation of the data source that is required for database connection, see *5.5 Creating a data source*.

- In the settings for Windows Internet Explorer, **Allow per-session cookies** or **Submit nonencrypted form data** is set to **Disable**.
  Check the settings for **Allow per-session cookies** or **Submit nonencrypted form data** under **Internet Options**.

- No asset management database was created.
  First, you must open the Server Setup dialog box. Enter values in **Login ID** and **Password** under **Database Information** and click the **OK** button. Avoid reserved words for the login ID and service name. For the reserved words, see RESWORDS.TXT stored in the Asset Console installation folder. After that, create the asset management database.

- If the World Wide Web Publishing Service service is stopped due to a change in the system environment settings, you might not be able to log in to the asset management system after the World Wide Web Publishing Service service has started. In such a case, restart the system, and restart the World Wide Web Publishing Service service.

(4) User authentication failed

The following are the possible causes:

- Cannot connect to the DBMS.
  Check the DBMS operating status.

- The user ID and password were not registered.
  Register the user ID and password.

- The entered user ID and password are invalid.
  Enter the correct user ID and password.

(5) Message "Login failed because the product version does not match the database version" is issued

It is possible that the asset management database has not been moved. Upgrade the asset management database.

(6) A message such as "The maximum number of users has been reached" is displayed

Login failed because the maximum number of logged-in Asset Console users was exceeded. Log out any user that is not using Asset Console, or change the value of **Number of concurrent user logins** in **Session Information** in the Server Setup dialog box.

11.5.4 Error during Asset Console operation

This section describes the errors that might occur after you have logged in to Asset Console. It also explains principal causes of those errors and what actions to take.

(1) Nothing is output even when the CSV button or PDF button is clicked in a window operation

The following are the possible causes:

- When the Lockdown Tool of Microsoft Internet Information Services was applied, the permission to access the folder for creating an intermediate file had been changed.

  Check the access permission for *asset-management-server's-virtual-directory*\csv, and then grant write permission to **Web Anonymous Users**. The default virtual directory of the asset management server is *Asset-Console-installation-folder*\wwwroot.

- For Windows Server 2012, Windows Server 2008, or Windows Server 2003, the extension of the file to be downloaded was not registered in MIME.

  Register the extension of the file to be downloaded in MIME.

(2) Nothing is displayed when the file name link is clicked from the Log job menu

In Windows Server 2012, Windows Server 2008, or Windows Server 2003, the extension .log might not be registered in MIME. Set the virtual directory of Asset Console again in Microsoft Internet Information Services. For details about how to set a virtual directory, see *5.6 Setting a virtual directory*.

(3) During Log job operation, the downloaded file content becomes empty, or an empty file is displayed as a new file

When a file is downloaded or a file is opened while the file is being downloaded, the downloaded file content might become empty or an empty file might be displayed as a new file. This problem possibly occurs if the Internet Explorer cache was cleared before the operation. In such a case, log out from Asset Console. Then, start another browser, log in again to Asset Console, and download the file.

(4) Nothing is displayed in a window

The response from the server might not be received due to a network failure or other reasons. Close the Web browser, and then log in again.

11.5.5 Re-creating the jp1asset Web service extension

If Windows Server 2012, Windows Server 2008, or Windows Server 2003 is used to run the asset management server, installing Asset Console automatically registers Web service extensions under the name `jp1asset`. If this Web service extension has been deleted by mistake, first re-create the `jp1asset` Web service extension, and then create an application pool. For details about how to create application pools, see one of the following subsections, as applicable:

- If you are using Microsoft Internet Information Services 6.0
  5.8.1(2) Creating application pools
- If you are using Microsoft Internet Information Services 7.0, 7.5, 8.0, or 8.5
  5.8.2(3) Creating application pools

To create the `jp1asset` Web service extension using Windows Server 2003:

1. Start Internet Information Service Manager.

2. Select **Web Service Extensions** for the asset management server.

3. Make sure the **Extended** tab is selected, and then select **Add a new Web service extension**.
   The New Web Service Extension dialog box opens.

4. Specify a desired name for **Extension name**.
   For example, you can specify a name such as `aim` for **Extension name**.

5. Click the **Add** button.
   The Add file dialog box opens.

6. From the dialog box that opens when the **Browse** button is clicked, specify a file and click the **Open** button.
   Add all of the following files, which are stored in the asset management server's virtual directory:
   - `jamwscript.dll`
   - `bin\jamlogin.dll`
   - `jamenter.dll`
   - `jamfile.dll`
   - `jamhtmlfile.dll`

   The asset management server's default virtual directory is *Asset-Console-installation-folder*`\wwwroot`.

7. Select the **Set extension status to Allowed** check box.

8. Click the **OK** button.
   The New Web Service Extension dialog box closes and the Web service with the specified extension is added to the **Web Service Extensions** list.

For details about how to create the `jp1asset` Web service extension using Windows Server 2012 or Windows Server 2008, see *5.8.2(5) Setting ISAPI restrictions*.

11.5.6 Resetting the virtual directory

When you re-install Microsoft Internet Information Services, you must reset the virtual directory. For details about how to reset the virtual directory, see *5.6 Setting a virtual directory*.

11.6 Principal causes of errors in the Web server and how to handle them

In the event of an error, make sure that there are sufficient system resources and that there has not been any event log information indicating an error in Microsoft Internet Information Services.

If another program whose application security setting is **Low (IIS process)** or **Medium (pooled)** is running on the same Microsoft Internet Information Services, the problem might be in that program.

Also, make sure that neither a network error nor an error in Microsoft Internet Information Services has occurred. See *5.8 Settings for using Microsoft Internet Information Services*, and make sure that the Web server settings are correct.

11.7 Principal causes of errors in the DBMS and how to handle them

In the event of an error, make sure that no error has occurred in the DBMS client library that is used by the asset management system.

11.7.1 DBMS errors

The possible causes and troubleshooting methods for each type of DBMS error are described below.

(1) The DBMS environment is invalid or has been damaged

The following are the possible causes:

- A DLL of the DBMS client could not be loaded.

  If the asset management server and the asset management database server are distributed, make sure that the client environment of the DBMS is installed correctly.

- No DBMS driver exists.

  Make sure that the client environment of the DBMS is installed correctly.

- The number of concurrent connections to the DBMS has exceeded the limit.

  Check the setting details to make sure that the number of concurrent connections to the DBMS has not exceeded the limit.

- The network is set so that the DBMS server or the network containing it cannot be reached.

  Check the communication route settings for the network in which the DBMS server exists and determine whether the DBMS server can be recognized.

(2) Connection to the asset management database results in an error

The following are the possible causes:

- The DBMS server is inactive, shut down, or in the process of stopping.
  Ensure that the DBMS is operating normally.

- The network is set so that the DBMS server or the network containing it cannot be reached.
  Check the communication route to the DBMS server.

- The user ID or password specified for connection is invalid.
  Make sure that the user ID and password are correct.

- A DBMS server error caused a timeout or resource shortage.
  Check the operating status of the DBMS.

(3) Script execution results in an error

The following are the possible causes:

- Disk access failed.
  Make sure that the disk is not full, there is no access problem, and no I/O error has occurred.

- The transaction log is full.

If a message indicating a full transaction log has been output to the Asset Console log, check the setting for the DBMS transaction log. In this case, it is recommended that you either stop collecting transaction logs or collect backups on a regular basis.

- Locking control caused a lock error or database connection timeout.
  Check the operating status of the DBMS.

- Script buffer overflow

- Invalid script syntax

- Nonexistent target table

If the environment was customized, make sure that the customization details are valid.

(4) An error occurs during the creation of the asset management database and execution stops

The disk at the database storage destination or the database that was specified when creating the database might have reached its capacity.

Re-create the asset management database on a disk that has enough space for **Size**, **Management area**, and **Operation area**, according to the settings specified in the Detailed Database Settings dialog box that was displayed during database creation.

(5) The login window opens, but a message "Page cannot be displayed" is displayed, and you cannot log in

It is possible that no asset management database has been created.

First, you must open the Server Setup dialog box. Enter values in **Login ID** and **Password** under **Database Information** and click the **OK** button.

Avoid reserved words for the login ID and service name. For the reserved words, see RESWORDS.TXT stored in the Asset Console installation folder.

After that, create the asset management database.

(6) Database connection authentication fails

An error message beginning with the following character string is output to the log:

- KDAM5001-E[HY000] (*character-string-that-is-output-according-to-the-situation*) KFPA11561-E

Either **Login ID** or **Password** in **Database Information** might have been changed after Asset Console operations started.

Start the Server Setup dialog box and then reset **Login ID** and **Password** under **Database Information** to the status existing when the asset management database was created.

You cannot change **Login ID** and **Password** under **Database Information** while the database is running.

(7) A database communication error occurred or an error occurred inside the database

An error message beginning with the following character string is output to the log:

- `KDAM5001-E[HY000]` (*character-string-that-is-output-according-to-the-situation*) `KFPA11723-E`

- `KDAM5001-E[HY000]` (*character-string-that-is-output-according-to-the-situation*) `KFPA11728-E`

The DBMS server might be starting up, shut down, or stopped. Check the following:

- Make sure that the HiRDB/EmbeddedEdition _AM1 service is running. If it has stopped, start it by executing `jamemb_dbstart.bat` as a user with administrator permission. After this service has started completely, re-start World Wide Web Publishing Service.
  For details about logs, see the manual *HiRDB Version 8 Messages*.

- Ensure that the network cable is securely connected to the Asset Console server. If the network cable is disconnected from the server, the database and Asset Console cannot communicate with each other.

(8) A database capacity shortage occurred

An error message beginning with the following character string is output to the log:

- `KDAM5001-E[HY000]` (*character-string-that-is-output-according-to-the-situation*) `KFPA11756-E`

A page shortage might have occurred in the database area.

Reorganize the asset management database. If the same error message is displayed again after reorganization, re-create the asset management database and change the size.

For details about how to reorganize the asset management database, see *12.2.1 Reorganizing the asset management database from the Database Manager dialog box* or *12.2.2 Reorganizing the asset management database using commands*. For details about how to change the size of the asset management database, see *E.2 Changing the size of a database*.

(9) Available space has been reduced on the drive where the asset management database was created

The capacity of the work file of the database (a file for storing the temporary information necessary for executing SQL statements) might have been expanded automatically, causing a shortage of disk space.

The work file capacity is automatically expanded when a large amount of search results are output. If there is not enough space on the drive where the asset management database was created, you can release the automatically expanded area for the work file by executing `jamemb_workcomp.exe`.

This subsection describes the function, format, and return values of `jamemb_workcomp.exe`, which releases the automatically expanded area for a database work file. This subsection also provides notes on the command's execution.

`jamemb_workcomp.exe` is stored in the following folder:

Asset-Console-installation-folder\exe

(a) Function

`jamemb_workcomp.exe` releases the automatically expanded area for an database work file.

(b) Format

```
jamemb_workcomp.exe
```

(c) Return value

The command returns one of the following return values.

Return value	Description
0	Normal termination
11	Invalid option format
101 or greater	Terminated with another error

(d) Notes on command execution

Execute `jamemb_workcomp.exe` as a user with administrator permissions.

(10) The KFPO00107-E message is output

If the `KFPO00107-E` message is output during a Database Manager operation, a work file has possibly been corrupted due to memory shortage, or the database service has possibly started before the related process finishes completely. In such a case, re-execute the operation in Database Manager. After that, if the problem has not been solved, delete all files listed in (a) and (b) below to recover the environment, and then re-execute the operation. As for the files listed in (b), you do not have to delete them if they do not exist. After the recovery processing, make sure to re-execute the operation only when no other applications (for example, Windows Explorer) are accessing *Asset-Console-installation-folder* `\aimdb\tmp`.

(a)

- *Asset-Console-installation-folder*`\aimdb\uxpldir\spool\system\filmng.dat`
- *Asset-Console-installation-folder*`\aimdb\uxpldir\spool\system\flg.dat`
- *Asset-Console-installation-folder*`\aimdb\uxpldir\spool\system\shmmng.dat`

(b)

- *Asset-Console-installation-folder*`\aimdb\spool\~pdatmode`
- *Asset-Console-installation-folder*`\aimdb\spool\~pdipcid`
- *Asset-Console-installation-folder*`\aimdb\spool\oslmqid`
- *Asset-Console-installation-folder*`\aimdb\spool\oslsmid`
- *Asset-Console-installation-folder*`\aimdb\spool\pdprcsts`
- *Asset-Console-installation-folder*`\aimdb\spool\scdqid1`
- *Asset-Console-installation-folder*`\aimdb\spool\scdqid2`
- *Asset-Console-installation-folder*`\aimdb\spool\pdommenv`
- *Asset-Console-installation-folder*`\aimdb\tmp\pdommenv`
- All files under *Asset-Console-installation-folder*`\aimdb\uxpldir\spool\shm`
- *Asset-Console-installation-folder*`\aimdb\uxpldir\spool\system\semmng.dat`
- *Asset-Console-installation-folder*`\aimdb\uxpldir\spool\system\msgmng.dat`

11.8 Principal causes of errors in the Web browser and how to handle them

In the event of an error, make sure that there is no problem in the execution environment of the Web browser that is used by the asset management system.

The possible causes and troubleshooting methods for each type of Web browser error are described below.

11.8.1 The Web browser terminated abnormally or hung up

The following are the possible causes:

- The execution environment of the Web browser is invalid, or the registry or the prerequisite DLL was corrupted.
  Correct the environment or re-install the Web browser.
- There is a problem with the Web browser version.
  Use Windows Internet Explorer 7, Windows Internet Explorer 8, Windows Internet Explorer 9, Windows Internet Explorer 10, or Windows Internet Explorer 11.
- An error occurred in the plug-in, or there is a problem in the plug-in.
  If a corrected version has been released, install the corrected version of the Web browser.
- An error occurred in the control contained in the contents, or there is a problem in the control contained in the contents.
  If a corrected version has been released, install the corrected version of the Web browser.
- An error occurred in the script, or there is a problem in the script.
  Check the operating status. Also, if a corrected version has been released, install the corrected version of the Web browser.
- There is a problem in the Web browser.
  If a corrected version has been released, install the corrected version of the Web browser.
- If Windows Internet Explorer 9 or later is used, the following problems might occur depending on the GPU on the machine running that Windows Internet Explorer program (KB article 2618117):
  - A Windows Internet Explorer window freezes.
  - A blank page is displayed.
  - Window components are not displayed in the correct positions.
  If such a problem occurs, see the corresponding KB article and correct the Windows Internet Explorer settings.

11.8.2 A communication error occurred

The following are the possible causes:

- The routing table was corrupted, or a network error was caused by a communication port conflict with other software.
  Restore the routing table to the undamaged state, or reset the communication ports so that there is no contention with other software.
- Microsoft Internet Information Services or the proxy server stopped, or an error occurred.
  Check whether correct operation is taking place.

11.8.3 The GUI is not correctly displayed

The following are the possible causes:

- The asset management database was corrupted by information rewriting through invalid access to the asset management database or by corruption of the logical database structure.

  If backup data has been collected, use it to restore the asset management database to its original state.

  If backup data has not been collected, initialize and re-create the asset management database.

- **Active scripting** is set to **Disable**.

  In Windows Internet Explorer, open the Internet Options dialog box. On the **Security** tab, click the **Custom Level** button to open the Security Settings dialog box. In this dialog box, set **Active scripting** to **Enable**.

- **Binary and script behaviors** is set to **Disable**.

  In Windows Internet Explorer, open the Internet Options dialog box. On the **Security** tab, click the **Custom Level** button to open the Security Settings dialog box. In this dialog box, set **Binary and script behaviors** to **Enable**.

- The website that Windows Internet Explorer connects to is not registered in **Local intranet** or **Trusted sites**.

  To register a site in **Local intranet**:

  1. From the **Tools** menu, select **Internet Options**.

  2. On the **Security** tab, select the **Local intranet** icon, and then click the **Sites** button.

  3. Click the **Advanced** button.

  4. Add an Asset Console site.

  To register a site in **Trusted sites**:

  1. From the **Tools** menu, select **Internet Options**.

  2. On the **Security** tab, select the **Trusted sites** icon, and then click the **Sites** button.

  3. Add an Asset Console site.

- The option settings below are required for the security zones for the Windows Internet Explorer programs that connect to Asset Console. Specify the settings on the **Security** tab in the Internet Options dialog box of Windows Internet Explorer.

  - Enable **Allow websites to open windows without address or status bars**.

  - Enable **Prompt for information using scripted windows**.

  - Enable **Automatic prompting for file downloads**.

11.8.4 The login window cannot be displayed

The following are the possible causes:

- World Wide Web Publishing Service is not running.

  Check whether World Wide Web Publishing Service is active.

- **Active scripting** is set to **Disable**.

  In Windows Internet Explorer, open the Internet Options dialog box. On the **Security** tab, click the **Custom Level** button to open the Security Settings dialog box. In this dialog box, set **Active scripting** to **Enable**.

11.8.5 Cannot log in

The following are the possible causes:

- **Allow per-session cookie**s is set to **Disable**.
  Set **Allow per-session cookies** to **Enable**.
- **Submit nonencrypted form data** is set to **Disable**.
  Set **Submit nonencrypted form data** to **Enable**.
- **Allow META REFRESH** is set to **Disable**.
  Set **Meta Refresh setting** to **Enable**.
- The asset management server cannot connect to the asset management database.
  Check whether the asset management server is connected to the asset management database.

11.8.6 Cannot download files

The following are the possible causes:

- The extension of the file to be downloaded was not registered in MIME.
  Register the extension of the file to be downloaded in MIME.
- In the Windows Internet Explorer settings, **File download** is set to **Disable**.
  Set **File download** to **Enable**.

11.8.7 Cannot display search results

The Web browser might have timed out. For details, visit Microsoft's website.

Additionally, when performing a search, shorten the search time by specifying a search condition that will not produce a large number of search results.

11.8.8 Clicking a link or button displays a blank window

When Windows Internet Explorer 11 is used, clicking a link or button might display a blank window (KB article 2909974). If this problem occurs, see the corresponding KB article, and correct the Windows Internet Explorer settings.

11.8.9 PDF is not output

If a cumulative update or service pack is applied to Windows Internet Explorer, the ActiveX processing might be changed and PDF might not be output. In that case, enable ActiveX control.

11.8.10 Windows Internet Explorer times out

A GUI operation during import processing for customized information might cause Windows Internet Explorer to time out. Import customized information only when Asset Console is not running.

11.8.11 A session is shared between processes

When Windows Internet Explorer 8 or later is used, if you start multiple Windows Internet Explorer processes on a PC and then use Asset Console, a session might be shared between the processes.

This problem can be avoided by one of the following methods:

- In Windows Internet Explorer, from the **File** menu, select **New session** to start another browser.

- Execute `iexplore.exe` with the `-nomerge` option specified to start Windows Internet Explorer.

- Set the registry values for `FrameMerging` and `SessionMerging` (DWORD value) in `HKCU\Software \Microsoft\Internet Explorer\Main` to `0` (disable).

11.9 Principal causes of errors during linkage to JP1/IT Desktop Management 2 - Manager and how to handle them

The following table describes the errors that might occur during linkage to JP1/IT Desktop Management 2 - Manager. It also explains principal causes of those errors and what actions to take.

Table 11–2: Errors that might occur during linkage to JP1/IT Desktop Management 2 - Manager, and their principal causes and actions to take

No.	Error	Principal cause	Action
1	Database access error (connection target: JP1/IT Desktop Management 2 - Asset Console).	Under **Database Information** in the Server Setup dialog box, the specified ID (for **Login ID**) and password might not be set correctly.	Specify the correct ID and password.
2		Under **Database Information** in the Server Setup dialog box, the service name specified for **Service name** might not be set correctly.	Use ODBC Data Source Administrator to check the data source, and set the correct service name. If no data source has been created, from **Products for connection** in the Create Data Source dialog box, select **JP1/IT Desktop Management 2 - Asset Console** to create a data source.
3	Database access error (connection target: JP1/IT Desktop Management 2 - Manager).	Under **ITDM2 linkage** in the Server Setup dialog box, the specified ID (for **JP1/ITDM2-Manager database login ID**) and password might not be set correctly.	Specify the correct ID and password.
4		Under **ITDM2 linkage** in the Server Setup dialog box, the service name specified for **Name of the service connecting to the JP1/ITDM2-Manager database** might not be set correctly.	Use ODBC Data Source Administrator to check the data source, and set the correct service name. If no data source has been created, from **Products for connection** in the Create Data Source dialog box, select **JP1/IT Desktop Management 2 - Manager** to create a data source.
5		The connection target of the data source might not be set correctly.	For the connection target, specify the IP address that was set for database access in JP1/IT Desktop Management 2 - Manager setup.
6		JP1/IT Desktop Management 2 - Manager might not be running.	Check the operating status of JP1/IT Desktop Management 2 - Manager.
7		The network might be temporarily unstable.	Wait a while, and then re-execute the operation.
8	Some devices are not registered or updated.	Multiple assets might be assigned to the same asset information set because the values for the item specified as the assigned key are the same for different assets.	For the assigned key, specify an item whose value is different for every asset.
9		Device information might be already acquired.	Update JP1/IT Desktop Management 2 - Manager's device information, or acquire management information by specifying the −ALL option.
10		The time might not match in JP1/IT Desktop Management 2 - Manager and in JP1/IT Desktop Management 2 - Asset Console.	Check the OS time, and match the time in JP1/IT Desktop Management 2 - Manager and in JP1/IT Desktop Management 2 - Asset Console.

No.	Error	Principal cause	Action
10	Some devices are not registered or updated.	The time might not match in JP1/IT Desktop Management 2 - Manager and in JP1/IT Desktop Management 2 - Asset Console.	After the time matches, acquire management information by specifying the -ALL option.
11	Device information in JP1/IT Desktop Management 2 - Manager is not deleted.	JP1/IT Desktop Management 2 - Manager might not be running.	Check the operating status of JP1/IT Desktop Management 2 - Manager.
12		The network might be temporarily unstable.	Wait a while, and then check the JP1/IT Desktop Management 2 - Manager's device information.

11.10 Principal causes of errors during linkage to JP1/IT products and how to handle them

This section describes the errors that might occur during linkage to JP1/IM products. It also explains principal causes of those errors and what actions to take.

11.10.1 Errors during linkage to JP1/IT

This subsection describes the errors that might occur during linkage to JP1/IM. It also explains principal causes of those errors and what actions to take.

(1) An event is registered in JP1/IM - Manager, but error information is not imported to Asset Console

The settings for the automated action function in JP1/IM - Manager are incorrect. Specify the correct settings. For details about how to specify the settings, see *6.1.1 Setting automatic action by JP1/IM - Manager*.

(2) Handling for the error information acquired from JP1/IM is completed, but the information in JP1/IM is not updated

The following are the possible causes:

- The JP1 event for handling completion was not issued.
  In the settings for the automated action that reports completion of error handling, make sure that `00005581` is specified for **Event ID**.

- The event was not forwarded from JP1/Base to JP1/IM when they are running on different servers.
  Set to forward events. For details about how to specify the settings, see the *JP1/Base User's Guide*.

- The automated action settings in JP1/IM - Manager are incorrect.
  Specify the correct settings. For details about how to specify the settings, see *6.1.1 Setting automatic action by JP1/IM - Manager*.

- JP1/Base has not been installed on the asset management server, or installation of JP1/Base failed.
  Check whether JP1/Base has been correctly installed.

11.10.2 Errors during linkage to JP1/IM - Service Support

This subsection describes the errors that might occur during linkage to JP1/IM - Service Support. It also explains principal causes of those errors and what actions to take.

(1) The window for Asset Console is not displayed in the Main or View Item window of JP1/IM - Service Support

The following are the possible causes:

- The settings for the Asset Console host are incorrect.
  For details about how to set up an Asset Console host, see the *JP1/Integrated Management - Service Support Configuration and Administration Guide*.

- Asset Console is not running (the World Wide Web Publishing Service service has stopped).
  Start the World Wide Web Publishing Service service, and make sure that you can log in to Asset Console.

11.11 Error recovery

This section explains how to recover the asset management system from errors. For details about how to obtain error information, see *11.2 Acquiring error information*.

11.11.1 Recovering Asset Console from errors

Make sure that the obtained error log information is correct. If there is an error, correct it. If the asset management server is shut down, restart Microsoft Internet Information Services.

11.11.2 How to recover the asset management server from errors

This section explains the recovery method in the event of an error in Microsoft Internet Information Services.

(1) When an error occurs in the Web server

Make sure that the obtained error log information is correct. Correct the error, and then restart Microsoft Internet Information Services. If the problem occurs again, the database might have been corrupted. Restore the backup data of the database, and then restart Microsoft Internet Information Services.

(2) When the Web server stops responding

Stop Microsoft Internet Information Services, and then make sure that the obtained error log information is correct. After correcting any error, restart Microsoft Internet Information Services. If the Web server stops responding again, the database might have been corrupted. Restore the backup data of the database, and then restart Microsoft Internet Information Services.

11.11.3 How to recover from DBMS errors

This section explains how to recover the DBMS from errors.

(1) DBMS errors

Make sure that the obtained error log information is correct. Eliminate the cause of the error and then restart the DBMS.

If DBMS starts, check the database for any damage, and restore the database from a backup if necessary.

If DBMS does not start, re-construct the DBMS environment.

(2) The DBMS is damaged

Stop Microsoft Internet Information Services and rebuild the DBMS environment. Restart the DBMS and restore the database from the backup data. Then, restart Microsoft Internet Information Services.

11.11.4 How to recover from Web browser errors

This subsection describes how to recover from Web browser errors.

(1) When the Web browser terminates abnormally

Restart the Web browser and log in again to check the status of the immediately preceding job. If it has not been completed, re-execute the job.

If the Web browser does not respond, obtain a hardcopy of the Web browser window. At the same time, contact the system administrator for investigation and provide the information about the immediately preceding operation and input data.

(2) When the Web browser display is invalid

Log out from the Web browser, and then log in again to re-execute the job that resulted in the error. If the same event recurs, contact the system administrator for investigation.

11.11.5 How to recover from errors during command execution

Make sure that the obtained error log information is correct, and then correct the errors.

12

Maintaining the Asset Management Database

This chapter describes how to maintain the asset management database.

When executing an Asset Console command in a 64-bit OS, you must execute it using the 32-bit command prompt. For the execution procedure, see *F.2 Notes on executing commands and tasks in a 64-bit OS*.

12.1 Backing up and restoring

To be prepared for the possibility of errors that require re-creation of the environment, Hitachi recommends that you periodically make backups of the asset management database, uploaded files, and the registry.

There are two ways to obtain a backup:

- By obtaining a backup in CSV format
- By obtaining a backup in the DBMS-specific format

12.1.1 Backing up and restoring the asset management database in CSV format

This subsection describes how to back up data in the asset management database in CSV format and restore the data in CSV format.

Notes

- Before you start the procedure, stop all Asset Console services, commands, and tasks.
- Stop the Asset Console services in the following order:
    1. World Wide Web Publishing Service or World Wide Web Publishing
    2. Asset Console commands and tasks

    When you run Asset Console after having backed up or restored the asset management database, start the services in the reverse of the order in which they were stopped.
- Do not execute other programs while Database Manager is running.

There are two ways to obtain a backup copy of the asset management database in CSV format:

- By using the Database Manager dialog box
- By executing `jamdbexport.bat` from the command line

(1) Backing up the asset management database from the Database Manager dialog box

To back up the asset management database from the Database Manager dialog box:

1. Click the **Start** button and point to **Programs**, then to **JP1_IT Desktop Management 2 - Asset Console**, and then select **Setup**.
   The Setup dialog box appears.

2. Click the **Database Manager** icon.
   The Database Manager dialog box appears.

3. Select **Back up the database to CSV files** and then click the **Next** button.
   The dialog box for obtaining a database backup is displayed as shown below. **Logs** displays a maximum of 10 backup logs.

Figure 12–1: Dialog box for obtaining a database backup
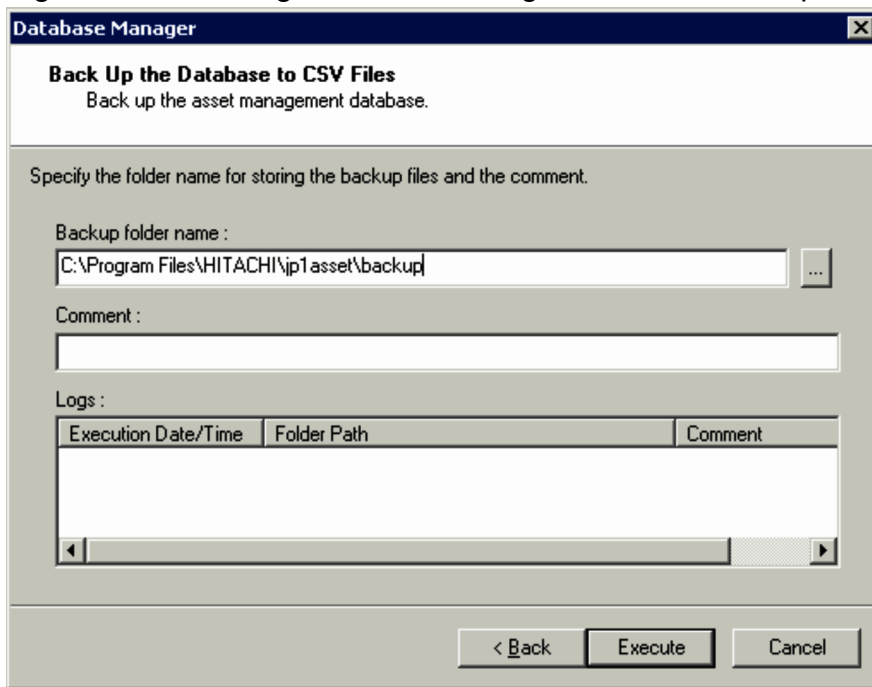
4. Specify the backup folder.

   In **Backup folder name**, specify the backup folder. Allocate sufficient free space to the drive that is specified for the backup folder. Clicking the **...** button displays a dialog box in which you can browse folders and specify a desired folder. Specify 1 to 223 bytes of characters. Note that **"**, |, *, <, >, ?, &, ^, and / are not permitted. By default, *Asset-Console-installation-folder*\backup is specified.

   By clicking a backup log displayed in **Logs**, you can specify the folder path of the selected backup log.

5. Enter a command, if necessary.

   If there is additional information for the backup folder, enter it in **Comment**, expressed as a maximum of 64 bytes of characters.

6. Click the **Execute** button.

   The asset management database is backed up. When the data is backed up, the contents of the asset management database are stored in the backup folder.

Note

   Do not change the name of the acquired CSV file or its contents. If such a change is made, the asset management database can no longer be restored.

(2) Backing up the asset management database using the command

This subsection describes the function, format, and options for jamdbexport.bat, and provides notes on command execution. This command executes the same backup as the method that uses the Database Manager dialog box, but it does so from the command line on the asset management server.

jamdbexport.bat is stored in the following folder:

Asset-Console-installation-folder\exe

(a) Function

`jamdbexport.bat` obtains a backup of the asset management database and outputs the data to CSV files. When `jamdbexport.bat` is executed, the contents of the asset management database are stored in the backup folder.

(b) Format

```
jamdbexport.bat backup-folder-path [-rp]
```

(c) Options

backup-folder-path

    Specifies the full path of the backup folder. Allocate sufficient free space to the drive that is specified for the backup folder. When you specify a path, note the following:

- Do not include any spaces in a folder name.
- Do not enclose a folder name in double-quotation marks (**"**).
- Do not specify an existing folder name.

    If the path is omitted, *Asset-Console-installation-folder*\backup is set.

`-rp`

    If this option is specified, the command starts the backup processing without waiting for a key response.

    If this option is omitted, the command waits for a key response. To cancel execution, press the **Ctrl** + **C** keys.

(d) Notes on command execution

- If you specify the `-rp` option, the command prompt closes after the processing terminates, making it impossible to determine whether an error has occurred.
- Do not change the name or contents of the CSV files acquired by `jamdbexport.bat`. If such a change is made, the asset management database can no longer be restored.

(3) Restoring the asset management database from the Database Manager dialog box

Before you start the restore processing, make sure that the asset management database has been created. If no asset management database has been created, use the Database Manager dialog box to create a new asset management database, and then execute the restore processing.

To restore a backup of the asset management database from the Database Manager dialog box:

1. Click the **Start** button and point to **Programs**, then to **JP1_IT Desktop Management 2 - Asset Console**, and then select **Setup**.
   The Setup dialog box appears.

2. Click the **Database Manager** icon.
   The Database Manager dialog box appears.

3. Select **Restore the database from CSV files** and then click the **Next** button.
   The dialog box for restoring the database is displayed as shown below. **Logs** displays a maximum of 10 backup logs.

Figure 12–2: Dialog box for restoring the database
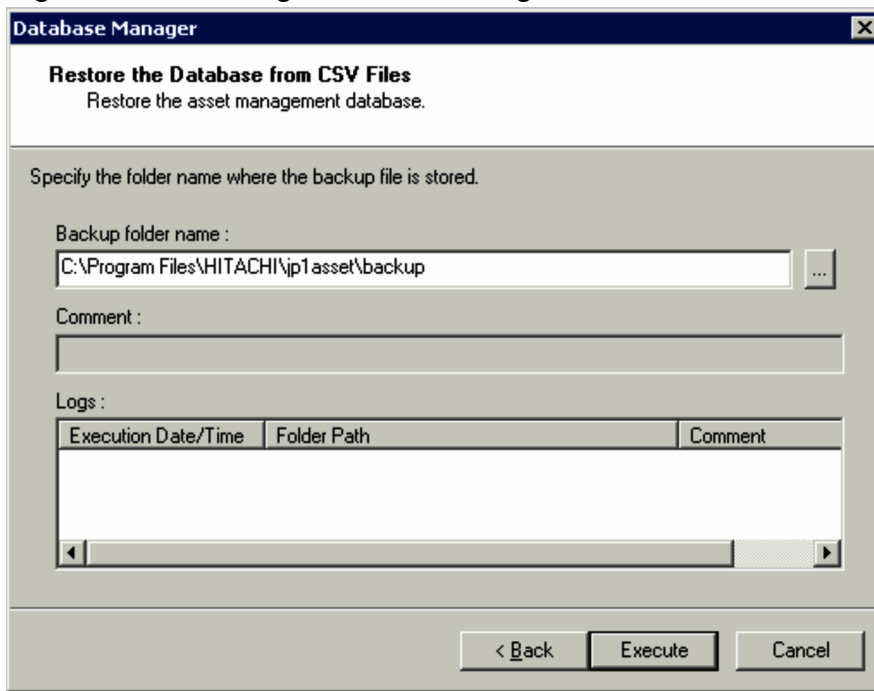
4. Specify the backup folder that is to be restored.

In **Backup folder name**, specify the backup folder. Clicking the **...** button displays a dialog box in which you can browse folders and specify a desired folder. Specify 1 to 223 bytes of characters. Note that **"**, |, *, <, >, ?, &, ^, and / are not permitted. By default, *Asset-Console-installation-folder*\backup is specified.

By clicking a backup log displayed in **Logs**, you can specify the folder path of the selected backup log.

Note

   Do not change the names or contents of the files created during the backup processing.

5. Click the **Execute** button.

The asset management database is restored.

12.1.2 Backing up and restoring the asset management database

This subsection describes how to back up and restore the asset management database.

Notes

- Before you start this procedure, stop all Asset Console services, commands, and tasks.

- Stop the Asset Console services in the following order:

   1. World Wide Web Publishing Service or World Wide Web Publishing

   2. Asset Console commands and tasks

   When you run Asset Console after having backed up or restored the asset management database, start the services in the reverse of the order in which they were stopped.

   Before you execute the operation, log in as a user with administrator permissions.

- After the restore processing is completed, execute the command for acquiring JP1/IT Desktop Management 2 - Manager management information (jamTakeITDM2Info.exe -ALL) if necessary. If you do not perform this, the data in the database might not match the data in JP1/IT Desktop Management 2 - Manager.

There are two ways to back up the asset management database:

- By using the Database Manager dialog box
- By executing `jamemb_backup.bat` from the command line

To back up and restore the asset management database using the Database Manager dialog box:

1. Click the **Start** button and point to **Programs**, then to **JP1_IT Desktop Management 2 - Asset Console**, and then select **Setup**.

   The Setup dialog box appears.

2. Click the **Database Manager** icon.

   The following Database Manager dialog box appears.

   Figure 12–3: Database Manager dialog box
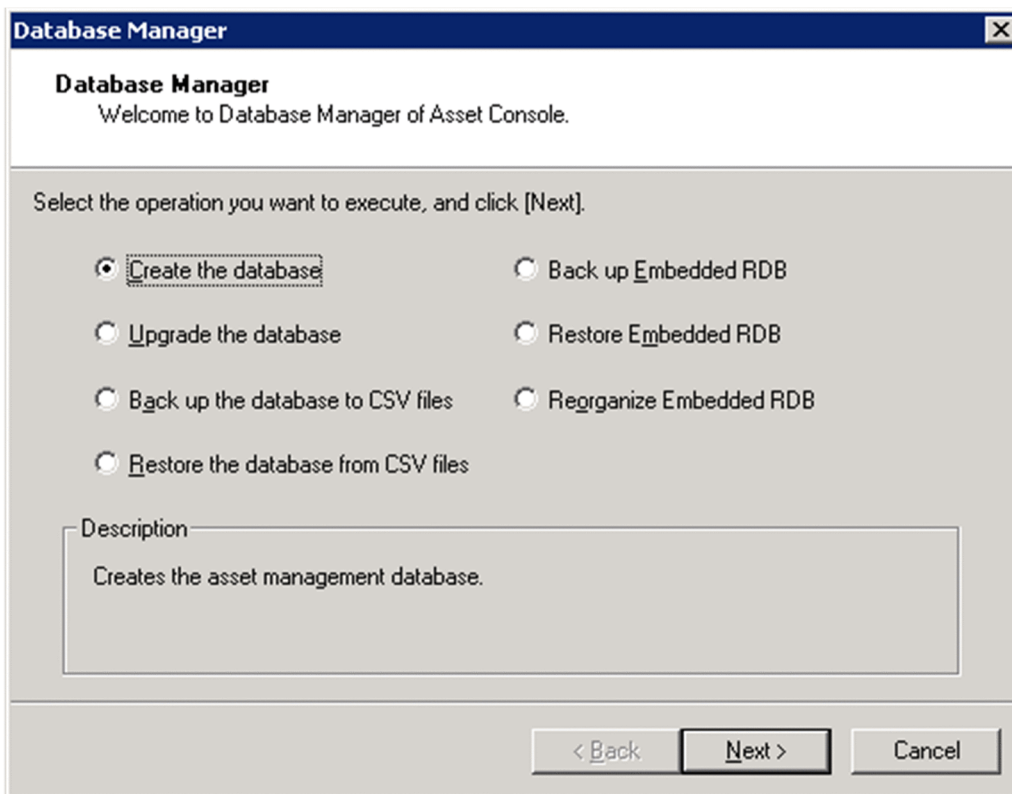
3. Select the task that you want to execute and then click the **Next** button.

   For details about how to back up and restore the asset management database, see *(1)* and *(3)*.

The method for backing up the asset management database using the command is described in *(2)*.

(1) Backing up the asset management database from the Database Manager dialog box

To back up the asset management database:

1. In the Database Manager dialog box, select **Back up Embedded RDB** and then click the **Next** button.

   The dialog box for acquiring a backup of the database is displayed as shown below. **Logs** displays a maximum of 10 backup logs.

Figure 12–4: Dialog box for acquiring a backup of the database
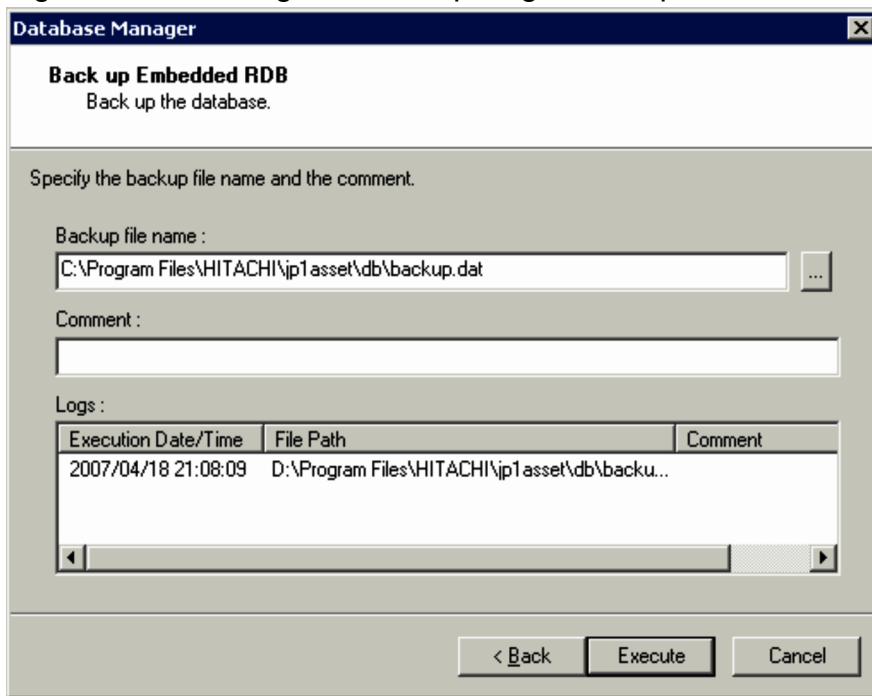
2. Specify the name of the backup file.

In **Backup file name**, specify the name of the backup file. Clicking the **...** button displays a dialog box in which you can browse files and specify a desired file. Specify 1 to 255 bytes of characters. Note that **"**, |, *, <, >, ?, &, ^, and / are not permitted. By default, *Asset-Console-installation-folder*\db\backup.dat is specified.

By clicking a backup log displayed in **Logs**, you can specify the file path of the selected backup log.

Note

When data backup is executed, the contents of the asset management database are stored in the backup file. Therefore, specify a file in a folder on the drive that has sufficient free space.

3. Enter a comment, if necessary.

If there is additional information about the backup file, enter a maximum of 64 bytes of characters in **Comment**.

4. Click the **Execute** button.

The asset management database is backed up. When the backup processing is completed, a message to that effect is displayed and the database manager is terminated.

If the backup processing fails, a message to that effect is displayed. Click the **Show Maintenance Information** button to check the execution result.

(2) Backing up the asset management database using commands

This subsection gives the function, format, options, return value, notes about command execution, and an execution example of jamemb_backup.bat, which is used to acquire a backup file of the asset management database.

jamemb_backup.bat is stored in the following folder:

Asset-Console-installation-folder\exe

(a) Function

This command backs up the asset management database.

(b) Format

```
jamemb_backup.bat -b backup-file-path -o result-file-path [-y]
```

(c) Options

-b *backup-file-path*

    Specifies the full path of the file for which the backup is to be acquired. Specification of this option is mandatory.

-o *result-file-path*

    Specifies the full path of the file to which the execution results are to be output. Specification of this option is mandatory.

-y

    If this option is specified, the command starts the backup processing without waiting for a key response.

    If this option is omitted, the command waits for a key response. To cancel execution, press the **Ctrl** + **C** keys.

(d) Return value

Returns one of the following return values:

Return value	Description
0	Normal termination. You can check the result file for the backup details.
11	Invalid option format.
101 or greater	Terminated with another error.

(e) Notes on command execution

Execute jamemb_backup.bat as a user with administrator permissions.

(f) Execution example

```
jamemb_backup.bat -b C:\temp\backup\Backup.dat -o C:\temp\backup\kekka.log -
y
```

(3) Restoring the asset management database from the Database Manager dialog box

To restore the asset management database from a backup file:

1. In the Database Manager dialog box, select **Restore Embedded RDB** and then click the **Next** button.
   The dialog box for restoring the database from its backup file is displayed as shown below. **Logs** displays a maximum of 10 backup logs.

Figure 12–5: Dialog box for restoring the database from its backup file
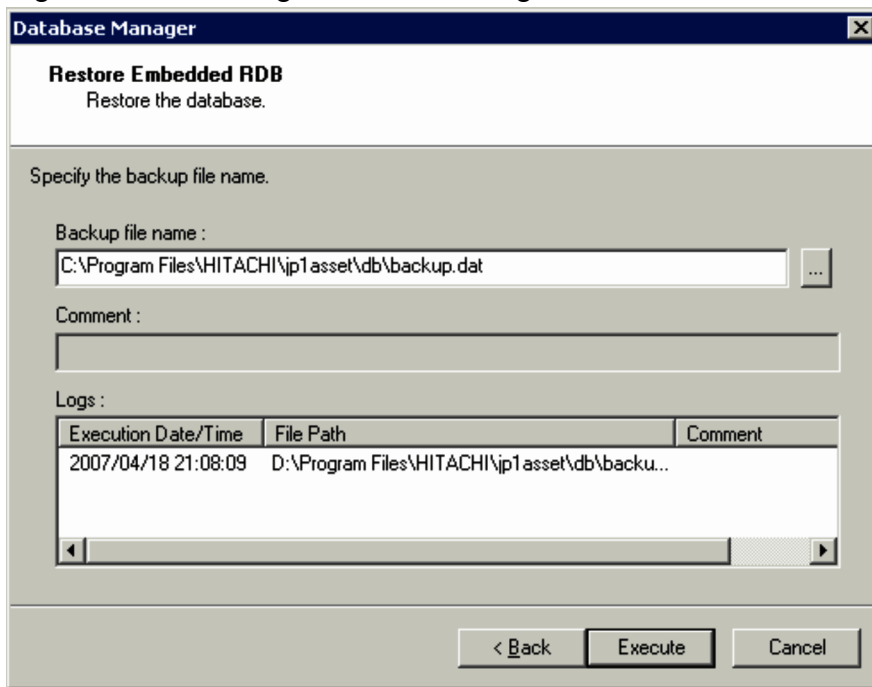
2. Specify the name of the backup file.

   In **Backup file name**, specify the name of the backup file that is to be restored. Clicking the **...** button displays a dialog box in which you can browse files and specify a desired file. Specify 1 to 255 bytes of characters. Note that **"**, |, *, <, >, ?, &, ^, and / are not permitted. By default, the file name specified in **Backup file name** during backup acquisition is specified. If you have changed the location of the backup file after backup processing, use the **...** button to specify the correct file name.

   By clicking a backup log displayed in **Logs**, you can specify the file path of the selected backup log.

3. Click the **Execute** button.

   The asset management database is restored from its backup file. When the restore processing is completed, a message to that effect is displayed and the database manager is terminated.

   If the restore processing fails, a message to that effect is displayed. Click the **Show Maintenance Information** button to check the execution result.

Note

   To restore a backup file, Asset Console must have been installed at the same path as when its backup was acquired. Before starting the restore processing, make sure that the installation folder has the same path as when the backup was acquired.

12.1.3 Backing up and restoring uploaded files

This subsection describes how to back up and restore uploaded files.

(1) Backing up uploaded files

Copy the following files:

- Files under *asset-management-server's-virtual-directory*\data

- Files under *asset-management-server's-virtual-directory*\csv

By default, *asset-management-server's-virtual-directory* is *Asset-Console-installation-folde*r\wwwroot.

(2) Restoring uploaded files

Restore copied files to their original folders.

Note

For the backup file to be restored, specify a file that was acquired from the same version of Asset Console. Also restore the file to the path of the same installation folder as when backup was acquired.

12.1.4 Backing up and restoring the registry

This subsection describes how to back up and restore the registry. If you back up or restore the Asset Console registry on a 64-bit OS, replace HKEY_LOCAL_MACHINE\SOFTWARE\HITACHI\JP1/Asset Information Manager with HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hitachi\JP1/Asset Information Manager when you read the following procedures.

(1) Backing up the registry

To back up the registry:

1. Click the **Start** button and then select **Run**.
   The **Run** dialog box appears.

2. In the input field, enter regedit and then click the **OK** button.
   Registry Editor starts.

3. From the tree view, select HKEY_LOCAL_MACHINE\SOFTWARE\HITACHI\JP1/Asset Information Manager.

4. From the **File** menu, select **Export**.
   The Export Registry File dialog box appears.

5. Specify the storage location and file name, then click the **Save** button.
   The backup file is created at the specified location.

(2) Restoring the registry

To restore the registry:

1. Click the **Start** button and then select **Run**.
   The Run dialog box appears.

2. In the input field, enter regedit and then click the **OK** button.
   Registry Editor starts.

3. From the tree view, select HKEY_LOCAL_MACHINE\SOFTWARE\HITACHI\JP1/Asset Information Manager.

4. From the **File** menu, select **Import**.
   The Import Registry File dialog box appears.

5. Specify the obtained backup file and then click the **Open** button.

The specified backup file is restored.

Note

To use a backup file for restoration, you must specify the same Asset Console version and path as when the backup was made.

12.2 Reorganizing the asset management database

Hitachi recommends that you periodically reorganize the asset management database. When records are deleted from a database, the corresponding areas remain unused. When such unused areas increase in the database area, a space shortage might occur in the database.

If the database area usage rate reaches 80% or greater, messages with the following message IDs are displayed in the event log:

- KFPA12300-I
- KFPH00211-I

In such a case, you might be able to improve the database area usage rate by reorganizing the asset management database.

For details about the messages, see the manual *HiRDB Version 8 Messages*.

There are two ways to reorganize the asset management database:

- By using the Database Manager dialog box
- By executing jamemb_reorganization.bat from the command line

If a message indicating a shortage of database capacity is still displayed after the asset management database has been reorganized, you must extend the size of the asset management database. For details about how to change the size of the asset management database, see *E.2 Changing the size of a database*.

Notes

- Before you reorganize the asset management database, stop all Asset Console services, commands, and tasks.
- Stop the Asset Console services in the following order:

    1. World Wide Web Publishing Service or World Wide Web Publishing

    2. Asset Console commands and tasks

    When you run Asset Console after having reorganized the asset management database, start the services in the reverse of the order in which they were stopped.

12.2.1 Reorganizing the asset management database from the Database Manager dialog box

Notes

- Before you reorganize the asset management database using the Database Manager dialog box, stop all Asset Console services, commands, and tasks.
- Stop the Asset Console services in the following order:

    1. World Wide Web Publishing Service or World Wide Web Publishing

    2. Asset Console commands and tasks

    When you run Asset Console after having reorganized the asset management database, start the services in the reverse of the order in which they were stopped.

• When you use Database Manager to reorganize the database, if the new value for **Storage folder name** or **Connection user ID** is different from the old one, the old database file remains. After reorganization finishes, delete the old database file.

To use the Database Manager dialog box to reorganize the asset management database:

1. In the Database Manager dialog box, select **Reorganize Embedded RDB** and then click the **Next** button.
   The following dialog box is displayed.

Figure 12–6: Dialog box for reorganizing the database
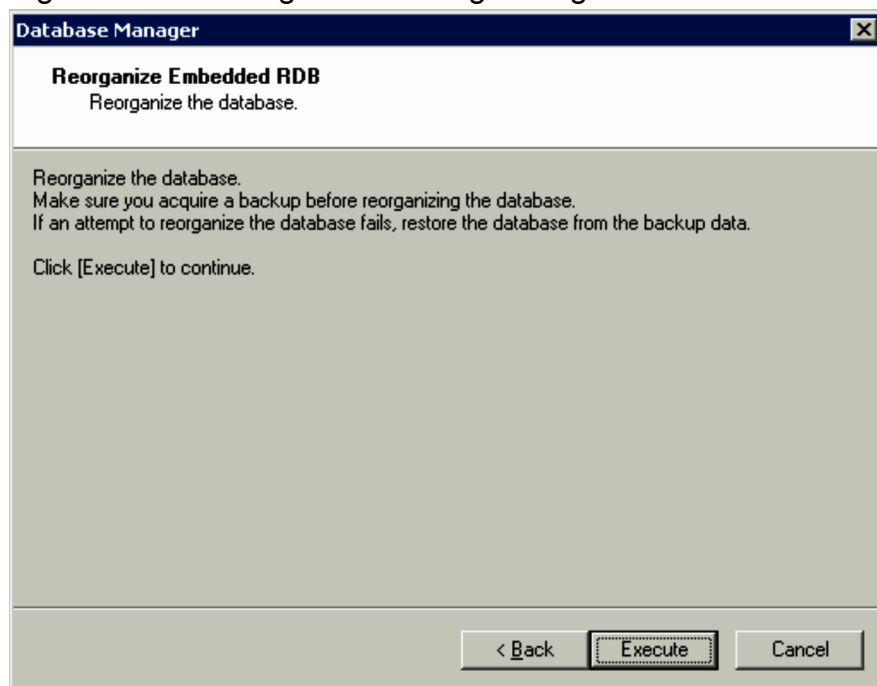
2. Click the **Execute** button.
   The asset management database is reorganized. When the reorganization processing is completed, a message to that effect is displayed and the database manager is terminated.
   If the reorganization processing fails, a message to that effect is displayed. Click the **Show Maintenance Information** button to check the execution results.

12.2.2 Reorganizing the asset management database using commands

This subsection describes the function, format, options, and return values of jamemb_reorganization.bat, which reorganizes the restored asset management database. It also provides notes on its execution, followed by an execution example.

jamemb_reorganization.bat is stored in the following folder:

Asset-Console-installation-folder\exe

If reorganization fails, the asset management database can no longer be used. In such a case, restore the backup data of the asset management database.

(1) Function

`jamemb_reorganization.bat` reorganizes the asset management database.

(2) Format

```
jamemb_reorganization.bat port-number user-ID password -o result-file-path
[-y]
```

(3) Options

port-number

Specifies the database connection port number that was specified when Asset Console was installed. To identify the port number that was set, check `PDNAMEPORT` in the `HiRDB.ini` file, which is stored in *Asset-Console-installation-folder*`\aimdb\conf\emb`. Specification of this option is mandatory.

user-ID, *password*

Specifies the values that were set in **Login ID** in **Database Information** in the Server Setup dialog box. Specification of this option is mandatory.

`-o` *result-file-path*

Specifies the full path of the file to which the execution results are to be output. Specification of this option is mandatory.

`-y`

If this option is specified, the command starts the reorganization processing without waiting for a key response. If this option is omitted, the command waits for a key response. To cancel execution, press the **Ctrl** + **C** keys.

(4) Return value

Returns one of the following return values:

Return value	Description
0	Normal termination. You can check the result file for the details of reorganization.
11	Invalid option format.
101 or greater	Terminated with another error.

(5) Notes on command execution

- Before you execute `jamemb_reorganization.bat`, stop all Asset Console services, commands, and tasks. Stop the Asset Console services in the following order:

    1. World Wide Web Publishing Service or World Wide Web Publishing

    2. Asset Console commands and tasks

    When you use Asset Console after having executed `jamemb_reorganization.bat`, start the services in the reverse of the order in which they were stopped.

- Execute `jamemb_reorganization.bat` as a user with administrator permissions.

(6) Execution example

```
jamemb_reorganization.bat 31022 admin admin -o C:\temp\backup\kekka.log -y
```

12.2.3 Setting execution monitoring time limit for database reorganization processing

If an error (such as, communication error or disk error) occurs while a database is being reorganized, the reorganization process might stop responding. In some cases (for example, when reorganization is automatically executed by a Windows task function or JP1/AJS), the non-responding process cannot be forcibly terminated by manual operation. This subsection describes how to set an execution monitoring time limit for database reorganization processing, and how to stop a reorganization process that does not respond.

Notes

- Before you set execution monitoring time limit for database reorganization processing, on the asset management server, stop all Asset Console services, commands, and tasks.

- Stop the Asset Console services in the following order:

    1. World Wide Web Publishing Service or World Wide Web Publishing

    2. Asset Console commands and tasks

When you run Asset Console after having changed the execution monitoring time limit for database reorganization processing, start the services in the reverse of the order in which they were stopped.

1. Stop the database. (For details about how to stop the database, see *E.4(2) Stopping the database*.)

2. Use a text editor to open the `pdsys` file stored in *Asset-Console-installation-folder*`\aimdb\conf`.

3. Add the following line:

    `set pd_utl_exec_time` = *execution-monitoring-time-limit-for-reorganization-processing*[#]

4. Start the database. (For details about how to start the database, see *E.4(1) Starting the database*.)

    #

    To monitor the execution time of a database access command, set the monitoring time limit in the range from `0` to `35791394` (minutes). If nothing is specified or `0` is specified, the execution time of a command will not be monitored. If the monitoring time limit specified here expires, an executing command will terminate abnormally. For this operand, specify a value that is a little larger than the maximum value of the actual command execution time. For example, if the maximum execution time for reorganizing a database is about 90 minutes, you may need to specify `pd_utl_exec_time=120`. This setting is based on the consideration that, if a process that usually takes about 90 minutes does not complete within 120 minutes, a no-response error has probably occurred.

Coding example:

```
#
#----------------------------------------------------------------
# set form
#
:
(Omitted)
:
set pd_utl_exec_time = 120
#
#----------------------------------------------------------------
```

```
# putenv form
#
```

12.3 Notes on restoring the JP1/IT Desktop Management 2 - Manager database

Before restoring the JP1/IT Desktop Management 2 - Manager database, perform the following operations:

- Stop the World Wide Web Publishing Service or World Wide Web Publishing service.

- Stop the command for acquiring JP1/IT Desktop Management 2 - Manager management information (`jamTakeITDM2Info.exe`) if it is running.

- If the **Acquisition of ITDM2 - Manager management information (Asset Console)** task has been registered in Windows Task Scheduler, disable the task.

After you finish restoring the JP1/IT Desktop Management 2 - Manager database, make sure that you execute the command for acquiring JP1/IT Desktop Management 2 - Manager management information (`jamTakeITDM2Info.exe`). Then, after the acquisition of information finishes, restart the stopped services, commands, and tasks.

13

Details of Information That Can Be Acquired from Linked Products and Details of JP1 Events That Are Issued

This chapter provides the details of management information for JP1/IT Desktop Management 2 - Manager that can be loaded to the asset management database for use in jobs.

It also provides the details of JP1 events that are issued from Asset Console in order to link with JP1/IM.

13.1 Management information that can be acquired from JP1/IT Desktop Management 2 - Manager

Based on the management information of JP1/IT Desktop Management 2 - Manager, information is registered or updated in each corresponding class of Asset Console.

The following table shows the information to be registered or updated and the correspondence to the assigned management information.

Table 13–1: Information to be registered or updated and the correspondence to the assigned management information

Asset Console class	JP1/IT Desktop Management 2 - Manager management information					
	Device information			Software information	Common fields	Custom fields
	Status	System information and hardware information	Security information	Installed software information		
Asset information	Y	Y	N	N	Y	Y
Hardware information	Y	Y	N	N	Y	Y
IP address management information	N	Y	N	N	N	N
Network information	Y	Y	N	N	Y	Y
Installed software information	N	N	N	Y	N	N
Installed software list	N	N	N	Y	N	N
Patch information	N	N	Y	N	N	N
Patch list	N	N	Y	N	N	N
Virus definition information	N	N	Y	N	N	N
Group information	N	N	N	N	Y	N
Location information	N	N	N	N	Y	N

Legend:
    Y: Can be assigned
    N: Cannot be assigned

The table below shows the JP1/IT Desktop Management 2 - Manager management information that can be assigned. For details about each management item, see the *JP1 Version 10 Job Management Partner 1/IT Desktop Management 2 Overview and System Design Guide*.

Managed class name	Management name	
Device information	Status	Host identifier
		Device type
		Management type
		Agent version
		Connection settings

Managed class name			Management name
Device information	Status		Device status
	System information and hardware information	Computer information	BIOS manufacturer
			BIOS name
			BIOS release date
			BIOS serial #
			BIOS version (SMBIOS)
			BIOS version
			Manufacturer of the computer
			Computer model
			{0} Core(s)
			Computer serial #
			Computer UUID
			Logical drive letter[1]
			Logical drive type[1]
			Logical drive file system[1]
			Logical drive free space[1, 2]
			Logical drive capacity[1, 2]
			Computer name
			Computer description
			Monitor turn off time (AC)
			Monitor turn off time (DC)
			Hard disk turn off time (AC)
			Hard disk turn off time (DC)
			System standby (AC)
			System standby (DC)
			System hibernate (AC)
			System hibernate (DC)
			Processor control (AC)
			Processor control (DC)
			AMT firmware version
		User information	Time zone
			Account name of the last-logged on user
			Locale
			Last logged on user description
			User name of the last-logged on user

Managed class name			Management name
Device information	System information and hardware information	Operating system	Operating system
			OS service pack
			Company that owns the OS
			OS languages
			OS owner
			OS serial #
			OS last startup date/time
			Windows directory
			Windows installer version
			Windows update (Agent version)
			IE version
			IE service pack
		Network information	Domain (Work group)
			Domain role
			Default gateway[1]
			DHCP[1]
			DHCP lease expiration date/time[1]
			DHCP lease acquisition date/time[1]
			DHCP server address[1]
			DNS server address[1]
			IP address[1]
			Subnet mask[1]
			MAC address[1]
			Primary WINS server address[1]
			Secondary WINS server address[1]
		Smart devices information	IMEI of the smart device
			UDID of the smart device
			ICCID of the smart device
			IMSI of the smart device
			Contract phone number of the smart device
			Email address of the smart device
			Smart device carrier
			Bar code setup status of the smart device
			RAM of the smart device[2]

Managed class name			Management name
Device information	System information and hardware information	Smart devices information	Free space of the smart device RAM[#2]
			Capacity of the smart device internal storage[#2]
			Free space of the smart device internal storage[#2]
			Capacity of the smart device external storage[#2]
			Free space of the smart device external storage[#2]
		CPU information	Processor name[#1]
		Memory information	Total memory capacity[#1, #2]
			Virtual memory capacity[#2]
		Hard disk information	Hard disk interface[#1]
			Hard disk model[#1]
			Hard disk capacity[#1, #2]
		CD-ROM drive information	CD-ROM drive model[#1]
		Printer information	Printer type[#1]
			Printer driver[#1]
			Printer name[#1]
			Port of the printer server[#1]
			Name of the printer server[#1]
			Printer shared name[#1]
		Video controller information	Video card VRAM capacity[#1]
			Video driver[#1]
			Video chip[#1]
		Sound card information	Manufacturer of the sound card[#1]
			Name of the sound card[#1]
		Monitor information	Monitor[#1]
		Keyboard information	Keyboard[#1]
		Mouse information	Mouse[#1]
	Security information	Update program information	Document number (applied date)
		Anti-virus product information	Product name
			Version
			Installed date

13. Details of Information That Can Be Acquired from Linked Products and Details of JP1 Events That Are Issued

Managed class name			Management name
Device information	Security information	Anti-virus product information	Engine version
			Virus definition file version
			Auto Protect
Software information	Installed software information		Software name
			Version
			Software vendor
			Support URL
			Product ID
			Registered date/time
			Installation date
Common fields			Group name
			Location name
			User name
			Account
			E-mail
			Phone
Custom Field			Information about custom field created by JP1/IT Desktop Management 2 - Manager

#1: There might be more than one information item for a single device managed by JP1/IT Desktop Management 2. When an item with multiple pieces of information is assigned to a user property of Asset Console, item values separated by semicolons (;) are stored in the asset management database. This applies to the following items:

- `asset information.user property area_1` to 2
- `asset information.user property code 1` to 6
- `asset information.user property field128_1` to 2
- `asset information.user property field255_1` to 2
- `asset information.user property field32_1` to 6
- `asset information.user property field64_1` to 2
- `hardware information.user property area_1` to 4
- `hardware information.user property code-1` to 12
- `hardware information.user property field128_1` to 8
- `hardware information.user property field255_1` to 8
- `hardware information.user property field32_1` to 8
- `hardware information.user property field64_1` to 8

#2: There might be several byte errors depending on the method of displaying data for JP1/IT Desktop Management 2 and Asset Console.

For details about how to register JP1/IT Desktop Management 2 - Manager management information in the asset management database, see *3.2.1 Collecting from JP1/IT Desktop Management 2 - Manager*.

The details of each class of information to be registered or updated are described below.

13.1.1 Information that can be acquired as asset information

The table below shows the details of Asset Console's asset information that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager.

For details about the settings for assigning JP1/IT Desktop Management 2 - Manager management information, see *4.14 Setting assigned items (ITDM2 Management Information Acquisition)* in the *Administration Guide*

Table 13–2: Details of the asset information that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager

Item name	Value to be set	Whether the value is updated when there is existing data
Asset ID	The value is assigned automatically.	N
Asset type	Hardware	N
Asset number	One of the following assigned items selected by **ITDM2 management information acquisition**: • **Auto** • **Host identifier (Device information)** • **Custom Field** • **Computer Serial # (System information and hardware information)** • **Computer Name (System information and hardware information)** The default is **Auto**.	Y[#]
Status	Among the values of the `AssetStatus` code ID, the item selected by **ITDM2 management information acquisition** is set. The default is **Active**.	Y[#]
Usage management	Among the values of the `AssetWorkKind` code ID, the item selected by **ITDM2 management information acquisition** is set. The default is **Used**.	Y[#]
Last updated date of ITDM2	**Last updated date** for **Device information** or deletion history information of **Last updated date** is set, whichever is more recent.	Y
ITDM2 Agent installed status	Acquired from **Management Type** for **Device information**.	Y
Group ID	ID corresponding to the group specified in **Group**	Y
Group	One of the following assigned items selected by **ITDM2 management information acquisition**: • **Do not set** • **IP address group** • **User's department** • **Group name (Common fields)** The default is **Do not set**.	Y[#]
Group name	The group name corresponding to the group information set for **Group name** is set.	Y
Host identifier	Acquired from **Host identifier** for **Device information**.	Y
Location ID	ID corresponding to the location set in **Location name** is set.	Y
Location name	One of the following assigned items selected by **ITDM2 management information acquisition** is set: • **Do not set**	Y[#]

Item name	Value to be set	Whether the value is updated when there is existing data
Location name	• **IP address group** • **Location name (Common fields)** The default is **Do not set**.	Y[#]
Location name	The location name corresponding to the location name information set for **Location name** is set.	Y
Registration date	By acquiring management information of JP1/IT Desktop Management 2 - Manager, the new date and time created for asset information is set.	N
Stocktaking date	One of the following assigned items selected by **ITDM2 management information acquisition** is set: • **Do not set** • **Custom Field** The default is **Do not set**.	Y[#]
User ID	The ID corresponding to the user information set in **User name** is set.	Y
User name	One of the following assigned items selected by **ITDM2 management information acquisition** is set: • **Do not set** • **User Name (Common fields)** • **Account (Common fields)** • **E-mail (Common fields)** • **Custom Field** • **OS owner (System information and hardware information)** The default is **User Name**.	Y[#]
User name (English)	The user name corresponding to user information set for **User name** (English) is set.	Y
User property	One of the following assigned items selected by **ITDM2 management information acquisition** is set: • **Do not set** • **Device information** • **Common fields** • **Custom Field** • **System information and hardware information** • **Constant value** The default is **Do not set**.	Y[#]

Legend:

Y: Updated

N: Not updated

#: Follow the settings for assigned items of **ITDM2 management information acquisition**.

Notes

If you select **Assigned key** for **Assignment method**, and an item other than **Auto** as the asset number in the ITDM2 management information acquisition window, the value for the management information of JP1/IT Desktop Management 2 - Manager corresponding to the assigned item changes. When this happens, the asset number also changes. However, the asset number does not change in the following cases:

• The new value is the same as the asset number that has already been registered in the asset management database.

Duplication of values might occur if **host name**, **IP address**, **MAC address**, or **Computer name** is selected as the assigned item for the asset number.

13.1.2 Information that can be acquired as hardware information

The following table shows the details of Asset Console's hardware information that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager.

Table 13–3: Details of the hardware information that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager

Item name	Value to be set	Whether the value is updated when there is existing data
Asset ID	**Asset ID** of the corresponding asset information is set.	N
Processor speed	Acquired from **Processor Name** of **System information and hardware information**.	Y
Number of processors	Acquired from **{0} Core(s)** of **System information and hardware information**.	Y
Processor	Acquired from **Processor Name** of **System information and hardware information**.	Y
Developer	One of the following assigned items selected by **ITDM2 management information acquisition** is set: • **Do not set** • **Custom Field** • **Manufacturer of the computer (System information and hardware information)** The default is **Manufacturer of the computer**.	Y[#]
Host name	Acquired from **Host name** of **System information and hardware information**.	Y
IP address	Acquired from **IP address** of **System information and hardware information**.	Y
MAC address	Acquired from **MAC address** of **System information and hardware information**.	Y
Device type	One of the following assigned items selected by **ITDM2 management information acquisition** is set: • **Device type (Device information)** • **Custom Field** • **Constant value** The default is **Device type**.	Y[#]
Memory	Acquired from **Total Memory Capacity** of **System information and hardware information**.	Y
Model	Acquired from **Computer model** of **System information and hardware information**.	Y
Device name	One of the following assigned items selected by **ITDM2 management information acquisition** is set: • **Do not set** • **Computer model (System information and hardware information)** • **Computer Name (System information and hardware information)** • **Constant value** The default is **Computer model**.	Y[#]
OS	Acquired from **OS** of **System information and hardware information**.	Y
OS version	Acquired from **OS service pack** of **System information and hardware information**.	Y

Item name	Value to be set	Whether the value is updated when there is existing data
Hard disk free space	The total amount of **Logical Drive Free Space** for **System information and hardware information** is set.	Y
Serial number	Acquired from **Computer Serial #** of **System information and hardware information**.	Y
Hard disk size	The total amount of **Logical Drive Capacity** for **System information and hardware information** is set.	Y
User property	One of the following assigned items selected by **ITDM2 management information acquisition** is set: • **Do not set** • **Device information** • **Common fields** • **Custom Field** • **System information and hardware information** • **Constant value** The default is **Do not set**.	Y[#]

Legend:

    Y: Updated

    N: Not updated

#: Follow the settings for assigned items of **ITDM2 management information acquisition**.

13.1.3 Information that can be acquired as IP address management information

The following table shows the details of Asset Console's IP address management information that is registered based on the management information of JP1/IT Desktop Management 2 - Manager.

Table 13–4: Details of the IP address management information that is registered based on the management information of JP1/IT Desktop Management 2 - Manager

Item name	Value to be set	Whether the value is updated when there is existing data
IP address	Acquired from **IP address** of **System information and hardware information**.	N

Legend:

    N: Not updated

13.1.4 Information that can be acquired as network information

The following table shows the details of Asset Console's network information that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager.

Table 13–5: Details of the network information that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager

Item name	Value to be set	Whether the value is updated when there is existing data
Asset ID	**Asset ID** of the corresponding asset information is set.	N
Computer name	Acquired from **Computer Name** of **System information and hardware information**.	Y
Default gateway	Acquired from **Default Gateway** of **System information and hardware information**.	Y
DHCP server name	Acquired from **DHCP server address** of **System information and hardware information**.	Y
ITDM2 management information acquisition control	**Delete when there is no corresponding information in the ITDM2 management information.** is set.	Y
IP address	Acquired from **IP address** of **System information and hardware information**.	Y
IP address type	When the acquired value for **IP address** of **System information and hardware information** is in *xxx*.*xxx*.*xxx*.*xxx* (where *xxx* is a value from 0 to 255) format, **IPv4** is set. For values in another format, **IPv6** is set.	Y
MAC address	Acquired from **MAC address** of **System information and hardware information**.	Y
Network info ID	Numbered automatically.	N
Node name (host name)	Acquired from **Host name** of **System information and hardware information**.	Y
Subnet mask	Acquired from **Subnet mask** of **System information and hardware information**.	Y
User property	One of the following assigned items selected by **ITDM2 management information acquisition** is set**:** • **Do not set** • **Device information** • **Common fields** • **Custom Field** • **System information and hardware information** • **Constant value** The default is **Do not set**.	Y[#]

Legend:

Y: Updated

N: Not updated

#: Follow the settings for assigned items of ITDM2 management information acquisition.

13.1.5 Information that can be acquired as installed software information

The following table shows the details of Asset Console's installed software information that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager.

Table 13–6: Details of the installed software information that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager

Item name	Value to be set	Whether the value is updated when there is existing data
Asset ID	**Asset ID** of the corresponding asset information is set.	N
ITDM2 management information acquisition control	**Delete when there is no corresponding information in the ITDM2 management information.** is set.	Y
Installed date	Acquired from **Installed date** of **Installed software information**.	Y
Installed software ID	**Installed software ID** in **Installed software list** is registered.	N
Product ID	Acquired from **Product ID** of **Installed software information** (Only information for Microsoft Office products is acquired).	Y
User property	One of the following assigned items selected by **ITDM2 management information acquisition** is set: • **Do not set** • **Installed software information** • **Constant value** The default is **Do not set**.	Y[#]

Legend:

    Y: Updated

    N: Not updated

#: Follow the settings for assigned items of ITDM2 management information acquisition.

13.1.6 Information that can be acquired as installed software list

The installed software list is searched for the corresponding software name and software version. If there is no applicable information, it is added to the list. If the list contains no corresponding information, the information is added to the installed software list.

The table below shows the details of Asset Console's installed software list that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager.

Table 13–7: Details of the installed software list that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager

Item name	Value to be set	Whether the value is updated when there is existing data
Installed software ID	Numbered automatically.	N
Managed level	Among the values of the `InstalledInd` code ID, the item specified for **Assigned items** of **ITDM2 management information acquisition** is set. The default is **Managed object**.	Y
Software type	Among the values of the `InstalledKind` code ID, the item specified for **Assigned items** of **ITDM2 management information acquisition** is set. The default is **Normally**.	Y
Installed software name	Acquired from **Software name** of **Installed software information**.	N

Item name	Value to be set	Whether the value is updated when there is existing data
Permission	Among the values of the `Permit` code ID, the item specified for **Assigned items** of **ITDM2 management information acquisition** is set. The default is **Permit**.	Y
Version	Acquired from **Version** of **Installed software information**.	N
Software list ID	**Software list ID** assigned through automatic assignment of software names is registered.	N

Legend:
   Y: Updated
   N: Not updated

13.1.7 Information that can be acquired as patch information

The following table shows the details of Asset Console's patch information that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager.

Table 13–8: Details of patch information that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager

Item name	Value to be set	Whether the value is updated when there is existing data
Asset ID	**Asset ID** of the corresponding asset information is set.	N
ITDM2 management information acquisition control	**Delete when there is no corresponding information in the ITDM2 management information.** is set.	Y
Installed date	Acquired from **Document number** (*applied-date*) of security information.	Y
Applied status	**Apply** is set.	Y
Patch ID	**Patch ID** in the patch list is registered.	N

Legend:
   Y: Updated
   N: Not updated

13.1.8 Information that can be acquired as a patch list

The following table shows the details of Asset Console's patch list that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager.

Table 13–9: Details of the patch list that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager

Item name	Value to be set	Whether the value is updated when there is existing data
Patch ID	Numbered automatically.	N

Item name	Value to be set	Whether the value is updated when there is existing data
Patch name	Acquired from **Document number (***applied-date***)** of security information.	N
Version	Acquired from **Document number (***applied-date***)** of security information.	N

Legend:

N: Not updated

13.1.9 Information that can be acquired as virus definition information

The following table shows the details of Asset Console's virus definition information that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager.

Table 13–10: Details of the virus definition information that is registered or updated based on the management information of JP1/IT Desktop Management 2 - Manager

Item name	Value to be set	Whether the value is updated when there is existing data
Asset ID	**Asset ID** of the corresponding asset information is set.	N
Engine version	Acquired from **Engine version** in security information.	Y
ITDM2 management information acquisition control	**Delete when there is no corresponding information in the ITDM2 management information.** is set.	Y
Installed date	Acquired from **Installed date** of security information.	Y
Resident/nonresident	Acquired from **Automatic Protection (Resident Setting)** of security information. When the acquired value for **Automatic Protection (Resident Setting)** is **AutoProtectEnabled**, **Resident** is set. Otherwise, **Nonresident** is set.	Y
Anti-virus product version	Acquired from **Version** in security information.	Y
Anti-virus product name	Acquired from **Software Name** in security information.	N
Virus definition version	Acquired from **Anti-virus definition file version** in security information.	Y

Legend:

Y: Updated

N: Not updated

13.1.10 Information that can be registered as group information

If no corresponding group has been registered in the management information of JP1/IT Desktop Management 2 - Manager, the information is added to the group information. You can use **Assigned items** in the ITDM2 management information acquisition window to specify whether to add information to group information. For details about the settings of **Assigned items** in the ITDM2 management information acquisition window, see *4.14 Setting assigned items (ITDM2 Management Information Acquisition)*.

The following table shows the details of Asset Console's group information that is registered based on the management information of JP1/IT Desktop Management 2 - Manager.

Table 13–11: Details of the group information that is registered based on the management information of JP1/IT Desktop Management 2 - Manager

Item name	Value to be set	Whether the value is updated when there is existing data
Group name	Registered from **hierarchy path** of **Group information**.	N
Group name (English)	Set from **Local name (English)**.	N
Group ID	Numbered automatically.	N
Local name	Registered from **hierarchical level name** of **Group information**.	N
Local name (English)	**Group ID** is set.	N
Upper Group ID	If there is an upper group, **Group ID** of the upper group is set.	N

Legend:
    N: Not updated

13.1.11 Information that can be registered as location information

If no location corresponding location has been registered in the management information of JP1/IT Desktop Management 2 - Manager, the information is added to the location information. You can use **Assigned items** in the ITDM2 management information acquisition window to specify whether to add information to location information. For details about the settings of **Assigned items** in the ITDM2 management information acquisition window, see *4.14 Setting assigned items (ITDM2 Management Information Acquisition)*.

The following table shows the details of Asset Console's location information that is registered based on the management information of JP1/IT Desktop Management 2 - Manager.

Table 13–12: Details of the location information that is registered based on the management information of JP1/IT Desktop Management 2 - Manager

Item name	Value to be set	Whether the value is updated when there is existing data
Location	Registered from **hierarchy path** of **Location information**.	N
Location	Set from **Location name** (English).	N
Location ID	Numbered automatically.	N
Location name	Registered from **hierarchical level name** of **Location information**.	N
Location name (English)	**Location ID** is set.	N
Upper location ID	If there is an upper location, **Location ID** of the upper location is set.	N

Legend:
    N: Not updated

13.2 Details of JP1 events issued from Asset Console

The table below lists and describes the types of JP1 events that are issued from Asset Console.

Table 13–13: JP1 events issued from Asset Console

Event ID	Event name	Description
00005531	Filter start event	Reports that the asset management server has started.
00005532	Filter start error event (abnormal termination)	Reports that startup of the asset management server failed.
00005533	Filter termination event	Reports that monitoring of the asset management server session was terminated.
00005541	Item transition event	Reports that an item has transitioned to the next node. This event is issued only when the **JP1 event notification** task is defined as the activity.
00005542	Item status change event	Reports that an Item was rejected or pulled back. This event is issued when an Item for which an Item transition event was issued is pulled back or rejected.
00005543	Item deletion event	Reports that an Item was deleted. This event is issued when an Item for which an Item transition event was issued is deleted.
00005581	Handling completion event	Reports to JP1/IM that handling of the problem imported from JP1/IM was completed.
00005582	Problem status change event	Reports that a problem was registered or changed.
00005583	Problem deletion event	Reports that a problem was deleted.

13.2.1 Event attributes

This section explains the attribute types, items, attribute names, and attribute details of the various JP1 events issued from Asset Console.

(1) Attributes of the filter start event

This event reports that the asset management server has started.

The table below shows the attributes of the filter start event.

Table 13–14: Attributes of the filter start event

Attribute type		Item	Attribute name	Description
Issue timing		--	--	Start of filter
Basic attribute		Event ID	--	00005531
		Message	--	The session filter was started.
Extended	Common information	Importance	SEVERITY	Information
		Product name	PRODUCT_NAME	/HITACHI/JP1/AC
		Object type	OBJECT_TYPE	SERVICE

Attribute type		Item	Attribute name	Description
Extended	Common information	Object name	OBJECT_NAME	ASSET_SESS
		Occurrence	OCCURRENCE	START
		Start time	START_TIME	Start time

Legend:
  --: Not applicable

(2) Attributes of the filter start error event (abnormal termination)

This event reports that the asset management server failed to start.

The table below shows the attributes of the filter start error event (abnormal termination).

Table 13–15: Attributes of the filter start error event (abnormal termination)

Attribute type		Item	Attribute name	Description
Issue timing		--	--	Filter start error
Basic attribute		Event ID	--	00005532
		Message	--	The session filter was abended.
Extended	Common information	Importance	SEVERITY	Error
		Product name	PRODUCT_NAME	/HITACHI/JP1/AC
		Object type	OBJECT_TYPE	SERVICE
		Object name	OBJECT_NAME	ASSET_SESS
		Occurrence	OCCURRENCE	END
		End time	END_TIME	End time
		Return code	RESULT_CODE	Return code

Legend:
  --: Not applicable

(3) Attributes of the filter termination event

This event reports that the asset management server session monitoring terminated.

The table below shows the attributes of the filter termination event.

Table 13–16: Attributes of the filter termination event

Attribute type		Item	Attribute name	Description
Issue timing		--	--	Stop of filter
Basic attribute		Event ID	--	00005533
		Message	--	The session filter was stopped.
Extended	Common information	Importance	SEVERITY	Information
		Product name	PRODUCT_NAME	/HITACHI/JP1/AC

Attribute type		Item	Attribute name	Description
Extended	Common information	Object type	OBJECT_TYPE	SERVICE
		Object name	OBJECT_NAME	ASSET_SESS
		Occurrence	OCCURRENCE	END
		End time	END_TIME	End time
		Return code	RESULT_CODE	Return code

Legend:

--: Not applicable

(4) Attributes of the Item transition event

This event reports that the Item transitioned to the node.

You can specify any desired information in the user extension area of event information 0 to 31 using the managed item settings of the **JP1 event notification** task. For details about the JP1 event notification task, see *10.5.2 Selecting tasks to be executed*.

The table below shows the attributes of the Item transition event.

Table 13–17: Attributes of the Item transition event

Attribute type		Item	Attribute name	Description
Issue timing		--	--	Transition of Item
Basic attribute		Event ID	--	00005541
		Message	--	The item transitioned.
Extended	Common information	Importance	SEVERITY	Notice
		Product name	PRODUCT_NAME	/HITACHI/JP1/AC
		Object type	OBJECT_TYPE	INCIDENT
		Object name	OBJECT_NAME	Incident
		Object ID	OBJECT_ID	Target item ID
		Occurrence	OCCURRENCE	ACTIVITY
	User property	Version	A10	Asset Console version
		Item name	C11	Target Item name
		Item definition ID	C12	Target Item definition ID
		Status	C13	State after transition
		Registrar user ID	C14	User ID of the Item registrar
		Final transactor user ID	C15	User ID of the final transactor
		Processing target user ID	C16	User ID of the Item transition destination
		Event information 0 to 31	U00 to U31	User extension area

Legend:

--: Not applicable

(5) Attributes of the Item status change event

This event reports that the Item was rejected or pulled back.

The table below shows the attributes of the Item status change event.

Table 13–18: Attributes of the Item status change event

Attribute type		Item	Attribute name	Description
Issue timing		--	--	Rejection or pullback of an Item
Basic attribute		Event ID	--	`00005542`
		Message	--	`The item status was changed.`
Extended	Common information	Importance	`SEVERITY`	`Notice`
		Product name	`PRODUCT_NAME`	`/HITACHI/JP1/AC`
		Object type	`OBJECT_TYPE`	`INCIDENT`
		Object name	`OBJECT_NAME`	`Incident`
		Object ID	`OBJECT_ID`	Target item ID
		Occurrence	`OCCURRENCE`	• Rejection: `REJECT` • Pullback: `PULLBACK`
	User property	Version	`A10`	Asset Console version
		Item name	`C11`	Target Item name
		Item definition ID	`C12`	Target Item definition ID
		Status	`C13`	State after transition
		Registrar user ID	`C14`	User ID of the Item registrar
		Final transactor user ID	`C15`	User ID of the final transactor
		Processing target user ID	`C16`	User ID of the Item transition destination

Legend:
   --: Not applicable

(6) Attributes of the Item deletion event

This event reports that the Item was deleted.

The table below shows the attributes of the Item deletion event.

Table 13–19: Attributes of the Item deletion event

Attribute type		Item	Attribute name	Description
Issue timing		--	--	Deletion of an Item
Basic attribute		Event ID	--	`00005543`
		Message	--	`The item was deleted.`
Extended	Common information	Importance	`SEVERITY`	`Notice`

Attribute type		Item	Attribute name	Description
Extended	Common information	Product name	PRODUCT_NAME	/HITACHI/JP1/AC
		Object type	OBJECT_TYPE	INCIDENT
		Object name	OBJECT_NAME	Incident
		Object ID	OBJECT_ID	Target item ID
		Occurrence	OCCURRENCE	DELETE
	User property	Version	A10	Asset Console version
		Item name	C11	Target Item name
		Item definition ID	C12	Target Item definition ID

Legend:
   --: Not applicable

(7) Attributes of the handling completion event

This event reports to JP1/IM that the handling of the problem loaded from JP1/IM was completed. From the JP1/IM's Event Console window, you can open the Problem Details dialog box for this event and view the handling details.

The table below shows the attributes of the handling completion event.

Table 13–20: Attributes of the handling completion event

Attribute type		Item	Attribute name	Description
Issue timing		--	--	Clicking of the **Complete** button in the Edit Problem dialog box
Basic attribute		Event ID	--	00005581
		Message	--	The problem was handled.
Extended	Common information	Importance	SEVERITY	Notice
		Product name	PRODUCT_NAME	/HITACHI/JP1/AC
		Object type	OBJECT_TYPE	ACTION
		Object name	OBJECT_NAME	Problem
		Object ID	OBJECT_ID	Problem ID of the target
		Occurrence	OCCURRENCE	NOTICE
	User property	Completed asset No.	ASSET_NO	Asset number of the target
		Completed serial No.	EVENT_SEQNO	Event serial number of the target

Legend:
   --: Not applicable

(8) Attributes of the problem status change event

This event reports that the problem was registered or changed. From JP1/IM's Event Console window, you can open the Problem Details dialog box for this event and view the change details.

You can also add the information to be reported in the user extension area of event information 0 to 31. For details about how to set managed items in the user extension area, see *13.2.2 Setting the user extension area of the problem status change event*.

The table below shows the attributes of the problem status change event.

Table 13–21: Attributes of the problem status change event

Attribute type		Item	Attribute name	Description
Issue timing		--	--	Problem registration
Basic attribute		Event ID	--	`00005582`
		Message	--	`The problem status was changed`
Extended	Common information	Importance	`SEVERITY`	`Notice`
		Product name	`PRODUCT_NAME`	`/HITACHI/JP1/AC`
		Object type	`OBJECT_TYPE`	`MAINTENANCE`
		Object name	`OBJECT_NAME`	`Maintenance`
		Object ID	`OBJECT_ID`	Problem ID of the target
		Occurrence	`OCCURRENCE`	• New registration: `ADD` • Update: `MODIFY`
	User property	Version	`A10`	Asset Console version
		Managed No.	`M11`	Target managed No.
		Event information 0 to 31	`U00` to `U31`	User extension area

Legend:

    --: Not applicable

(9) Attributes of the problem deletion event

This event reports that the problem was deleted.

The table below shows the attributes of the problem deletion event.

Table 13–22: Attributes of the problem deletion event

Attribute type		Item	Attribute name	Description
Issue timing		--	--	Problem change
Basic attribute		Event ID	--	`00005583`
		Message	--	`The problem was deleted.`
Extended	Common information	Importance	`SEVERITY`	`Notice`
		Product name	`PRODUCT_NAME`	`/HITACHI/JP1/AC`
		Object type	`OBJECT_TYPE`	`MAINTENANCE`
		Object name	`OBJECT_NAME`	`Maintenance`
		Object ID	`OBJECT_ID`	Problem ID of the target
		Occurrence	`OCCURRENCE`	`DELETE`

Attribute type		Item	Attribute name	Description
Extended	User property	Version	`A10`	Asset Console version
		Managed No.	`M11`	Target managed No.

Legend:
    --: Not applicable

13.2.2 Setting the user extension area of the problem status change event

You can set managed items in the user extension area of the problem status change event and add the description of the report to be sent when the problem status changes.

Define the managed items to be set in the user extension area in the event attribute composition file (`eventmap.ini`).

The storage destination of the event attribute composition file and the method of setting the managed items are described below.

- Storage destination for the event attribute composition file

  Asset-Console-installation-folder`\env`

  For use as a reference when creating an event attribute composition file, a sample file (`eventmap.ini.org`) that describes the default content of the event attribute composition file is provided in the aforementioned storage destination. Create an event attribute composition file by referencing this sample.

- Managed item specification method

  The following is the procedure for setting managed items by using the sample file (`eventmap.ini.org`) for an event attribute composition file:

  1. Use a text editor to open `eventmap.ini.org`.

  2. Describe in `U12` to `U31` the managed items to report, using the *class*.*property* format.

     The only type of problem status change event you can define is the managed item in the maintenance history (`Maintenance`). If you define an item other than the managed item in the maintenance history, an error occurs during event issuance, and the event cannot be issued.

  3. Change the file name to `eventmap.ini` and save it in *Asset-Information-Manager-installation-folder*`\env`.

     The content to be reported in the problem status change event has now been set.

The figure below shows the content of the `eventmap.ini.org` file.

Figure 13–1: eventmap.ini.org file


```
[00005582]                                    ●────────── Event ID

U00 = Maintenance.MaintenanceDate
U01 = Maintenance.UserName
U02 = Maintenance.ObstacleContents
U03 = Maintenance.MaintenanceKind
U04 = Maintenance.Importance
U05 = Maintenance.CompletingDate         Items to be set in the
U06 = Maintenance.MaintenanceStatus      user extension area
U07 = Maintenance.Worker
U08 = Maintenance.MaintenanceHost
U09 = Maintenance.IDMInfo
U10 = Maintenance.IDMHost
U11 = Maintenance.EventHost
```

14

Management Information Details

This chapter presents the properties of the object classes provided by Asset Console and the details of properties.

It also describes import processing from the **Import** job menu, export processing from the **Export** job menu, the items to be imported by `jamCsvImport.bat,` and the items to be exported by `jamCsvExport.bat.`

14.1 Organization of classes

This section lists the classes provided by Asset Console and explains their relationships.

Details of the object classes and properties are provided in alphabetical order.

14.1.1 Object classes

The table below presents the class names and provides an overview of the object classes. It also indicates whether each object class is used for import/export processing and for user report creation.

Table 14–1: List of object classes

Class name	Overview	Import/export		User reports
		Job menu jamCsvImport jamCsvExport #1	jamimport jamexport[#2]	
AddressGroup	IP group information	Y	Y	Y
AssetInfo	Asset information	Y	Y	Y
AssetUpdateRecord	Transfer log	N	Y	Y
Contract	Contract information	Y	Y	Y
ContractAssetHistory	Contract asset history	Y	J	Y
ContractCatalog	Company catalog	N	Y	N
ContractHistory	Contract history	Y	J	Y
DivisionInfo	Division information	Y	Y	N
GroupInfo	Group information	Y	Y	Y
HardwareInfo	Hardware information	Y	Y	Y
InstalledInfo	Installed software information	Y	Y	Y
InstalledList	Installed software list	Y	Y	Y
InstalledUpdateRecord	Software update log	N	J	Y
InstalledVirusDefInfo	Virus definition information	Y	Y	Y
IPAddress	IP address control information	Y	Y	Y
JobRoleInfo	Official authority	Y	Y	Y
LicenseInfo	License information	Y	Y	Y
LocationInfo	Location information	Y	Y	Y
MachineCatalog	Device catalog	Y	Y	N
Maintenance	Maintenance log	Y	Y	Y
NetworkInfo	Network information	Y	Y	Y
PatchInfo	Patch information	Y	Y	Y

Class name	Overview	Import/export		User reports
		Job menu jamCsvImport jamCsvExport #1	jamimport jamexport[#2]	
PatchList	Patch name list	Y	Y	Y
RelationAssetInfo	Related asset information	N	J	N
RoleInfo	Role information	Y	Y	Y
SoftwareInfo	Software information	Y	Y	Y
SoftwareKeyInfo	Software key information	Y	Y	Y
SoftwareList	Software list	Y	Y	Y
UpdateRecord	Device change log	N	J	Y
UserInfo	User information	Y	Y	Y
VolumeContract	Volume contract information	Y	Y	Y

Legend:

Y: Used

N: Not used

J: Can only be exported with the jamexport command. (Importing with the jamimport command is not supported.)

#1

The following import and export methods are used:

- Import by the **Import** job menu and jamCsvImport.bat command

- Export by the **Export** job menu and jamCsvExport.bat command

#2

The following import and export methods are used:

- Import by the jamimport command

- Export by the jamexport command

14.1.2 Association classes

The table below presents the class names and provides an overview of the association classes. It also indicates whether each association class is used for import/export processing and for user report creation.

Table 14–2: List of association classes

Class name	Overview	Import/export		User reports
		Job menu jamCsvImport jamCsvExport #1	jamimport jamexport[#2]	
AssetUpdateRecLink	Change log	N	J	Y
AuthorityLink	User and authority link	Y	Y	Y

Class name	Overview	Import/export		User reports
		Job menu jamCsvImport jamCsvExport #1	jamimport jamexport[#2]	
ContractAssetHistoryLink	Contract history and contract asset history	N	J	Y
ContractHistoryLink	Contract information and contract history	N	J	Y
ContractLeaseLink	Lease contract link	Y	Y	Y
ContractMaintenanceLink	Maintenance contract link	Y	Y	Y
ContractRentalLink	Rental contract link	Y	Y	Y
DivisionLink	Division information and group information	Y	Y	N
DivisionUserLink	Division information and user information	Y	Y	N
HardwareLink	Hardware link	N	J	Y
InstalledLink	Installed software link	N	J	Y
InstalledListLink	Installed software list link	N	J	Y
InstalledVirusDefLink	Installed virus definition information link	N	J	Y
IPAddressLink	IP address link	Y	Y	Y
JobRoleInfo	User and official authority link	Y	Y	Y
LicenseLink	License link	N	J	Y
MachinePermitLink	Device and key link	Y	Y	Y
MemberLink	User and member link	Y	Y	Y
NetworkLink	Network link	N	J	Y
PatchLink	Patch information link	N	J	Y
PatchListLink	Patch name list link	N	J	Y
RelationAssetLink	Asset information and related asset information	N	J	N
SoftwareKeyLink	Software key link	N	J	Y
SoftwareLicenseLink	Software license link	N	J	Y
SoftwareLink	Software assets link	N	J	Y
SoftwareListLink	Software list and asset link	N	J	Y
SoftwareMapLink	Software list and installed software link	N	J	Y
UserPermitLink	User and key link	Y	Y	Y
VolumeContractLink	Volume contract link	Y	Y	Y

Legend:

Y: Used

N: Not used

J: Can only be exported with the `jamexport` command. (Importing with the `jamimport` command is not supported.)

#1

The following import and export methods are used:

- Import by the **Import** job menu and `jamCsvImport.bat` command

- Export by the **Export** job menu and `jamCsvExport.bat` command

#2

The following import and export methods are used:

- Import by the `jamimport` command

- Export by the `jamexport` command

14.1.3 Relationships between classes

The following figure shows the relationships between object classes and the association classes that represent the relationships between classes:

Figure 14–1: Relationships between classes
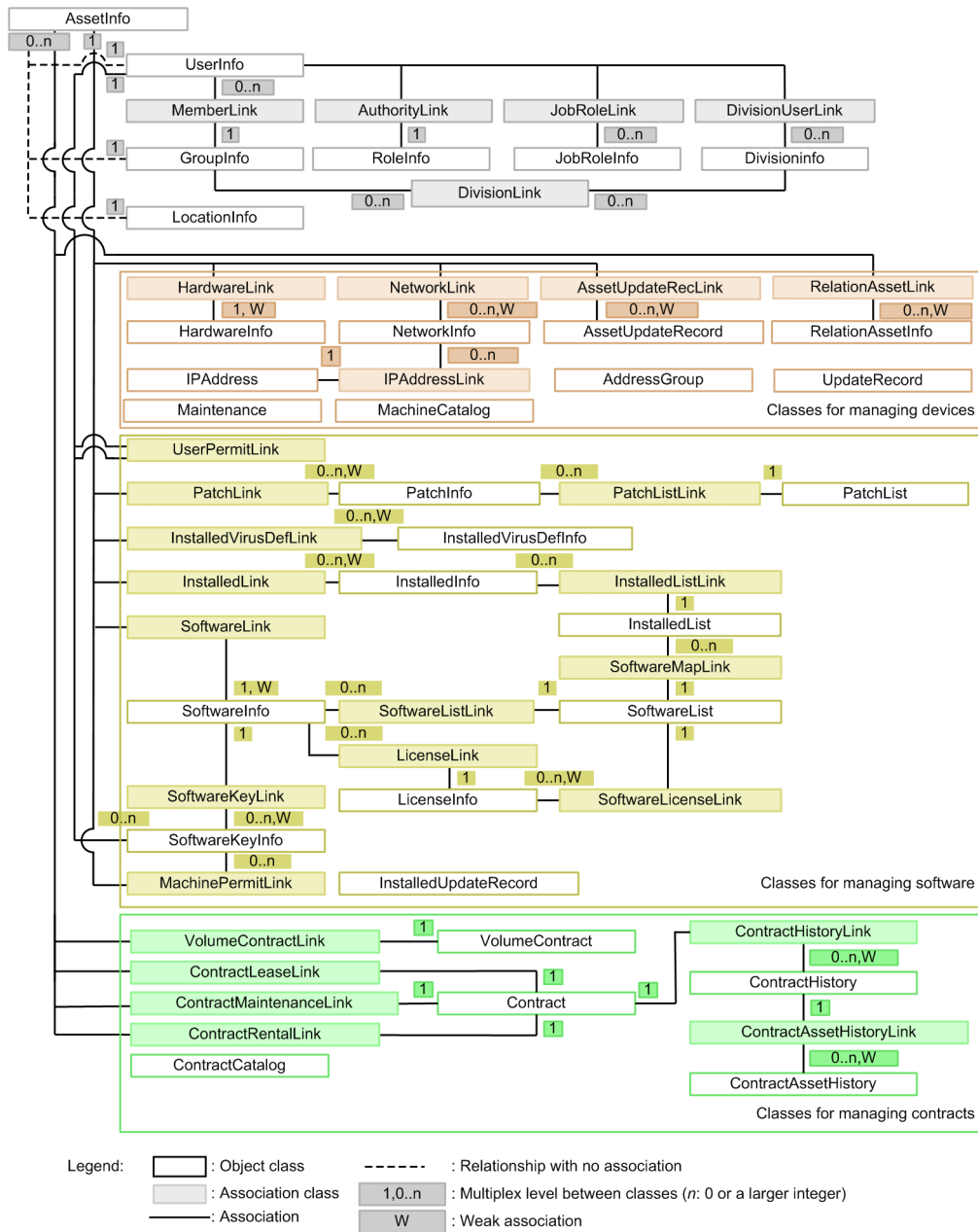
14.1.4 Data types indicating property values

When a property is added or changed in a class, the value of the property is represented by the data type shown below. This table presents the correspondence between the value permitted for a property and the data type.

Table 14–3: Correspondence of data types

Data type	Permitted value
uint8	Unsigned 8-bit integer in the range 0-255
uint16	Unsigned 16-bit integer in the range 0 to 65,535
uint32	Unsigned 32-bit integer in the range 0 to 4,294,967,295

Data type	Permitted value
uint64	Unsigned 64-bit integer in the range 0 to 18,446,744,073,709,551,615
string[n]	Character string (n: maximum length of character string)
date	Date $YYYY$-MM-DD or $YYYY$/MM/DD

14.2 Lists of properties for object classes

This section presents the details, data type, maximum length, and assigned codes of each property that belongs to an object class provided by Asset Console.

It also describes the following:

- Notes about specifying property values when items are imported by the **Import** job menu, jamCsvImport.bat, and the **jamimport** command
- Values that are automatically set when items are imported by the **Import** job menu and jamCsvImport.bat
- Items that must be specified when the jamimport command is used for import processing

For details about the items that must be specified when the **Import** job menu and jamCsvImport.bat are used for import processing, see *14.4 Items to be imported or exported using a job menu*.

14.2.1 AddressGroup (IP group information)

This class manages IP address groups.

You can import and export this class.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of AddressGroup.

Table 14–4: Properties of AddressGroup

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
CreationClassName	K	CCN	string[32]	This is AddressGroup.	M
DHCPServerName	N	DHCP server name	string[255]	This is the DHCP server name.	O
EndIPAddress	N	End IP address	string[70]	This is the end address in the IP group.	M
Gateway	N	Gateway address	string[70]	This is the gateway of the IP group.	O
GroupID	N	Group ID	string[64]	This is a corresponding group ID for a group-specific IP group.	O
IPGroupID	K	IP group ID	uint32	This is a unique ID for identifying the IP group. When new information is imported, assign a unique value in the range from 10001 to 1000000000.	M
IPGroupName	N	IP group name	string[255]	This is the name of the IP group.	M
LocationID	N	Location ID	string[64]	This is a corresponding location ID for a location-specific IP group.	O
ManagerialUserID	N	User ID of administrator	string[64]	This is the user ID of the administrator of the IP group.	O
Purpose	N	Purpose	string[255]	This is the purpose of the IP group.	O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
StartIPAddress	N	Start IP address	string[70]	This is the start address of the address of the IP group.	M
SubnetMask	N	Subnet mask	string[70]	This is the subnet mask of the IP group.	M
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserPropertyArea_1#	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2#	N	User property area-2	string[255]		O
UserPropertyCode_1#	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2#	N	User property code-2	string[64]		O
UserPropertyField128_1#	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2#	N	User property field 128-2	string[128]		O
UserPropertyField255_1#	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2#	N	User property field 255-2	string[255]		O

Legend:

    K: Key property

    N: Non-key property

    M: Mandatory property during registration

    O: Optional property

\#

    This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

14.2.2 AssetInfo (asset information)

This class manages information such as the users and groups of software assets and devices, such as system, network, and accessories.

You can import and export this class. For details about importing by `jamCsvImport.bat`, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of `AssetInfo`.

Table 14–5: Properties of AssetInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
AssetBranchNo	N	Branch number	uint32	This is a branch number when a license is partitioned. When new information is imported, assign a unique value in the range from 10001 to 1000000000. If the **Import** job menu is used for importing, 0 is always set in **Device information**.	M
AssetID	K	Asset ID	uint32	This is a unique ID for identifying the asset. When new information is imported, assign a unique value in the range from 10001 to 1000000000. If the **Import** job menu is used for importing and this property is omitted, the ID is assigned automatically.	M
AssetKind	N	Asset type	string[3]	See *Asset type*. For 001, make sure that the object class HardwareInfo is imported. For 002, make sure that the object class SoftwareInfo is imported.	M
AssetNo	N	Asset No.	string[512]	This is a unique asset number managed by the user. If the **Import** job menu is used for importing and this property is omitted, the ID is assigned automatically.	M
AssetStatus	N	Status	string[3]	See *Status*. This property can be registered if AssetKind is 001. If the **Import** job menu is used for importing and this property is omitted, **Stock** is set.	R
AssetWorkKind	N	Usage management	string[3]	See *Usage management*. If the **Import** job menu is used for importing, the default value must be set.	M
CreationClassName	K	CCN	string[32]	This is AssetInfo.	M
DMLastUpdateTime	N	Last updated date of ITDM2	date	This is the last update date of the deletion history information, the information about a machine on which JP1/IT Desktop Management 2 - Manager is not installed, or the system configuration information acquired from JP1/IT Desktop Management 2 - Manager, whichever is the most recent.	O
DMStatus	N	ITDM2 Agent installation status	string[3]	See *ITDM2 Agent installed status*.	R
EndDate	N	End date of use	date	This is the expiration date, such as for a trial-usage software asset.	O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
GroupID	N	Group ID	string[64]	This is the group ID corresponding to the group name. If you are specifying this information for an import operation, specify the same value as for the corresponding object class GroupInfo.	O
GroupName	N	Group name	string[1024]	This is the group information that represents the entire hierarchy from the top, such as Head Office/Sales Dept./Section1. If you are specifying this information for an import operation, specify the same value as for the corresponding object class GroupInfo.	O
GroupName_EN	N	Group name (English)	string[1024]	This is the group information that represents the entire hierarchy from the top, such as Head Office/Sales Dept./Section1. If you are specifying this information for an import operation, specify the same value as for the corresponding object class GroupInfo.	O
InventoryKey	N	Host identifier	string[128]	This is the ID key for assigning asset information from JP1/IT Desktop Management 2 - Manager. Specify an assigned key that is appropriate to JP1/IT Desktop Management 2 - Manager's working key. If the **Import** job menu is used for importing, this property is applicable only when **Device information** is selected for **Category**.	O
LocationID	N	Location ID	string[64]	This is the location ID corresponding to the location name. If you are specifying this information for an import operation, specify the same value as for the corresponding object class LocationInfo.	O
LocationName	N	Location	string[1024]	This is the location information that represents the entire hierarchy from the top, such as New York/A building/First floor. If you are specifying this information for an import operation, specify the same value as for the corresponding object class LocationInfo.	O
LocationName_EN	N	Location	string[1024]	This is the location information in English that represents the entire hierarchy from the top, such as New York/A building/First floor.	O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
LocationName_EN	N	Location	string[1024]	If you are specifying this information for an import operation, specify the same value as for the corresponding object class LocationInfo.	O
ManagerialGroup	N	Managed group	string[1024]	This is the managerial group for the asset.	O
ManagerialGroup_EN	N	Managed group	string[1024]	This is the managerial group for the asset in English.	O
ManagerialGroupID	N	Managed group ID	string[64]	This is the ID for the managerial group. If you are specifying this information for an import operation, specify the same value as for the corresponding object class **GroupInfo**.	O
ManagerialUser	N	Administrator	string[255]	This is the asset manager. You can specify a user name that is not found in user management information.	O
ManagerialUser_EN	N	Administrator	string[255]	This is the asset manage in English.	O
ManagerialUserID	N	User ID of administrator	string[64]	This is the ID for the administrator. If you are specifying this information for an import operation, specify the same value as for the corresponding object class UserInfo.	O
Note	N	Notes	string[255]	This is notes on asset information.	O
PurchasePrice	N	Purchase price	string[15]	This is the purchase price of the asset.	O
Purpose	N	Purpose	string[255]	This is the purpose of the asset.	O
RegistrationDate	N	Registration date	date	This is the date the asset was registered. If the **Import** job menu is used for importing and this property is omitted, the date the import processing was executed is set.	R
SoftwareStatus	N	Software status	string[3]	See *Software status*. This property can be registered if AssetKind is 002. If the **Import** job menu is used for importing, this property is applicable only when **Software information** is selected for **Category**. If this property is omitted, **Active** is set.	R
StartDate	N	Start date of use	date	This is the date use of the asset began.	O
StocktakingDate	N	Stocktaking date	date	This is the date stocktaking was performed.	O
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UpdateUser	N	Update user name	string[255]	This is a user ID of the user who updates the asset information. It is used when Asset Console updates data, and a user ID is set	O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UpdateUser	N	Update user name	string[255]	when information is changed in the Device Details dialog box. However, the user ID of the update user is not set in the following cases: • When software information is updated • When data importing is executed • When ITDM2 management information is acquired from JP1/IT Desktop Management 2 - Manager • When an Item is used to update information	O
UserID	N	User ID	string[64]	This is the user ID for the user name. If you are specifying this information for an import operation, specify the same value as for the corresponding object class UserInfo.	O
UserName	N	User name	string[512]	This the user name. If you are specifying this information for an import operation, specify the same value as for the corresponding object class UserInfo.	O
UserName_EN	N	User name (English)	string[512]	This the user name in English. If you are specifying this information for an import operation, specify the same value as for the corresponding object class UserInfo.	O
UserPropertyArea_1#	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2#	N	User property area-2	string[255]		O
UserPropertyCode_1#	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2#	N	User property code-2	string[64]		O
UserPropertyCode_3#	N	User property code-3	string[64]		O
UserPropertyCode_4#	N	User property code-4	string[64]		O
UserPropertyCode_5#	N	User property code-5	string[64]		O
UserPropertyCode_6#	N	User property code-6	string[64]		O
UserPropertyDate_1#	N	User property date-1	date	Each of these items manages date information.	O
UserPropertyDate_2#	N	User property date-2	date		O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserPropertyDate_3#	N	User property date-3	date	Each of these items manages date information.	O
UserPropertyDate_4#	N	User property date-4	date		O
UserPropertyDate_5#	N	User property date-5	date		O
UserPropertyDate_6#	N	User property date-6	date		O
UserPropertyField128_1#	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2#	N	User property field 128-2	string[128]		O
UserPropertyField255_1#	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2#	N	User property field 255-2	string[255]		O
UserPropertyField32_1#	N	User property field 32-1	string[32]	Each of these items can manage a maximum of 32 bytes of information.	O
UserPropertyField32_2#	N	User property field 32-2	string[32]		O
UserPropertyField32_3#	N	User property field 32-3	string[32]		O
UserPropertyField32_4#	N	User property field 32-4	string[32]		O
UserPropertyField32_5#	N	User property field 32-5	string[32]		O
UserPropertyField32_6#	N	User property field 32-6	string[32]		O
UserPropertyField64_1#	N	User property field 64-1	string[64]	Each of these items can manage a maximum of 64 bytes of information.	O
UserPropertyField64_2#	N	User property field 64-2	string[64]		O
UserPropertyUint_1#	N	User property unit-1	uint32	Each of these items can manage numeric information.	O
UserPropertyUint_2#	N	User property unit-2	uint32		O
UserPropertyUint_3#	N	User property unit-3	uint32		O
UserPropertyUint_4#	N	User property unit-4	uint32		O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserPropertyUint_5#	N	User property unit-5	uint32	Each of these items can manage numeric information.	O
UserPropertyUint_6#	N	User property unit-6	uint32		O

Legend:

    K: Key property

    N: Non-key property

    M: Mandatory property during registration (omitting this property results in an error)

    R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

    O: Optional property

\#

    This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

The tables below provide details of the property codes.

Table 14–6: Asset type

Code	Display value
001	Hardware
002	Software

Table 14–7: Status

Code	Display value
002	Active
301	Stock
501	Restore
601	Scrap
701	Pre-Scrap
999	Erase

Table 14–8: Usage management

Code	Display value
001	Used
002	Unused

Table 14–9: ITDM2 Agent installed status

Code	Display value
001	Installed
002	Not installed

Table 14–10: Software status

Code	Display value
001	Active
501	Restore
601	Scrap
999	Erase

14.2.3 AssetUpdateRecord (transfer log)

This class manages historical information about assets' management groups and locations.

You can import and export this class with the **jamimport** and **jamexport** commands, respectively.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of AssetUpdateRecord.

Table 14–11: Properties of AssetUpdateRecord

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
AssetID	K	Asset ID	uint32	This is the ID of the asset. If you are specifying this information for an import operation, specify the same value as for the corresponding object class AssetInfo.	M
BaseCreationCl assName	N	BaseCCN	string[32]	This is the name of the source class, which is AssetInfo.	M
CreationClassN ame	K	CCN	string[32]	This is AssetUpdateRecord.	M
GroupName	N	Group name	string[1024]	This is the group information that represents the entire hierarchy from the top, such as Head Office/Sales Dept./Section1.	O
GroupName_EN	N	Group name (English)	string[1024]	This is the group information in English that represents the entire hierarchy from the top, such as Head Office/Sales Dept./Section1.	O
HistoryUpdateD ate	K	Update date/time	date	This is the date the group information was updated.	M
LocationName	N	Location	string[1024]	This is the location information that represents the entire hierarchy from the top, such as New York/A building/ First floor.	O
LocationName_E N	N	Location	string[1024]	This is the location information in English that represents the entire hierarchy from the top, such as New York/A building/ First floor.	O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserName	N	User name	string[512]	This the user name.	O
UserName_EN	N	User name (English)	string[512]	This the user name in English.	O

Legend:

K: Key property

N: Non-key property

M: Mandatory property during registration

O: Optional property

14.2.4 Contract (contract information)

This class manages a device for a maintenance or lease contract.

You can import and export this class. For details about importing by `jamCsvImport.bat`, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

To import this class and associate it with a contracted asset, also import the association class `ContractLeaseLink` (lease contract link), `ContractMaintenanceLink` (maintenance contract link), or `ContractRentalLink` (rental contract link).

The following table lists the properties of `Contract`.

Table 14–12: Properties of Contract

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
Address	N	Contact post address	string[255]	This is the contracted company's address.	O
Company	N	Contracted company	string[255]	This is the name of the contracted company.	R
ContactInfo	N	Contact phone/e-mail	string[255]	This is contact information at the contracted company.	O
ContactInfo_2#	N	Contact phone/e-mail 2	string[255]		O
ContactInfo_3#	N	Contact phone/e-mail 3	string[255]		O
ContactName	N	Contact person	string[512]	These are the contact people at the contracted company.	O
ContactName_2#	N	Contact person 2	string[512]		O
ContactName_3#	N	Contact person 3	string[512]		O
Contents	N	Contents	string[255]	This is the contents of the contract.	O
ContractDate	N	Contract date	date	This is the date of the contract.	R

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
ContractID	K	Contract ID	uint32	This is a unique ID that identifies the contract. When new information is imported, assign a unique value in the range from 10001 to 1000000000.	M
ContractKind	N	Category	string[3]	See *Category*.	M
ContractNo	N	Contract No.	string[60]	This is the contract number.	R
ContractObject	N	Subject	string[3]	See *Subject*. If the **Import** job menu is used for importing and this property is omitted, **Device** is set.	M
ContractStatus	N	Status	string[3]	See *Status*. If the **Import** job menu is used for importing and this property is omitted, **Under contract** is set.	M
CreationClassName	K	CCN	string[32]	This is Contract.	M
EndDate	N	Contract end date	date	This is the contract termination date.	R
Explanation	N	Description	string[255]	This is a description of the contract.	O
GroupID	N	Group ID	string[64]	This is a unique ID that identifies the group name.	O
MonthlyPrice	N	Monthly	string[15]	This is the monthly charge.	O
RenewalTimes	N	Frequency	uint32	This is the number of times the contract was renewed.	R
StartDate	N	Contract start date	date	This is the start date of the contract.	R
TotalPrice	N	Total	string[15]	This is the total contract cost.	O
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserPropertyArea_1#	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2#	N	User property area-2	string[255]		O
UserPropertyCode_1#	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2#	N	User property code-2	string[64]		O
UserPropertyField128_1#	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2#	N	User property field 128-2	string[128]		O
UserPropertyField255_1#	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O

Property	Ke y	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserPropertyFi eld255_2#	N	User property field 255-2	string[255]	This item can manage a maximum of 255 bytes of information.	O

Legend:

    K: Key property

    N: Non-key property

    M: Mandatory property during registration (omitting this property results in an error)

    R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

    O: Optional property

#

    This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

The tables below provide details of the property codes.

Table 14–13: Category

Code	Display value
100	Maintenance
200	Lease
300	Rental

Table 14–14: Subject

Code	Display value
001	Device
002	Software

Table 14–15: Status

Code	Display value
001	Under contract
501	Expire
999	Erase

14.2.5 ContractAssetHistory (contract asset history)

This class manages contract asset history.

You can import or export this class.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of ContractAssetHistory.

Table 14–16: Properties of ContractAssetHistory

Property	Key	Description	Type [maximum length (bytes)]	Remarks
AssetID	K	Asset ID	uint32	This is the asset ID of the asset covered by the contract.
AssetNo	N	Asset No.	string[60]	This is the asset number of the asset covered by the contract.
ContractID	K	Contract ID	uint32	This is the contract ID of the corresponding contract.
CreationClassName	K	CCN	string[32]	This is ContractAssetHistory.
RenewalDate	N	Update date/time	date	This is the contract renewal date.
Frequency	K	Frequency	uint32	This is the number of times the corresponding contract has been renewed.

Legend:
K: Key property
N: Non-key property

14.2.6 ContractCatalog (company catalog)

This class manages information about a contracted company.

You can **import** and export this class with the **jamimport** and jamexport commands, respectively.

The following table lists the properties of ContractCatalog.

Table 14–17: Properties of ContractCatalog

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
Address	N	Contact post address	string[255]	This is the contracted company's address.	O
Company	N	Contracted company	string[255]	This is the name of the contracted company.	R
ContactInfo	N	Contact phone/e-mail	string[255]	This is contact information at the contracted company.	O
ContactInfo_2#	N	Contact phone/e-mail 2	string[255]		O
ContactInfo_3#	N	Contact phone/e-mail 3	string[255]		O
ContactName	N	Contact person	string[512]	These are the contact people at the contracted company.	O
ContactName_2#	N	Contact person 2	string[512]		O
ContactName_3#	N	Contact person 3	string[512]		O
CreationClassName	K	CCN	string[32]	This is ContractCatalog.	M
HistoryUpdateDate	K	Update date/time	date	This is the date the contract information was updated.	M

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserPropertyArea_1[#]	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2[#]	N	User property area-2	string[255]		O
UserPropertyCode_1[#]	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2[#]	N	User property code-2	string[64]		O
UserPropertyField128_1[#]	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2[#]	N	User property field 128-2	string[128]		O
UserPropertyField255_1[#]	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2[#]	N	User property field 255-2	string[255]		O

Legend:

K: Key property

N: Non-key property

M: Mandatory property during registration (omitting this property results in an error)

R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

O: Optional property

#

This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

14.2.7 ContractHistory (contract history)

This class manages contract history. It manages the updated content of the corresponding contract information as history.

You can import or export this class.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of ContractHistory.

Table 14–18: Properties of ContractHistory

Property	Key	Description	Type [maximum length (bytes)]	Remarks
Address	N	Contact post address	string[255]	This is the address for the corresponding contract information after renewal.

Property	Key	Description	Type [maximum length (bytes)]	Remarks
Company	N	Contracted company	string[255]	This is the contracted company for the corresponding contract information after renewal.
ContactInfo	N	Contact phone/e-mail	string[255]	This is the contact phone/e-mail for the corresponding contract information after renewal.
ContactInfo_2	N	Contact phone/e-mail 2	string[255]	This is contact phone/e-mail 2 for the corresponding contract information after renewal.
ContactInfo_3	N	Contact phone/e-mail 3	string[255]	This is contact phone/e-mail 3 for the corresponding contract information after renewal.
ContactName	N	Contact person	string[512]	This is the contact person for the corresponding contract information after renewal.
ContactName_2	N	Contact person 2	string[512]	This is contact person 2 for the corresponding contract information after renewal.
ContactName_3	N	Contact person 3	string[512]	This is contact person 3 for the corresponding contract information after renewal.
Contents	N	Contents	string[255]	This is the contract contents for the corresponding contract information after renewal.
ContractDate	N	Contract date	date	This is the contract date for the corresponding contract information after renewal.
ContractID	K	Contract ID	uint32	This is the contract ID for the corresponding contract information after renewal.
ContractKind	N	Category	string[255]	This is the category for the corresponding contract information after renewal.
ContractNo	N	Contract No.	string[60]	This is the contract number for the corresponding contract information after renewal.
ContractObject	N	Subject	string[255]	This is the subject for the corresponding contract information after renewal.
ContractStatus	N	Status	string[255]	This is the status for the corresponding contract information after renewal.
CreationClassName	K	CCN	string[32]	This is the CCN for the corresponding contract information after renewal.
EndDate	N	Contract end date	date	This is the contract end date for the corresponding contract information after renewal.
Explanation	N	Description	string[255]	This is the description for the corresponding contract information after renewal.
GroupName	N	Group name	string[1024]	This is the group name for the corresponding contract information after renewal.
MonthlyPrice	N	Monthly	string[15]	This is the contract amount (monthly) for the corresponding contract information after renewal.
RenewalDate	N	Update date/time	date	This is the update date and time for the corresponding contract information after renewal.
RenewalTimes	K	Frequency	uint32	This is the number of times the corresponding contract information has been renewed.
StartDate	N	Contract start date	date	This is the contract start date for the corresponding contract information after renewal.

Property	Key	Description	Type [maximum length (bytes)]	Remarks
TotalPrice	N	Total	string[15]	This is the contract amount (total) for the corresponding contract information after renewal.
UserID	N	Update user ID	string[64]	This is the user ID of the user who updated the contract information.
UserPropertyArea_1	N	User property area-1	string[255]	This is the user property area-1 for the corresponding contract information after renewal.
UserPropertyArea_2	N	User property area-2	string[255]	This is the user property area-2 for the corresponding contract information after renewal.
UserPropertyCode_1	N	User property code-1	string[255]	This is the user property code-1 for the corresponding contract information after renewal.
UserPropertyCode_2	N	User property code-2	string[255]	This is the user property code-2 for the corresponding contract information after renewal.
UserPropertyField128_1	N	User property field 128-1	string[128]	This is the user property field 128-1 for the corresponding contract information after renewal.
UserPropertyField128_2	N	User property field 128-2	string[128]	This is the user property field 128-2 for the corresponding contract information after renewal.
UserPropertyField255_1	N	User property field 255-1	string[255]	This is the user property field 255-1 for the corresponding contract information after renewal.
UserPropertyField255_2	N	User property field 255-2	string[255]	This is the user property field 255-2 for the corresponding contract information after renewal.

Legend:

    K: Key property

    N: Non-key property

14.2.8 DivisionInfo (division information)

This class manages the division information registered in a group.

You can import or export this class. For details about importing by jamCsvImport.bat, see the section describing import processing by the **Import** job menu.

The following table lists the properties of DivisionInfo.

Table 14–19: Properties of DivisionInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
CreationClassName	K	CCN	string[32]	This is DivisionInfo.	M
DivisionID	K	Division ID	string[64]	This is a unique ID for identifying a division.	O
DivisionName	N	Division name	string[128]	This is the name of the division.	M
GroupID	N	Group ID	string[64]	This is the group ID to which the division belongs.	M

Legend:
    K: Key property
    N: Non-key property
    M: Mandatory property during registration (omitting this property results in an error)
    O: Optional property

14.2.9 GroupInfo (group information)

This class manages information about groups.

You can import or export this class. For details about importing by `jamCsvImport.bat`, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of `GroupInfo`.

Table 14–20: Properties of GroupInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
AdGuid	N	ADGUID	string[32]	This is the identifier of JP1/IT Desktop Management 2 - Manager directory information.	O
CostPriceCode	N	Cost group code	string[10]	This is the cost's price code.	O
CreationClassName	K	CCN	string[32]	This is `GroupInfo`.	M
Explanation	N	Description	string[255]	This is a description of the group.	O
FullPathName	N	Group name	string[1024]	This is the group information that represents the entire hierarchy from the top, such as `Head Office/Sales Dept./Section1`.	M
FullPathName_EN	N	Group name (English)	string[1024]	This is the group information in English that represents the entire hierarchy from the top, such as `Head Office/Sales Dept./Section1`.	O
GroupCode	N	Group code	string[10]	This is the code for the group.	O
GroupID	K	Group ID	string[64]	This is a unique ID that identifies the group.	M
GroupName	N	Local name	string[256]	This is the name of the group.	M
GroupName_EN	N	Local name	string[256]	This is the name of the group in English. If the **Import** job menu is used for importing and this property is omitted, the value for **Group ID** is set.	R
ManagedLabel	N	Managed label	string[20]	This is the managed label.	O
UpdateInd	N	Update indicator	uint32	This information is used by the asset management system. Do not update it.	O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UpperLinkID	N	Upper Group ID	string[64]	This is the ID of the upper group.	O
UserPropertyArea_1#	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2#	N	User property area-2	string[255]		O
UserPropertyCode_1#	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2#	N	User property code-2	string[64]		O
UserPropertyField128_1#	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2#	N	User property field 128-2	string[128]		O
UserPropertyField255_1#	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2#	N	User property field 255-2	string[255]		O

Legend:

K: Key property

N: Non-key property

M: Mandatory property during registration (omitting this property results in an error)

R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

O: Optional property

#

This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

14.2.10 HardwareInfo (hardware information)

This class manages information about all hardware assets used in the asset management system, such as system, network, and accessories.

You can import or export this class. You can import and export this class. For details about importing by jamCsvImport.bat, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of HardwareInfo.

Table 14–21: Properties of HardwareInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
AssetID	K	Asset ID	uint32	This is the ID of the asset. If you are specifying this information for an import operation, specify the same value as for the corresponding object class `AssetInfo`.	M
CircuitSpeed	N	Line speed	uint32	The value is in kbps.	O
ComputerID	N	Computer ID	string[200]	This is JP1/IT Desktop Management 2 - Manager management information. When importing the class, do not specify this property during new registration.	O
CPUClock	N	Processor speed	uint32	The value is in MHz.	O
CPUNumber	N	Number of processors	uint16	This is the number of CPUs.	O
CPUType	N	CPU	string[5]	See *CPU type*.	O
CreationClassName	K	CCN	string[32]	This is `HardwareInfo`.	M
Developer	N	Developer	string[512]	This is the developer of the device.	O
HostName	N	Host name	string[512]	This is the host name of the device. It is converted into lower-case letters.	O
IPAddress	N	IP address	string[15]	This is the IP address of the device. IP address management using IP address control is not applicable to this property.	O
MACAddress	N	MAC address	string[17]	This is the MAC address of the device. It is converted into lower-case letters and normalized.	O
MachineKind	N	Device type	string[5]	See *Device type*. If the **Import** job menu is used for importing and this property is omitted, **PC** is set.	R
MBSAVersion	N	MBSA version	string[200]	This is the MBSA version installed on the device.	O
MemorySize	N	Memory	uint64	The value is in megabytes.	O
Model	N	Model	string[512]	This is the device model.	O
ModelKind	N	Composition	string[3]	See *Composition*.	O
MonitorKind	N	Monitor type	string[3]	See *Monitor type*.	O
MonitorResolution	N	Monitor resolution	string[3]	See *Monitor resolution*.	O
MonitorSize	N	Monitor size	uint16	This is the monitor size.	O
Name	N	Device name	string[512]	This is the name of the device.	O
NumberOFPort	N	Number of ports	uint32	This is the number of ports on the device.	O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
OSInfo	N	OS	string[512]	This is the OS information for the device.	O
OSVersion	N	OS version	string[200]	This is the OS version of the device.	O
RemainHDSize	N	Hard disk free space	uint64	The value is in megabytes.	O
SerialNo	N	Serial No.	string[1024]	This is the serial number of the device.	O
Specification	N	Specification	string[255]	This is the device's specifications.	O
TotalHDSize	N	Hard disk sizes	uint64	The value is in megabytes.	O
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserPropertyArea_1#	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2#	N	User property area-2	string[255]		O
UserPropertyArea_3#	N	User property area-3	string[255]		O
UserPropertyArea_4#	N	User property area-4	string[255]		O
UserPropertyCode_1#	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2#	N	User property code-2	string[64]		O
UserPropertyCode_3#	N	User property code-3	string[64]		O
UserPropertyCode_4#	N	User property code-4	string[64]		O
UserPropertyCode_5#	N	User property code-5	string[64]		O
UserPropertyCode_6#	N	User property code-6	string[64]		O
UserPropertyCode_7#	N	User property code-7	string[64]		O
UserPropertyCode_8#	N	User property code-8	string[64]		O
UserPropertyCode_9#	N	User property code-9	string[64]		O
UserPropertyCode_10#	N	User property code-10	string[64]		O
UserPropertyCode_11#	N	User property code-11	string[64]		O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserPropertyCode_12#	N	User property code-12	string[64]	This item can control code information.	O
UserPropertyDate_1#	N	User property date-1	date	Each of these items manages date information.	O
UserPropertyDate_2#	N	User property date-2	date		O
UserPropertyDate_3#	N	User property date-3	date		O
UserPropertyDate_4#	N	User property date-4	date		O
UserPropertyDate_5#	N	User property date-5	date		O
UserPropertyDate_6#	N	User property date-6	date		O
UserPropertyField128_1#	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2#	N	User property field 128-2	string[128]		O
UserPropertyField128_3#	N	User property field 128-3	string[128]		O
UserPropertyField128_4#	N	User property field 128-4	string[128]		O
UserPropertyField128_5#	N	User property field 128-5	string[128]		O
UserPropertyField128_6#	N	User property field 128-6	string[128]		O
UserPropertyField128_7#	N	User property field 128-7	string[128]		O
UserPropertyField128_8#	N	User property field 128-8	string[128]		O
UserPropertyField255_1#	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2#	N	User property field 255-2	string[255]		O
UserPropertyField255_3#	N	User property field 255-3	string[255]		O
UserPropertyField255_4#	N	User property field 255-4	string[255]		O
UserPropertyField255_5#	N	User property field 255-5	string[255]		O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserPropertyField255_6#	N	User property field 255-6	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_7#	N	User property field 255-7	string[255]		O
UserPropertyField255_8#	N	User property field 255-8	string[255]		O
UserPropertyField32_1#	N	User property field 32-1	string[32]	Each of these items can manage a maximum of 32 bytes of information.	O
UserPropertyField32_2#	N	User property field 32-2	string[32]		O
UserPropertyField32_3#	N	User property field 32-3	string[32]		O
UserPropertyField32_4#	N	User property field 32-4	string[32]		O
UserPropertyField32_5#	N	User property field 32-5	string[32]		O
UserPropertyField32_6#	N	User property field 32-6	string[32]		O
UserPropertyField32_7#	N	User property field 32-7	string[32]		O
UserPropertyField32_8#	N	User property field 32-8	string[32]		O
UserPropertyField64_1#	N	User property field 64-1	string[64]	Each of these items can manage a maximum of 64 bytes of information.	O
UserPropertyField64_2#	N	User property field 64-2	string[64]		O
UserPropertyField64_3#	N	User property field 64-3	string[64]		O
UserPropertyField64_4#	N	User property field 64-4	string[64]		O
UserPropertyField64_5#	N	User property field 64-5	string[64]		O
UserPropertyField64_6#	N	User property field 64-6	string[64]		O
UserPropertyField64_7#	N	User property field 64-7	string[64]		O
UserPropertyField64_8#	N	User property field 64-8	string[64]		O
UserPropertyUint_1#	N	User property unit-1	uint32	Each of these items can manage numeric information.	O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserPropertyUint_2#	N	User property unit-2	uint32	Each of these items can manage numeric information.	O
UserPropertyUint_3#	N	User property unit-3	uint32		O
UserPropertyUint_4#	N	User property unit-4	uint32		O
UserPropertyUint_5#	N	User property unit-5	uint32		O
UserPropertyUint_6#	N	User property unit-6	uint32		O

Legend:

K: Key property

N: Non-key property

M: Mandatory property during registration (omitting this property results in an error)

R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

O: Optional property

#

This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

The tables below provide details of the property codes.

Table 14–22: CPU type

Code	Display value
00646	Intel 80286
00902	Intel 80386
01158	Intel 80486
01414	Intel Pentium compatible CPU
04097	Alpha
08193	MIPS
12289	PowerPC
20481	PA-RISC
24577	SPARC
28672	Intel Pentium series
28673	Intel Pentium
28674	Intel Pentium MMX
28675	Intel Pentium Pro
28676	Intel Pentium II
28677	Intel Pentium II Xeon
28678	Intel Pentium III

Code	Display value
28679	Intel Pentium III Xeon
28680	Intel Celeron
28681	Intel Pentium 4
28682	Intel Pentium III-S
28683	Mobile Intel Celeron
28684	Mobile Intel Pentium 4
28685	Intel Xeon
28686	Intel Xeon MP
28687	Mobile Intel Pentium III-M
28688	Intel Genuine
28689	Mobile Genuine Intel
28690	Intel Celeron M
28691	Intel Pentium M
28692	Intel Pentium D
28693	Intel Celeron D
28694	Intel Core2
28695	Intel Core
28696	Intel Core i7
28697	Intel Atom
28698	Intel Pentium Dual
28699	Intel Core i3
28700	Intel Core i5
32768	Intel Pentium compatible CPU
33025	AMD K6
33026	AMD K6-2
33027	AMD K6-2 3D Now!
33028	AMD K6-III
33029	AMD Athlon
33030	AMD Duron
33031	AMD Athlon MP
33032	AMD Athlon XP
33033	Mobile AMD Athlon 4
33034	Mobile AMD Duron
33035	AMD Duron MP
33036	Mobile AMD Athlon XP-M

Code	Display value
33037	AMD Sempron
33038	Mobile AMD Sempron
33039	AMD Turion
33281	Cyrix MediaGX
33282	Cyrix MII
33283	Cyrix MediaGXm
33537	IDT WinChip
33793	RISE mP6
34049	Crusoe TM5600
36864	for Windows CE
37120	for Windows CE (HITACHI)
37121	Hitachi SH-3
37122	Hitachi SH-4
37376	for Windows CE (MIPS)
37377	MIPS R3000 family
37378	MIPS R4000 family
37632	for Windows CE (ARM)
37633	ARM720
40960	Intel IA-64 CPU
40961	Intel Itanium
40962	Intel Itanium 2
45056	AMD64 compatible CPU
45057	AMD Opteron
45058	AMD Athlon 64
45059	AMD Athlon 64 FX
45060	Mobile AMD Athlon 64
45061	AMD Athlon 64 X2
45062	AMD Turion 64
45063	AMD Athlon II
45064	AMD Turion II
45065	AMD Phenom
45066	AMD Phenom II
45067	AMD V Series
45068	AMD FX
45069	AMD A Series

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Code	Display value
45070	AMD C Series
45071	AMD E Series
45311	AMD
99999	Other processor

Table 14–23: Device type

Code	Display value
Computing	
100	PC
101	PC server
102	UNIX
103	UNIX server
150	Smart device
199	Other system device
Accessories	
200	Monitor
201	HD
202	CD-R
203	CD-R/W
204	DVD
205	DAT
206	MO
207	Printer
208	Peripheral Device
209	USB Device
210	Storage
Networking	
300	HUB
301	Router
302	Network printer
399	Network Device

Table 14–24: Composition

Code	Display value
002	Desktop
003	Notebook

Table 14–25: Monitor type

Code	Display value
002	CRT
003	Flat panel

Table 14–26: Monitor resolution

Code	Display value
002	640 **x** 480
003	800 **x** 600
004	1024 **x** 768
005	1280 **x** 1024
006	1600 **x** 1200
007	1920 **x** 1440

14.2.11 InstalledInfo (installed software information)

This class manages the software assets installed on a device. It imports installed software information collected by JP1/ IT Desktop Management 2 - Manager.

You can import and export this class. For details about importing by `jamCsvImport.bat`, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of `InstalledInfo`.

Table 14–27: Properties of InstalledInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
AssetID	K	Asset ID	uint32	This is the ID of the asset. If you are specifying this information for an import operation, specify the same value as for the corresponding object class `AssetInfo`.	M
CreationClassName	K	CCN	string[32]	This is `InstalledInfo`.	M
InfoInd	N	ITDM2 management information acquisition control	string[3]	This is Asset Console management information. If the **Import** job menu is used for importing, 1 is always set.	R
InstalledDate	N	Installed date	date	This is the date when the software was installed.	O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
InstalledID	K	Installed software ID	uint32	This is the installed software ID of the corresponding object class InstalledList. If you are specifying this information for an import operation, specify the same value as for the corresponding object class InstalledList.	M
ProductID	N	Product ID	string[255]	This is the product ID of the software asset.	O
RecordInd	N	Log ind.	uint32	This information is used to identify the log information. See *Log ind*.	O
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserPropertyArea_1#	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2#	N	User property area-2	string[255]		O
UserPropertyCode_1#	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2#	N	User property code-2	string[64]		O
UserPropertyField128_1#	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2#	N	User property field 128-2	string[128]		O
UserPropertyField255_1#	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2#	N	User property field 255-2	string[255]		O

Legend:

K: Key property

N: Non-key property

M: Mandatory property during registration (omitting this property results in an error)

R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

O: Optional property

#

This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

Note that if a managed item is added to the installed software information acquired from JP1/IT Desktop Management 2 - Manager's management information, its installed software information remains undeleted after it is removed from the management information.

The tables below provide details of the property codes.

Table 14–28: Log ind

Code	Description
1	Information updated by loading JP1/IT Desktop Management 2 - Manager's management information
2	Information updated by an Asset Console window operation
(None)	Information updated by transferring or importing the asset management database

14.2.12 InstalledList (installed software list)

This class manages the correspondence between the names of purchased software assets and the names of installed software assets that are collected by JP1/IT Desktop Management 2 - Manager.

You can import or export this class. For details about importing by `jamCsvImport.bat`, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of `InstalledList`.

Table 14–29: Properties of InstalledList

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
CreationClassName	K	CCN	string[32]	This is `InstalledList`.	M
FileDate	N	File date	string[19]	This is the date of the executable file for the installed software asset.	O
FileName	N	File name	string[255]	This is the name of the executable file for the installed software asset.	O
FileSize	N	File size	string[10]	This is the size of the executable file for the installed software asset. The value is in bytes.	O
InstalledID	K	Installed software ID	uint32	This is a unique ID that identifies the installed software asset. When new information is imported, assign a unique value in the range from 10001 to 1000000000.	M
InstalledInd	N	Managed level	string[3]	See *Managed level*. This specifies whether to manage the number of licenses of this software asset. If the **Import** job menu is used for importing and this property is omitted, **Managed object** is set.	M
InstalledKind	N	Software type	string[3]	See *Software type*. If the **Import** job menu is used for importing and this property is omitted, **Normally** is set.	M

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
InstalledName	N	Installed software name	string[1024]	This is the name of the software asset managed by JP1/IT Desktop Management 2 - Manager.	O
InstalledPermit	N	Permission	string[3]	See *Permission*. If the **Import** job menu is used for importing and this property is omitted, **Permit** is set.	M
InstalledVersion	N	Installed software version	string[256]	This is the software version managed by JP1/IT Desktop Management 2 - Manager.	O
SoftwareListID	N	Software list ID	uint32	This is the software list ID of the corresponding software when the software name is assigned.	O
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserPropertyArea_1[#]	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2[#]	N	User property area-2	string[255]		O
UserPropertyCode_1[#]	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2[#]	N	User property code-2	string[64]		O
UserPropertyField128_1[#]	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2[#]	N	User property field 128-2	string[128]		O
UserPropertyField255_1[#]	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2[#]	N	User property field 255-2	string[255]		O

Legend:

   K: Key property

   N: Non-key property

   M: Mandatory property during registration

   O: Optional property

#

   This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

The tables below provide details of the property codes.

Table 14–30: Managed level

Code	Display value
1	Managed object

Code	Display value
2	Managed object not in license count
3	Unmanaged object

If 2 is specified for an import operation, this asset is not included in the usage count when licenses are summed up. However, the information about the installed software asset can be referenced.

If 3 is specified, the corresponding software information is not overwritten when the ITDM2 management information is updated.

Table 14–31: Software type

Code	Display value
1	Normally
2	Office
3	Virus definition
4	Operating system

Table 14–32: Permission

Code	Display value
1	Permit
2	Do not permit

14.2.13 InstalledUpdateRecord (software update log)

This class manages updating of the software installed on the device.

You cannot import or export this class.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of InstalledUpdateRecord.

Table 14–33: Properties of InstalledUpdateRecord

Property	Key	Description	Type [maximum length (bytes)]	Remarks
CreationClassName	K	CCN	string[32]	This is InstalledUpdateRecord.
Executor	N	Executer	string[512]	This is the user who edited the installed software information with window operations.
FileDate	N	File date	string[19]	This is the date of the executable file for the installed software asset.
FileName	N	File name	string[255]	This is the name of the executable file for the installed software asset.
FileSize	N	File size	string[10]	This is the size (in bytes) of the executable file for the installed software asset.
HistoryUpdateDate	K	Update date	date	This is the date the information was changed.

Property	Key	Description	Type [maximum length (bytes)]	Remarks
InstalledID	K	Installed software ID	uint32	This is the unique ID for identifying the installed software asset.
InstalledName	N	Installed software name	string[1024]	This is the name of the installed software asset.
InstalledVersion	N	Installed software version	string[255]	This is the version of the installed software asset.
LinkKey	K	Link key	string[32]	This is the key value for the changed object class.
UpdateKind	N	Update type	uint8	See *Update type*.

Legend:

K: Key property

N: Non-key property

The tables below provide details of the property codes.

Table 14–34: Update type

Code	Display value
1	Addition
2	Deletion

14.2.14 InstalledVirusDefInfo (virus definition information)

This class manages virus definition information.

You can import and export this class. For details about importing by `jamCsvImport.bat`, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of `InstalledVirusDefInfo`.

Table 14–35: Properties of InstalledVirusDefInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
AssetID	K	Asset ID	uint32	This is the ID of the asset. If you are specifying this information for an import operation, specify the same value as for the corresponding object class `AssetInfo`.	M
CreationClassName	K	CCN	string[32]	This is `InstalledVirusDefInfo`.	M
EngineVersion	N	Version of virus detection engine	string[1024]	This is the scanning engine version of the installed anti-virus software.	R

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
InfoInd	N	ITDM2 management information acquisition control	string[3]	If the **Import** job menu is used for importing, 1 is always set.	R
InstalledDate	N	Installed date	date	This is the date the software was installed.	O
ResidentKind	N	Resident/ nonresident	string[3]	See *Resident/nonresident*.	O
SoftwareVersion	N	Anti-virus product version	string[1024]	This is the version of the anti-virus software installed on the device.	R
UpdateInd	N	Update indicator	uint32	This information is used by the asset management system. Do not update it.	O
VirusDefName	K	Anti-virus product name	string[1024]	This is the name of the anti-virus software product installed on the device.	M
VirusDefVersion	N	Virus definition version	string[1024]	This is the version of the virus definition information installed on the device.	R

Legend:

K: Key property

N: Non-key property

M: Mandatory property during registration (omitting this property results in an error)

R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

O: Optional property

The tables below provide details of the property codes.

Table 14–36: Resident/nonresident

Code	Display value
1	Resident
0	Nonresident

14.2.15 IPAddress (IP address control information)

This class manages the available IP addresses. When acquiring IP addresses, you can manage the available IP addresses by associating them with those registered in this class.

You can import or export this class.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of IPAddress.

Table 14–37: Properties of IPAddress

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
CreationClass Name	K	CCN	string[32]	This is IPAddress.	M
IPAddress	K	IP address	string[70]	This is the IP address.	M
Purpose	N	Purpose	string[255]	This is the purpose of the IP address.	O
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O

Legend:

K: Key property

N: Non-key property

M: Mandatory property during registration

O: Optional property

14.2.16 JobRoleInfo (official authority)

This class manages official authority.

You can import and export this class with the jamimport and jamexport commands, respectively.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of JobRoleInfo.

Table 14–38: Properties of JobRoleInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
CreationClassName	K	CCN	string[32]	This is JobRoleInfo.	M
Description	N	Description	string[255]	This is a description of the official authority.	O
JobRoleID	K	Official authority ID	string[64]	This is a unique ID for identifying the official authority.	M
JobRoleName	N	Official authority name	string[128]	This is name of the official authority.	M
JobRoleName_EN	N	Official authority name	string[128]	This is name of the official authority in English.	M
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O

Legend:

K: Key property

N: Non-key property

M: Mandatory property during registration

O: Optional property

14.2.17 LicenseInfo (license information)

This class manages detailed information about software licenses. Licenses are assigned to devices and users on the basis of this license information.

You can import and export this class. For details about importing by `jamCsvImport.bat`, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of `LicenseInfo`.

Table 14–39: Properties of LicenseInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
CreationClassName	K	CCN	string[32]	This is `LicenseInfo`.	M
Description	N	Description	string[255]	This is a description of the license.	O
DownGrade	N	Downgrade	string[3]	See *Downgrade*. This indicates whether licenses are to be applied to downgrade software assets. If the **Import** job menu is used for importing and this property is omitted, **Enable** is set.	R
LicenseCategory	N	License category	string[3]	See *License category*. If the **Import** job menu is used for importing and this property is omitted, **Install license** is set.	R
LicenseID	K	License ID	uint32	This is a unique ID that identifies the license information. When new information is imported, assign a unique value in the range from 10001 to 1000000000.	M
LicenseName	N	License name	string[255]	This is the name of the license information.	M
LicenseType	N	License type	string[3]	See *License type*. If the **Import** job menu is used for importing and this property is omitted, **Install license** is set.	R
Note	N	Notes	string[255]	These are notes on the license information.	O
PurchaseType	N	Licensing method	string[3]	See *Licensing method*. If the Import job menu is used for importing and this property is omitted, **Package** is set.	R
SoftwareListID	N	Software list ID	uint32	This is the ID of the corresponding software name. If you are specifying this information for an import operation, specify the same value as for the corresponding object class `SoftwareList`	M
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UpGrade	N	Upgrade assurance	string[3]	See *Upgrade assurance*. This indicates whether the software asset can be upgraded to the most recent version during the contract period. If the **Import** job menu is used for importing and this property is omitted, **Yes** is set.	R
UserPropertyArea_1#	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2#	N	User property area-2	string[255]		O
UserPropertyCode_1#	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2#	N	User property code-2	string[64]		O
UserPropertyField128_1#	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2#	N	User property field 128-2	string[128]		O
UserPropertyField255_1#	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2#	N	User property field 255-2	string[255]		O

Legend:

　　K: Key property

　　N: Non-key property

　　M: Mandatory property during registration (omitting this property results in an error)

　　R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

　　O: Optional property

#

　　This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

The tables below provide details of the property codes.

Table 14–40: Downgrade

Code	Display value
001	Enable
002	Disable

Table 14–41: License category

Code	Display value
100	Install license

Code	Display value
200	User license
300	Other

Table 14–42: License type

Code	Display value
001	Install license
002	User license
003	Server license
004	Client access license
005	Managed node license
006	CPU license
007	Second license
008	Concurrent execution license

Table 14–43: Licensing method

Code	Display value
001	Package
002	Pre-installed
003	Volume license

Table 14–44: Upgrade assurance

Code	Display value
001	Yes
002	No

14.2.18 LocationInfo (location information)

This class manages the locations of assets.

You can import or export this class. For details about importing by jamCsvImport.bat, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of LocationInfo.

Table 14–45: Properties of LocationInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
Address	N	Contact post address	string[255]	This is the address of the location.	O
AreaSize	N	Area size	string[255]	The value is in square meters.	O
Attribute	N	Attribute	string[3]	See *Attribute*.	M
CreationClassName	K	CCN	string[32]	This is LocationInfo.	M
Explanation	N	Description	string[255]	This is a description of the location.	O
FullPathName	N	Location	string[1024]	This is the location information that represents the entire hierarchy from the top, such as New York/A building/First floor.	M
FullPathName_EN	N	Location	string[1024]	This is the location information in English that represents the entire hierarchy from the top, such as New York/A building/First floor. If the **Import** job menu is used for importing and this property is omitted, the value for the **Location ID** is set.	O
LocationID	K	Location ID	string[64]	This is a unique ID that identifies the location name.	M
LocationName	N	Location	string[512]	This is the name of the location.	M
LocationName_EN	N	Location name (English)	string[512]	This is the name of the location in English.	R
UpdateInd	N	Update indicator	uint32	This information is used by the asset management system. Do not update it.	O
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UpperLinkID	N	Upper location ID	string[64]	This is the ID of the upper-level location name.	O
UserPropertyArea_1[#]	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2[#]	N	User property area-2	string[255]		O
UserPropertyCode_1[#]	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2[#]	N	User property code-2	string[64]		O
UserPropertyField128_1[#]	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2[#]	N	User property field 128-2	string[128]		O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserPropertyField255_1#	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2#	N	User property field 255-2	string[255]		O

Legend:

    K: Key property

    N: Non-key property

    M: Mandatory property during registration (omitting this property results in an error)

    R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

    O: Optional property

#

    This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

The tables below provide details of the property codes.

Table 14–46: Attribute

Code	Display value
001	Region
002	Building
003	Floor
004	Area
199	Other

14.2.19 MachineCatalog (device catalog)

This class manages hardware information as a catalog, such as a name, model, and device type in the asset information.

You can import or export this class. For details about importing by jamCsvImport.bat, see the section describing import processing by the **Import** job menu.

The following table lists the properties of MachineCatalog.

Table 14–47: Properties of MachineCatalog

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
CatalogID	K	Catalog ID	uint32	ID that identifies the device catalog. This is a unique When new information is imported, assign a unique value in the range from 10001 to 1000000000.	M
CircuitSpeed	N	Line speed	uint32	The value is in kbps.	O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
CPUClock	N	Processor speed	uint32	The value is in MHz.	O
CPUNumber	N	Number of processors	uint16	This is the number of CPUs.	O
CPUType	N	Processor	string[5]	See *CPU type* in *14.2.10 HardwareInfo (hardware information)*.	O
CreationClassName	K	CCN	string[32]	This is MachineCatalog.	M
Developer	N	Developer	string[512]	This is the developer of the device.	O
MachineKind	N	Device type	string[5]	See *Device type* in *14.2.10 HardwareInfo (hardware information)*. If the **Import** job menu is used for importing and this property is omitted, **PC** is set.	O
MemorySize	N	Memory	uint64	The value is in megabytes.	O
Model	N	Model	string[512]	This is the device model. If the **Import** job menu is used for importing and this property is omitted, **Desktop** is set.	M
ModelKind	N	Composition	string[3]	See *Composition* in *14.2.10 HardwareInfo (hardware information)*.	O
MonitorKind	N	Monitor type	string[3]	See *Monitor type* in *14.2.10 HardwareInfo (hardware information)*.	O
MonitorResolution	N	Monitor resolution	string[3]	See *Monitor resolution* in *14.2.10 HardwareInfo (hardware information)*.	O
MonitorSize	N	Monitor size	uint16	This is the monitor size.	O
Name	N	Device name	string[512]	This is the name of the device.	M
NumberOFPort	N	Number of ports	uint32	This is the number of ports on the device.	O
PurchasePrice	N	Purchase price	string[15]	This is the purchase price	O
Specification	N	Specification	string[255]	This is the device's specifications.	O
TotalHDSize	N	Hard disk sizes	uint64	The value is in megabytes.	O
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserPropertyArea_1#	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2#	N	User property area-2	string[255]		O
UserPropertyArea_3#	N	User property area-3	string[255]		O
UserPropertyArea_4#	N	User property area-4	string[255]		O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserPropertyCode_1#	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2#	N	User property code-2	string[64]		O
UserPropertyCode_3#	N	User property code-3	string[64]		O
UserPropertyCode_4#	N	User property code-4	string[64]		O
UserPropertyCode_5#	N	User property code-5	string[64]		O
UserPropertyCode_6#	N	User property code-6	string[64]		O
UserPropertyCode_7#	N	User property code-7	string[64]		O
UserPropertyCode_8#	N	User property code-8	string[64]		O
UserPropertyCode_9#	N	User property code-9	string[64]		O
UserPropertyCode_10#	N	User property code-10	string[64]		O
UserPropertyCode_11#	N	User property code-11	string[64]		O
UserPropertyCode_12#	N	User property code-12	string[64]		O
UserPropertyDate_1#	N	User property date-1	date	Each of these items manages date information.	O
UserPropertyDate_2#	N	User property date-2	date		O
UserPropertyDate_3#	N	User property date-3	date		O
UserPropertyDate_4#	N	User property date-4	date		O
UserPropertyDate_5#	N	User property date-5	date		O
UserPropertyDate_6#	N	User property date-6	date		O
UserPropertyField128_1#	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2#	N	User property field 128-2	string[128]		O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserPropertyField128_3[#]	N	User property field 128-3	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_4[#]	N	User property field 128-4	string[128]		O
UserPropertyField128_5[#]	N	User property field 128-5	string[128]		O
UserPropertyField128_6[#]	N	User property field 128-6	string[128]		O
UserPropertyField128_7[#]	N	User property field 128-7	string[128]		O
UserPropertyField128_8[#]	N	User property field 128-8	string[128]		O
UserPropertyField255_1[#]	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2[#]	N	User property field 255-2	string[255]		O
UserPropertyField255_3[#]	N	User property field 255-3	string[255]		O
UserPropertyField255_4[#]	N	User property field 255-4	string[255]		O
UserPropertyField255_5[#]	N	User property field 255-5	string[255]		O
UserPropertyField255_6[#]	N	User property field 255-6	string[255]		O
UserPropertyField255_7[#]	N	User property field 255-7	string[255]		O
UserPropertyField255_8[#]	N	User property field 255-8	string[255]		O
UserPropertyField32_1[#]	N	User property field 32-1	string[32]	Each of these items can manage a maximum of 32 bytes of information.	O
UserPropertyField32_2[#]	N	User property field 32-2	string[32]		O
UserPropertyField32_3[#]	N	User property field 32-3	string[32]		O
UserPropertyField32_4[#]	N	User property field 32-4	string[32]		O
UserPropertyField32_5[#]	N	User property field 32-5	string[32]		O
UserPropertyField32_6[#]	N	User property field 32-6	string[32]		O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserPropertyField32_7[#]	N	User property field 32-7	string[32]	Each of these items can manage a maximum of 32 bytes of information.	O
UserPropertyField32_8[#]	N	User property field 32-8	string[32]		O
UserPropertyField64_1[#]	N	User property field 64-1	string[64]	Each of these items can manage a maximum of 64 bytes of information.	O
UserPropertyField64_2[#]	N	User property field 64-2	string[64]		O
UserPropertyField64_3[#]	N	User property field 64-3	string[64]		O
UserPropertyField64_4[#]	N	User property field 64-4	string[64]		O
UserPropertyField64_5[#]	N	User property field 64-5	string[64]		O
UserPropertyField64_6[#]	N	User property field 64-6	string[64]		O
UserPropertyField64_7[#]	N	User property field 64-7	string[64]		O
UserPropertyField64_8[#]	N	User property field 64-8	string[64]		O
UserPropertyUint_1[#]	N	User property unit-1	uint32	Each of these items can manage numeric information.	O
UserPropertyUint_2[#]	N	User property unit-2	uint32		O
UserPropertyUint_3[#]	N	User property unit-3	uint32		O
UserPropertyUint_4[#]	N	User property unit-4	uint32		O
UserPropertyUint_5[#]	N	User property unit-5	uint32		O
UserPropertyUint_6[#]	N	User property unit-6	uint32		O

Legend:

K: Key property

N: Non-key property

M: Mandatory property during registration

O: Optional property

#

This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

14.2.20 Maintenance (maintenance log)

This class manages the maintenance log for assets.

You can import or export this class. For details about importing by `jamCsvImport.bat`, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of `Maintenance`.

Table 14–48: Properties of Maintenance

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
AssetID	N	Asset ID	uint32	This is the ID of the asset. If you are specifying this information for an import operation, specify the same value as for the corresponding object class `AssetInfo`.	O
AssetNo	N	Asset No.	string[60]	This is the asset number of the corresponding asset.	O
CompletingDate	N	Completion date	date	This is the date on which maintenance of the asset was completed.	O
CreationClassName	K	CCN	string[32]	This is `Maintenance`.	M
EventHost	N	Event-issuing host	string[255]	This is the name of the host that issued the event.	O
EventNo	N	Event serial number	string[255]	This is a serial number in the event database that is assigned by JP1/Base to a JP1 event.	O
ExecutionHost	N	JP1/IM execution host	string[255]	This is the name of the host that executed JP1/IM.	O
Expense	N	Expense	string[15]	This is the maintenance expenses for the asset.	O
Importance	N	Importance	string[3]	See *Importance*. If the **Import** job menu is used for importing and this property is omitted, **Emergency** is set.	R
MaintenanceDate	N	Registration date	date	This is the date the maintenance log was registered.	R
MaintenanceHost	N	Host where problem occurred	string[255]	This is the IP address or name of the host where the problem occurred.	O
MaintenanceID	K	Maintenance log ID	uint32	This is a unique ID that identifies the maintenance log. When new information is imported, assign a unique value in the range from 10001 to 1000000000.	M
MaintenanceKind	N	Problem type	string[3]	See *Problem type*.	R

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
MaintenanceSta tus	N	Status	string[3]	See *Status*. If the **Import** job menu is used for importing and this property is omitted, **Wrong** is set.	M
ManagedNo	N	Managed No.	string[60]	This is the managed number of the maintenance log	M
MeasureContent s	N	Overview of solution	string[1024]	This is an overview of the problem with the asset	O
Note	N	Notes	string[255]	These are notes on the maintenance log.	O
ObstacleConten ts	N	Overview of problem	string[1024]	This is an overview of the problem with the asset.	R
ReferenceData	N	Reference materials (URL)	string[1024]	These are reference materials for maintenance of the asset.	O
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserName	N	Registrar	string[512]	This is the name of the user who registered the error information. If the **Import** job menu is used for importing and this property is omitted, the login user name (asset management name during execution of jamCsvImport.bat) is set.	R
UserPropertyAr ea_1[#]	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyAr ea_2[#]	N	User property area-2	string[255]		O
UserPropertyCo de_1[#]	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCo de_2[#]	N	User property code-2	string[64]		O
UserPropertyFi eld128_1[#]	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyFi eld128_2[#]	N	User property field 128-2	string[128]		O
UserPropertyFi eld255_1[#]	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyFi eld255_2[#]	N	User property field 255-2	string[255]		O
Worker	N	Worker	string[512]	This is the name of the maintenance person.	O

Legend:

    K: Key property

    N: Non-key property

    M: Mandatory property during registration (omitting this property results in an error)

    R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

O: Optional property

\#

This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

The tables below provide details of the property codes.

Table 14–49: Importance

Code	Display value
001	Emergency
002	Caution
003	Fatal
004	Error
005	Warning
006	Notice
007	Information
008	Debug

Table 14–50: Problem type

Code	Display value
001	JP1 event
002	SNMP trap
100	User Registered

Table 14–51: Status

Code	Display value
001	Wrong
002	Informed
003	Under repair
901	Complete

14.2.21 NetworkInfo (network information)

This class manages the location of a device in the network.

You can import or export this class. For details about importing by `jamCsvImport.bat`, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of `NetworkInfo`.

Table 14–52: Properties of NetworkInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
AssetID	K	Asset ID	uint32	This is the ID of the asset. If you are specifying this information for an import operation, specify the same value as for the corresponding object class AssetInfo.	M
ComputerName	N	Computer name	string[512]	This is the name of the computer. It is converted into upper-case letters.	O
CreationClassName	K	CCN	string[32]	This is NetworkInfo.	M
DefaultGateway	N	Default Gateway	string[70]	This is the default gateway.	O
DHCPServerName	N	DHCP server name	string[255]	This is the DHCP server name.	O
GlobalIPAddress	N	Global IP address	string[70]	This is the global IP address.	O
InfoInd	N	ITDM2 management information acquisition control	string[3]	If the **Import** job menu is used for importing, 1 is always set.	R
IPAddress	N	IP address	string[70]	This is the IP address. If you are updating this information for an import operation, delete the existing IP address from the association class IPAddressLink and then register the new IP address and also update the association.	O
IPAddressKind	N	IP address type	string[3]	See *IP address type*. If you are registering the asset as IPv4, you must import the association class IPAddressLink (IP address link).	O
MACAddress	N	MAC address	string[17]	This is the MAC address.	O
NetworkID	K	Network info ID	uint32	This is a unique ID that identifies the network information. When new information is imported, assign a unique value in the range 10001 to 1000000000.	M
NodeName	N	Node name (host name)	string[512]	This is the node name (host name). It is converted into lower-case letters.	O
PortInfo	N	Port information	string[255]	This is the port information.	O
SubnetMask	N	Subnet mask	string[70]	This is the subnet mask of the IP address	O
UpdateInd	N	Update indicator	uint32	This information is used by the asset management system. Do not update it.	O
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserPropertyArea_1[#]	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information.	O

Property	Ke y	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserPropertyAr ea_2#	N	User property area-2	string[255]	With a window operation, multiple character string lines can be specified.	O
UserPropertyCo de_1#	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCo de_2#	N	User property code-2	string[64]		O
UserPropertyFi eld128_1#	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyFi eld128_2#	N	User property field 128-2	string[128]		O
UserPropertyFi eld255_1#	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyFi eld255_2#	N	User property field 255-2	string[255]		O

Legend:

K: Key property

N: Non-key property

M: Mandatory property during registration (omitting this property results in an error)

R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

O: Optional property

#

This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

The tables below provide details of the property codes.

Table 14–53: IP address type

Code	Display value
001	IPv4
002	IPv6

14.2.22 PatchInfo (managing patch information)

This class manages patch information.

You can import or export this class. For details about importing by jamCsvImport.bat, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of PatchInfo.

Table 14–54: Properties of PatchInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
AssetID	K	Asset ID	uint32	This is the ID of the asset. If you are specifying this information for an import operation, specify the same value as for the corresponding object class AssetInfo.	M
CreationClassName	K	CCN	string[32]	This is PatchInfo.	M
InfoInd	N	ITDM2 management information acquisition control	string[3]	If the **Import** job menu is used for importing, 1 is always set.	R
InstalledDate	N	Installed date	date	This is the date the patch was installed.	O
InstalledStatus	N	Applied status	string[3]	See *Applied status*. If the **Import** job menu is used for importing and this property is omitted, **Apply** is set.	R
PatchID	K	Patch ID	uint32	This is a unique ID for identifying a search condition. If you are adding a new patch ID by importing, assign a unique ID in the range from 10001 to 1000000000.	M
UpdateInd	N	Update indicator	uint32	This information is used by the asset management system. Do not update it.	O

Legend:

    K: Key property

    N: Non-key property

    M: Mandatory property during registration (omitting this property results in an error)

    R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

    O: Optional property

The tables below provide details of the property codes.

Table 14–55: Applied status

Code	Display value
101	Applied
102	Unapplied

14.2.23 PatchList (patch name list)

This class manages the information that corresponds to patch names.

You can import or export this class.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of `PatchList`.

Table 14–56: Properties of PatchList

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
CreationClassName	K	CCN	string[32]	This is `PatchList`.	M
PatchID	K	Patch ID	uint32	This is the patch ID.	M
PatchName	N	Patch name	string[512]	This is the name of the patch.	R
PatchVersion	N	Patch version	string[60]	This is the version of the patch.	R
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O

Legend:

K: Key property

N: Non-key property

M: Mandatory property during registration (omitting this property results in an error)

R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

O: Optional property

14.2.24 RelationAssetInfo (program execution history)

This class manages the program execution history.

You can import or export this class. For details about importing by `jamCsvImport.bat`, see the section describing import processing by the **Import** job menu.

The following table lists the properties of `RelationAssetInfo`.

Table 14–57: Properties of RelationAssetInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
ChildAssetID	K	Child asset ID	uint32	This is the asset ID of the child asset. If you are specifying this information for an import operation, specify the same value as for the corresponding object class `AssetInfo`.	M
CreationClassName	K	CCN	string[32]	This is `RelationAssetInfo`.	M
ParentAssetID	K	Parent asset ID	uint32	This is the asset ID of the parent asset. If you are specifying this information for an import operation, specify the same value as for the corresponding object class `AssetInfo`.	M

Legend:

K: Key property

M: Mandatory property during registration (omitting this property results in an error)

14.2.25 RoleInfo (role information)

This class manages the user roles in the asset management system.

You can import or export this class.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of `RoleInfo`.

Table 14–58: Properties of RoleInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
CreationClassName	K	CCN	string[32]	This is `RoleInfo`.	M
Link	N	HTML file name for link	string[255]	This is the URL of the window that is displayed after login.	M
ManagedLabel	N	Managed label	string[20]	This is a character string set for both the group and the user role when access permissions are set for a group hierarchy.	O
RoleID	K	Role ID	string[64]	This is a unique ID that identifies the role.	M
RoleName	N	Role name	string[128]	This is the name of the role.	M
RoleName_EN	N	Role name	string[128]	This is the name of the role in English.	O
SystemInd	N	System indicator	uint8	See *System indicator*.	M
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O

Legend:
    K: Key property
    N: Non-key property
    M: Mandatory property during registration
    O: Optional property

The tables below provide details of the property codes.

Table 14–59: System indicator

Code	Display value
0	User information (deletable)
1	System information (Not deletable)

When new information is imported, specify 0.

For an import operation, do not delete information for which 1 is set.

14.2.26 SoftwareInfo (software information)

This class manages information about all software assets handled in the asset management system, such as commercial software, shareware, and freeware.

You can import or export this class.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of SoftwareInfo.

Table 14–60: Properties of SoftwareInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
AssetID	K	Asset ID	uint32	This is the ID of the asset. If you are specifying this information for an import operation, specify the same value as for the corresponding object class AssetInfo.	M
CreationClassName	K	CCN	string[32]	This is SoftwareInfo.	M
LicenseID	N	License ID	uint32	This is the license ID of the corresponding object class LicenseInfo. If you are specifying this information for an import operation, specify the same value as for the corresponding LicenseInfo.	O
NumberOFLicense	N	Number of licenses	uint32	This is the number of software licenses. For an unlimited license, specify null for an import operation.	R
NumberOFPoint	N	Purchase point	uint32	This is the number of points accrued for each software asset when a volume license is purchased.	O
SoftwareListID	N	Software list ID	uint32	This is the software list ID of the corresponding software asset. If you are specifying this information for an import operation, specify the same value as for the corresponding object class SoftwareList.	M
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserPropertyArea_1#	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2#	N	User property area-2	string[255]		O
UserPropertyCode_1#	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2#	N	User property code-2	string[64]		O
UserPropertyField128_1#	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2#	N	User property field 128-2	string[128]		O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserPropertyField255_1#	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2#	N	User property field 255-2	string[255]		O

Legend:

    K: Key property

    N: Non-key property

    M: Mandatory property during registration (omitting this property results in an error)

    R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

    O: Optional property

\#

    This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

14.2.27 SoftwareKeyInfo (software key information)

This class manages the key information when software licenses are assigned to devices or users.

You can import or export this class.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of SoftwareKeyInfo.

Table 14–61: Properties of SoftwareKeyInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
CreationClassName	K	CCN	string[32]	This is SoftwareKeyInfo.	M
KeyID	K	Key ID	uint32	This is a unique ID that identifies the software key information. When new information is imported, assign a unique value in the range from 10001 to 1000000000.	M
LicenseKey	N	License key	string[255]	This is the license key.	R
Note	N	Notes	string[255]	These are notes on the software key information.	R
ProductID	N	Product ID	string[255]	This is the product ID.	O
SerialNo	N	Serial No.	string[255]	This is the serial number.	R
SoftAssetID	N	Asset ID	uint32	This is the ID of the corresponding software asset. If you are specifying this information for an import operation, specify the same value as	M

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
SoftAssetID	N	Asset ID	uint32	for the corresponding object class AssetInfo.	M
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserPropertyArea_1#	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2#	N	User property area-2	string[255]		O
UserPropertyCode_1#	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2#	N	User property code-2	string[64]		O
UserPropertyField128_1#	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2#	N	User property field 128-2	string[128]		O
UserPropertyField255_1#	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2#	N	User property field 255-2	string[255]		O

Legend:

    K: Key property

    N: Non-key property

    M: Mandatory property during registration (omitting this property results in an error)

    R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

    O: Optional property

#

    This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

14.2.28 SoftwareList (software list)

This class manages the names of purchased software assets in list format.

You can import or export this class. For details about importing by jamCsvImport.bat, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of SoftwareList.

Table 14–62: Properties of SoftwareList

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
CreationClassName	K	CCN	string[32]	This is SoftwareList.	M
Developer	N	Developer	string[60]	This is the developer of the software asset.	O
DownSoftwareLi stID1	N	Downgrade software name 01	uint32	These are the IDs of downgrade software that were registered. If you are specifying this information for an import operation, specify the same value as for the corresponding object class SoftwareList.	O
DownSoftwareLi stID2	N	Downgrade software name 02	uint32		O
DownSoftwareLi stID3	N	Downgrade software name 03	uint32		O
DownSoftwareLi stID4	N	Downgrade software name 04	uint32		O
DownSoftwareLi stID5	N	Downgrade software name 05	uint32		O
DownSoftwareLi stID6	N	Downgrade software name 06	uint32		O
DownSoftwareLi stID7	N	Downgrade software name 07	uint32		O
DownSoftwareLi stID8	N	Downgrade software name 08	uint32		O
DownSoftwareLi stID9	N	Downgrade software name 09	uint32		O
DownSoftwareLi stID10	N	Downgrade software name 10	uint32		O
DownSoftwareLi stID11	N	Downgrade software name 11	uint32		O
DownSoftwareLi stID12	N	Downgrade software name 12	uint32		O
DownSoftwareLi stID13	N	Downgrade software name 13	uint32		O
DownSoftwareLi stID14	N	Downgrade software name 14	uint32		O
DownSoftwareLi stID15	N	Downgrade software name 15	uint32		O
DownSoftwareLi stID16	N	Downgrade software name 16	uint32		O
DownSoftwareLi stID17	N	Downgrade software name 17	uint32		O
DownSoftwareLi stID18	N	Downgrade software name 18	uint32		O
DownSoftwareLi stID19	N	Downgrade software name 19	uint32		O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
DownSoftwareLi stID20	N	Downgrade software name 20	uint32	These are the IDs of downgrade software that were registered. If you are specifying this information for an import operation, specify the same value as for the corresponding object class `SoftwareList`.	O
SoftwareKind	N	Software type	string[3]	See *Software type*. If the **Import** job menu is used for importing and this property is omitted, **Commercial** is set.	M
SoftwareListID	K	Software list ID	uint32	This is a unique ID that identifies the software name. When new information is imported, assign a unique value in the range from 10001 to 1000000000.	M
SoftwareName	N	Software name	string[1024]	This is the name of the software asset.	M
Threshold	N	Threshold	uint8	This is the threshold at which the **Notice of license excess** task issues an excess license notice. The value is in percent (%).	O
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserPropertyAr ea_1[#]	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyAr ea_2[#]	N	User property area-2	string[255]		O
UserPropertyCo de_1[#]	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCo de_2[#]	N	User property code-2	string[64]		O
UserPropertyFi eld128_1[#]	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyFi eld128_2[#]	N	User property field 128-2	string[128]		O
UserPropertyFi eld255_1[#]	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyFi eld255_2[#]	N	User property field 255-2	string[255]		O

Legend:

  K: Key property

  N: Non-key property

  M: Mandatory property during registration

  O: Optional property

\#

    This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

The tables below provide details of the property codes.

Table 14–63: Software type

Code	Display value
100	Commercial
101	Shareware
200	Freeware

14.2.29 UpdateRecord (device change log)

This class manages changes to a device's memory size or disk capacity.

You cannot import or export this class.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of `UpdateRecord`.

Table 14–64: Properties of UpdateRecord

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
AfterValue	N	After update	string[512]	This is the value after the change.	O
BeforeValue	N	Before update	string[512]	This is the value before the change.	O
CreationClassName	K	CCN	string[32]	This is `UpdateRecord`.	M
HistoryUpdateDate	K	Update date	date	This is the date the information was changed.	M
IndicationItemKey	K	Show item key	string[255]	This is the key value of the changed item.	M
LinkClass	N	Class for link	string[32]	This is the object class of the changed item.	M
LinkKey	K	Link key	string[32]	This is the key value for the changed object class.	M
SubLinkKey	K	Sub link key	string[32]	If the changed object class contains two keys, this is the value for the second key.	M
UpdateRecordInd	N	Record indicator	uint8	See *Record indicator*.	M

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UpdateRecordInd	N	Record indicator	uint8	This indicates the type of updating.	M

Legend:

    K: Key property

    N: Non-key property

    M: Mandatory property during registration

    O: Optional property

The tables below provide details of the property codes.

Table 14–65: Record indicator

Code	Display value
1	Add
2	Update
3	Delete

14.2.30 UserInfo (user information)

This class manages the users of the asset management system.

You can import or export this class. For details about importing by jamCsvImport.bat, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

To import this class and register a user role for the user, also import the association class AuthorityLink (user and authority link). Once a role is granted, that user can log in to Asset Console.

To register a group to which the user belongs, import the association class MemberLink (user and member link).

The following table lists the properties of UserInfo,

Table 14–66: Properties of UserInfo

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
CreationClassName	K	CCN	string[32]	This is UserInfo.	M
ExecutiveName	N	Official title	string[255]	This is the user's position.	O
Explanation	N	Description	string[255]	This is a description of the user.	O
Mail	N	E-mail	string[255]	This is the user's email address.	O
Password	N	Password	string[64]	This is the user's password.	M

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
Telephonenumber	N	Phone	string[255]	This is user's phone number.	O
UpdateInd	N	Update indicator	uint32	This information is used by the asset management system. Do not update it.	O
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserID	K	User ID	string[64]	This is a unique ID that identifies the user.	M
UserName	N	User name	string[512]	This is the user name.	M
UserName_EN	N	User name (English)	string[512]	This the user name in English. If the **Import** job menu is used for importing and this property is omitted, the value for **User ID** is set.	O
UserPropertyArea_1#	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information. With a window operation, multiple character string lines can be specified.	O
UserPropertyArea_2#	N	User property area-2	string[255]		O
UserPropertyCode_1#	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2#	N	User property code-2	string[64]		O
UserPropertyField128_1#	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2#	N	User property field 128-2	string[128]		O
UserPropertyField255_1#	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2#	N	User property field 255-2	string[255]		O

Legend:

K: Key property

N: Non-key property

M: Mandatory property during registration

O: Optional property

#

This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

14.2.31 VolumeContract (volume contract information)

This class manages volume license information for software assets.

You can import or export this class. For details about importing by jamCsvImport.bat, see the section describing import processing by the **Import** job menu.

You can also specify this class as a search condition when creating a user report.

The following table lists the properties of `VolumeContract`.

Table 14–67: Properties of VolumeContract

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
Address	N	Contact post address	string[255]	This is the address on the contract.	O
Company	N	Contracted company	string[255]	This is the name of the contracted company.	O
ContactInfo	N	Contact phone/e-mail	string[255]	This is contact information at the contracted company.	O
ContactName	N	Contact person	string[512]	These are the contact people at the contracted company.	O
Contents	N	Contents	string[255]	This is the contents of the contract.	O
ContractDate	N	Contract date	date	This is the date of the contract.	O
ContractID	K	Contract ID	uint32	This is a unique ID that identifies the contract. When new information is imported, assign a unique value in the range from 10001 to 1000000000.	M
ContractKind	N	Category	string[3]	See *Category*.	O
ContractNo	N	Contract No.	string[30]	This is the contract number.	R
ContractObject	N	Software asset	string[3]	See *Software asset*.	O
ContractStatus	N	Status	string[3]	See *Status*. If the **Import** job menu is used for importing and this property is omitted, **Under contract** is set.	M
CreationClassName	K	CCN	string[32]	This is `VolumeContract`.	M
EndDate	N	Contract end date	date	This is the contract termination date.	O
Explanation	N	Description	string[255]	This is a description of the contract.	O
GroupID	N	Group ID	string[64]	This is a unique ID that identifies the group name.	O
MonthlyPrice	N	Monthly	string[15]	This is the monthly charge.	O
StartDate	N	Contract start date	date	This is the start date of the contract.	O
TargetPoint	N	Target point	uint32	This is the number of target points determined when the volume license was signed.	O
TotalPrice	N	Total	string[15]	This is the total contract cost.	O
UpdateTime	N	Update control	string[20]	This information is used to control concurrent updating of information.	O
UserPropertyArea_1[#]	N	User property area-1	string[255]	This item can manage a maximum of 255 bytes of information.	O

Property	Key	Description	Type [maximum length (bytes)]	Remarks	Specification in jamimport
UserPropertyArea_2#	N	User property area-2	string[255]	With a window operation, multiple character string lines can be specified.	O
UserPropertyCode_1#	N	User property code-1	string[64]	This item can control code information.	O
UserPropertyCode_2#	N	User property code-2	string[64]		O
UserPropertyField128_1#	N	User property field 128-1	string[128]	This item can control a maximum of 128 bytes of information.	O
UserPropertyField128_2#	N	User property field 128-2	string[128]		O
UserPropertyField255_1#	N	User property field 255-1	string[255]	This item can manage a maximum of 255 bytes of information.	O
UserPropertyField255_2#	N	User property field 255-2	string[255]		O

Legend:

K: Key property

N: Non-key property

M: Mandatory property during registration (omitting this property results in an error)

R: Property whose specification is recommended during new registration (omitting this property does not result in an error)

O: Optional property

#

This is an extended property. You can add managed items by editing the display name of this property and setting it to be displayed using the **Customize Managed Items** job menu.

The tables below provide details of the property codes.

Table 14–68: Category

Code	Display value
001	Select
002	OpenVolume

Table 14–69: Software asset

Code	Display value
001	Application
002	Server
003	System

Table 14–70: Status

Code	Display value
001	Under contract
501	Expire

Code	Display value
999	Erase

14.3 List of properties of association classes

This section describes the association classes that can be imported and exported. It describes the associations between classes that are represented by association classes that are specific to Asset Console.

- 1 under Multiplex means that there is always one association, while 0..*n* (*n*: 0 or a greater integer) means that there can be no associations or one or more associations.
- Each association class can be imported and exported by the jamimport and jamexport commands, respectively. For details about importing association classes, see *7.1 Registering CSV data (importing)*, for details about exporting association classes, see *7.2 Outputting CSV data (exporting)*.
- In creating user reports, you can specify each association class as a search condition. For details about creating user reports, see *9.5 Adding windows for routine jobs (Create User Report)*.

14.3.1 AuthorityLink (user and authority link)

This class associates a user and a group.

Table 14–71: List of classes associated by AuthorityLink

Class to be associated	Key property	Multiplex
UserInfo	UserID	0..*n*
RoleInfo	RoleID	1

14.3.2 ContractLeaseLink (lease contract link)

This class associates a device and lease contract information.

Table 14–72: List of classes associated by ContractLeaseLink

Class to be associated	Key property	Multiplex
Contract	ContractID	1
AssetInfo	AssetID	0..*n*

14.3.3 ContractMaintenanceLink (maintenance contract link)

This class associates a device and a maintenance contract.

Table 14–73: List of classes associated by ContractMaintenanceLink

Class to be associated	Key property	Multiplex
Contract	ContractID	1
AssetInfo	AssetID	0..*n*

14.3.4 ContractRentalLink (rental contract link)

This class associates a device and a rental contract.

Table 14–74: List of classes associated by ContractRentalLink

Class to be associated	Key property	Multiplex
Contract	ContractID	1
AssetInfo	AssetID	$0..n$

14.3.5 DivisionLink (division information and group information)

This class associates a division and a group.

Table 14–75: List of classes associated by DivisionLink

Class to be associated	Key property	Multiplex
DivisionInfo	DivisionID	$0..n$
GroupInfo	GroupID	$0..n$

14.3.6 DivisionUserLink (division information and user information)

This class associates a division and a user.

Table 14–76: List of classes associated by DivisionUserLink

Class to be associated	Key property	Multiplex
DivisionInfo	DivisionID	$0..n$
UserInfo	UserID	$0..n$

14.3.7 IPAddressLink (IP address link)

This class associates network information and an IP address.

Table 14–77: List of classes associated by IPAddressLink

Class to be associated	Key property	Multiplex
IPAddress	IPAddress	1
NetworkInfo	AssetID	$0..n$
NetworkInfo	NetworkID	$0..n$

14.3.8 JobRoleLink (User and official authority link)

This class associates user and official authority.

Table 14–78: Classes associated by JobRoleLink

Class to be associated	Key property	Multiplex
JobRoleInfo	JobRoleID	0..n
UserInfo	UserID	0..n

14.3.9 MachinePermitLink (device and key link)

This class associates a license and a device to which the license was assigned.

Table 14–79: List of classes associated by MachinePermitLink

Class to be associated	Key property	Multiplex
AssetInfo	AssetID	1
SoftwareKeyInfo	KeyID	0..n
SoftwareKeyInfo	SoftAssetID	0..n

14.3.10 MemberLink (user and member link)

This class associates a user and a group to which the user belongs. This association class can perform import processing from the **Import** job menu and export processing from the **Export** job menu. When you import or export the class and create conditions, GroupID and UserID are both optional.

Table 14–80: List of classes associated by MemberLink

Class to be associated	Key property	Multiplex
GroupInfo	GroupID	1
UserInfo	UserID	0..n

14.3.11 RelationAssetLink (asset information and related asset information)

This class associates a device and another device.

Table 14–81: List of classes associated by RelationAssetLink

Class to be associated	Key property	Multiplex
RelationAssetInfo	ParentAssetID	0..n
AssetInfo	AssetID	0..n

14.3.12 UserPermitLink (user and key link)

This class associates a license and a user to which the license was assigned.

Table 14–82: List of classes associated by UserPermitLink

Class to be associated	Key property	Multiplex
SoftwareKeyInfo	KeyID	$0..n$
SoftwareKeyInfo	SoftAssetID	$0..n$
UserInfo	UserID	1

14.3.13 VolumeContractLink (volume contract link)

This class associates a volume contract and a software.

Table 14–83: List of classes associated by VolumeContractLink

Class to be associated	Key property	Multiplex
AssetInfo	AssetID	$0..n$
VolumeContract	ContractID	1

14.4 Items to be imported or exported using a job menu

In the **Import** and **Export** job menus, the desired asset type is selected from **Category**. Therefore, the target item depends on the asset type selected in **Category**. The same applies to the target item for import by `jamCsvImport.bat` and export by `jamCsvExport.bat`.

The following table shows the asset types that can be selected in **Category** and the target classes:

Table 14–84: Category types and target classes

Asset type	Asset information	Class
Device information	Asset information	`AssetInfo`
	Hardware information	`HardwareInfo`
	Network information	`NetworkInfo`
	IP address control information	`IPAddress`
	IP address link	`IPAddressLink`
Installed software information	Asset information	`AssetInfo`
	Installed software information	`InstalledInfo`
	Installed software list	`InstalledList`
Installed software list	Installed software list	`InstalledList`
Software information	Asset information	`AssetInfo`
	Software information	`SoftwareInfo`
	Software key information	`SoftwareKeyInfo`
	Software list	`SoftwareList`
	License information	`LicenseInfo`
Software list	Software list	`SoftwareList`
Group information	Group information	`GroupInfo`
User information	User information	`UserInfo`
	Role information	`RoleInfo`
	User and member link	`MemberLink`
	User and authority link	`AuthorityLink`
	User and official authority link	`JobRoleLink`
Location information	Location information	`LocationInfo`
Contract information	Contract information	`Contract`
	Asset information	`AssetInfo`
	Maintenance contract link	`ContractMaintenanceLink`
Rental contract information	Contract information	`Contract`
	Asset information	`AssetInfo`
	Rental contract link	`ContractRentalLink`

Asset type	Asset information	Class
Lease contract information	Contract information	Contract
	Asset information	AssetInfo
	Lease contract link	ContractLeaseLink
Volume contract information	Volume contract information	VolumeContract
	Asset information	AssetInfo
	Volume contract link	VolumeContractLink
IP group information	IP group information	AddressGroup
Device catalog information	Device catalog	MachineCatalog
Problems	Maintenance log	Maintenance
Assigned license information	Asset information	AssetInfo
	User information	UserInfo
	Software information	SoftwareInfo
	Software key information	SoftwareKeyInfo
	Software list	SoftwareList
	Software key link	MachinePermitLink
	User and key link	UserPermitLink
Patches	Asset information	AssetInfo
	Patch information	PatchInfo
	Patch name list	PatchList
Virus definition	Asset information	AssetInfo
	Virus definition information	InstalledVirusDefInfo
Related asset information	Related asset information	RelationAssetInfo
Division information	Division information	DivisionInfo
	Division information and group information	DivisionLink
Assign Divisions	Division information	DivisionInfo
	Division information and user information	DivisionUserLink
User definition (user report)[#]	--	--
User definition (form)[#]	--	--
Customize (Acquire ITDM2 management information.)[#]	--	--
User definition (import/export)[#]	--	--
User definition (item definition)[#]	--	--
User definition (contract history)[#]	--	--

Legend:

--: Not applicable

#

　The set information is imported or exported in a batch operation. The contents cannot be edited.

If all the conditions are met for the information to be imported, association class information is created without having to set the assigned items.

For the information to be imported, specify detailed items for each **Category** when creating the importing condition. The tables below show the import target items by **Category**. Note that the managed items that are hidden by the **Customize Managed Items** job menu are not displayed in **Managed items** of the **Import** menu or **Enable items to export** of the **Export** menu.

14.4.1 Items targeted by the Device information asset type

The following table lists the items that are targeted by the **Device information** asset type.

Table 14–85: Items targeted by the Device information asset type

CSV file item name	Class	Property	Specification
Asset ID (Asset information)	AssetInfo	AssetID	O
Asset No. (Asset information)		AssetNo	O
Group ID (Asset information)		GroupID	O
Group name (Asset information)		GroupName	O
Group name (Asset information)		GroupName_EN	O
User ID (Asset information)		UserID	O
User name (Asset information)		UserName	O
User name (English)(Asset information)		UserName_EN	O
Location ID (Asset information)		LocationID	O
Location (Asset information)		LocationName	O
Location (Asset information)		LocationName_EN	O
Usage management (Asset information)		AssetWorkKind	M
Status (Asset information)		AssetStatus	M
Purchase price (Asset information)		PurchasePrice	O
Registration date (Asset information)		RegistrationDate	M
Purpose (Asset information)		Purpose	O
Notes (Asset information)		Note	O
ITDM2 Agent installed status (Asset information)		DMStatus	O
Update user name (Asset information)		UpdateUser	O
Stocktaking date (Asset information)		StocktakingDate	O

CSV file item name	Class	Property	Specification
Start date of use (Asset information)	AssetInfo	StartDate	O
End date of use (Asset information)		EndDate	O
Host identifier (Asset information)		InventoryKey	O
Last updated date of ITDM2 (Asset information)		DMLastUpdateTime	O
Managed group ID (Asset information)		ManagerialGroupID	O
Managed group (Asset information)		ManagerialGroup	O
Managed group (Asset information)		ManagerialGroup_EN	O
User ID of administrator (Asset information)		ManagerialUserID	O
Administrator (Asset information)		ManagerialUser	O
Administrator (Asset information)		ManagerialUser_EN	O
User property field 32-1 (Asset information)		UserPropertyField32_1	O
User property field 32-2 (Asset information)		UserPropertyField32_2	O
User property field 32-3 (Asset information)		UserPropertyField32_3	O
User property field 32-4 (Asset information)		UserPropertyField32_4	O
User property field 32-5 (Asset information)		UserPropertyField32_5	O
User property field 32-6 (Asset information)		UserPropertyField32_6	O
User property field 64-1 (Asset information)		UserPropertyField64_1	O
User property field 64-2 (Asset information)		UserPropertyField64_2	O
User property field 128-1 (Asset information)		UserPropertyField128_1	O
User property field 128-2 (Asset information)		UserPropertyField128_2	O
User property field 255-1 (Asset information)		UserPropertyField255_1	O
User property field 255-2 (Asset information)		UserPropertyField255_2	O
User property area-1 (Asset information)		UserPropertyArea_1	O
User property area-2 (Asset information)		UserPropertyArea_2	O

CSV file item name	Class	Property	Specification
User property code-1 (Asset information)	AssetInfo	UserPropertyCode_1	O
User property code-2 (Asset information)		UserPropertyCode_2	O
User property code-3 (Asset information)		UserPropertyCode_3	O
User property code-4 (Asset information)		UserPropertyCode_4	O
User property code-5 (Asset information)		UserPropertyCode_5	O
User property code-6 (Asset information)		UserPropertyCode_6	O
User property date-1 (Asset information)		UserPropertyDate_1	O
User property date-2 (Asset information)		UserPropertyDate_2	O
User property date-3 (Asset information)		UserPropertyDate_3	O
User property date-4 (Asset information)		UserPropertyDate_4	O
User property date-5 (Asset information)		UserPropertyDate_5	O
User property date-6 (Asset information)		UserPropertyDate_6	O
User property unit-1 (Asset information)		UserPropertyUint_1	O
User property unit-2 (Asset information)		UserPropertyUint_2	O
User property unit-3 (Asset information)		UserPropertyUint_3	O
User property unit-4 (Asset information)		UserPropertyUint_4	O
User property unit-5 (Asset information)		UserPropertyUint_5	O
User property unit-6 (Asset information)		UserPropertyUint_6	O
Device type (Hardware information)	HardwareInfo	MachineKind	O
Developer (Hardware information)		Developer	O
Model (Hardware information)		Model	O
Serial No. (Hardware information)		SerialNo	O
Device name (Hardware information)		Name	O
CPU (Hardware information)		CPUType	O
Processor speed (Hardware information)		CPUClock	O

CSV file item name	Class	Property	Specification
Number of processors (Hardware information)	HardwareInfo	CPUNumber	O
Memory (Hardware information)		MemorySize	O
Hard disk sizes (Hardware information)		TotalHDSize	O
Hard disk free space (Hardware information)		RemainHDSize	O
Composition (Hardware information)		ModelKind	O
Specification (Hardware information)		Specification	O
Monitor type (Hardware information)		MonitorKind	O
Monitor resolution (Hardware information)		MonitorResolution	O
Monitor size (Hardware information)		MonitorSize	O
Number of ports (Hardware information)		NumberOFPort	O
Line speed (Hardware information)		CircuitSpeed	O
IP address (Hardware information)		IPAddress	O
MAC address (Hardware information)		MACAddress	O
Host name (Hardware information)		HostName	O
MBSA version (Hardware information)		MBSAVersion	O
OS (Hardware information)		OSInfo	O
OS version (Hardware information)		OSVersion	O
Computer ID (Hardware information)		ComputerID	O
User property field 32-1 (Hardware information)		UserPropertyField32_1	O
User property field 32-2 (Hardware information)		UserPropertyField32_2	O
User property field 32-3 (Hardware information)		UserPropertyField32_3	O
User property field 32-4 (Hardware information)		UserPropertyField32_4	O
User property field 32-5 (Hardware information)		UserPropertyField32_5	O
User property field 32-6 (Hardware information)		UserPropertyField32_6	O
User property field 32-7 (Hardware information)		UserPropertyField32_7	O
User property field 32-8 (Hardware information)		UserPropertyField32_8	O

CSV file item name	Class	Property	Specification
User property field 64-1 (Hardware information)	HardwareInfo	UserPropertyField64_1	O
User property field 64-2 (Hardware information)		UserPropertyField64_2	O
User property field 64-3 (Hardware information)		UserPropertyField64_3	O
User property field 64-4 (Hardware information)		UserPropertyField64_4	O
User property field 64-5 (Hardware information)		UserPropertyField64_5	O
User property field 64-6 (Hardware information)		UserPropertyField64_6	O
User property field 64-7 (Hardware information)		UserPropertyField64_7	O
User property field 64-8 (Hardware information)		UserPropertyField64_8	O
User property field 128-1 (Hardware information)		UserPropertyField128_1	O
User property field 128-2 (Hardware information)		UserPropertyField128_2	O
User property field 128-3 (Hardware information)		UserPropertyField128_3	O
User property field 128-4 (Hardware information)		UserPropertyField128_4	O
User property field 128-5 (Hardware information)		UserPropertyField128_5	O
User property field 128-6 (Hardware information)		UserPropertyField128_6	O
User property field 128-7 (Hardware information)		UserPropertyField128_7	O
User property field 128-8 (Hardware information)		UserPropertyField128_8	O
User property field 255-1 (Hardware information)		UserPropertyField255_1	O
User property field 255-2 (Hardware information)		UserPropertyField255_2	O
User property field 255-3 (Hardware information)		UserPropertyField255_3	O
User property field 255-4 (Hardware information)		UserPropertyField255_4	O
User property field 255-5 (Hardware information)		UserPropertyField255_5	O
User property field 255-6 (Hardware information)		UserPropertyField255_6	O

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CSV file item name	Class	Property	Specification
User property field 255-7 (Hardware information)	HardwareInfo	UserPropertyField255_7	O
User property field 255-8 (Hardware information)		UserPropertyField255_8	O
User property area-1 (Hardware information)		UserPropertyArea_1	O
User property area-2 (Hardware information)		UserPropertyArea_2	O
User property area-3 (Hardware information)		UserPropertyArea_3	O
User property area-4 (Hardware information)		UserPropertyArea_4	O
User property code-1 (Hardware information)		UserPropertyCode_1	O
User property code-2 (Hardware information)		UserPropertyCode_2	O
User property code-3 (Hardware information)		UserPropertyCode_3	O
User property code-4 (Hardware information)		UserPropertyCode_4	O
User property code-5 (Hardware information)		UserPropertyCode_5	O
User property code-6 (Hardware information)		UserPropertyCode_6	O
User property code-7 (Hardware information)		UserPropertyCode_7	O
User property code-8 (Hardware information)		UserPropertyCode_8	O
User property code-9 (Hardware information)		UserPropertyCode_9	O
User property code-10 (Hardware information)		UserPropertyCode_10	O
User property code-11 (Hardware information)		UserPropertyCode_11	O
User property code-12 (Hardware information)		UserPropertyCode_12	O
User property date-1 (Hardware information)		UserPropertyDate_1	O
User property date-2 (Hardware information)		UserPropertyDate_2	O
User property date-3 (Hardware information)		UserPropertyDate_3	O
User property date-4 (Hardware information)		UserPropertyDate_4	O

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CSV file item name	Class	Property	Specification
User property date-5 (Hardware information)	HardwareInfo	UserPropertyDate_5	O
User property date-6 (Hardware information)		UserPropertyDate_6	O
User property unit-1 (Hardware information)		UserPropertyUint_1	O
User property unit-2 (Hardware information)		UserPropertyUint_2	O
User property unit-3 (Hardware information)		UserPropertyUint_3	O
User property unit-4 (Hardware information)		UserPropertyUint_4	O
User property unit-5(Hardware information)		UserPropertyUint_5	O
User property unit-6 (Hardware information)		UserPropertyUint_6	O
Network info ID (Network information)	NetworkInfo	NetworkID	O
MAC address (Network information)		MACAddress	O
Node name (host name) (Network information)		NodeName	O
Computer name (Network information)		ComputerName	O
DHCP server name (Network information)		DHCPServerName	O
IP address (Network information)		IPAddress	O
Global IP address (Network information)		GlobalIPAddress	O
Default Gateway (Network information)		DefaultGateway	O
Subnet mask (Network information)		SubnetMask	O
Port information (Network information)		PortInfo	O
IP address type (Network information)		IPAddressKind	O
ITDM2 management information acquisition control (Network information)		InfoInd	O
User property field 128-1 (Network information)		UserPropertyField128_1	O
User property field 128-2 (Network information)		UserPropertyField128_2	O
User property field 255-1 (Network information)		UserPropertyField255_1	O

CSV file item name	Class	Property	Specification
User property field 255-2 (Network information)	NetworkInfo	UserPropertyField255_2	O
User property area-1 (Network information)		UserPropertyArea_1	O
User property area-2 (Network information)		UserPropertyArea_2	O
User property code-1 (Network information)		UserPropertyCode_1	O
User property code-2 (Network information)		UserPropertyCode_2	O

Legend:

    M: Mandatory item during new registration

    O: Optional item

14.4.2 Items targeted by the Installed software information asset type

The following table lists the items that are targeted by the **Installed software information** asset type.

Table 14–86: Items targeted by the Installed software information asset type

CSV file item name	Class	Property	Specification
Asset ID (Asset information)	AssetInfo	AssetID	O
Asset No. (Asset information)		AssetNo	O
Installed software ID (Installed software list)	InstalledList	InstalledID	O
Installed software name (Installed software list)		InstalledName	O
Installed software version (Installed software list)		InstalledVersion	O
File name (Installed software list)		FileName	O
File size (Installed software list)		FileSize	O
File date (Installed software list)		FileDate	O
Product ID (Installed software information)	InstalledInfo	ProductID	O
Installed date (Installed software information)		InstalledDate	O
ITDM2 management information acquisition control (Installed software information)		InfoInd	O
User property field 128-1 (Installed software information)		UserPropertyField128_1	O

CSV file item name	Class	Property	Specification
User property field 128-2 (Installed software information)	InstalledInfo	UserPropertyField128_2	O
User property field 255-1 (Installed software information)		UserPropertyField255_1	O
User property field 255-2 (Installed software information)		UserPropertyField255_2	O
User property area-1 (Installed software information)		UserPropertyArea_1	O
User property area-2 (Installed software information)		UserPropertyArea_2	O
User property code-1 (Installed software information)		UserPropertyCode_1	O
User property code-2 (Installed software information)		UserPropertyCode_2	O

Legend:
   O: Optional item

14.4.3 Items targeted by the Installed software list asset type

The following table lists the items that are targeted by the **Installed software list** asset type.

Table 14–87: Items targeted by the Installed software list asset type

CSV file item name	Class	Property	Specification
Installed software ID (Installed software list)	InstalledList	InstalledID	O
Installed software name (Installed software list)		InstalledName	O
Installed software version (Installed software list)		InstalledVersion	O
Permission (Installed software list)		InstalledPermit	M
Software type (Installed software list)		InstalledKind	M
Managed level (Installed software list)		InstalledInd	M
File name (Installed software list)		FileName	O
File size (Installed software list)		FileSize	O
File date (Installed software list)		FileDate	O
User property field 128-1 (Installed software list)		UserPropertyField128_1	O

CSV file item name	Class	Property	Specification
User property field 128-2 (Installed software list)	InstalledList	UserPropertyField128_2	O
User property field 255-1 (Installed software list)		UserPropertyField255_1	O
User property field 255-2 (Installed software list)		UserPropertyField255_2	O
User property area-1 (Installed software list)		UserPropertyArea_1	O
User property area-2 (Installed software list)		UserPropertyArea_2	O
User property code-1 (Installed software list)		UserPropertyCode_1	O
User property code-2 (Installed software list)		UserPropertyCode_2	O
Software list ID (Software list)	SoftwareList	SoftwareListID	O
Software name (Software list)		SoftwareName	O
Software type (Software list)		SoftwareKind	O

Legend:
   M: Mandatory item during new registration
   O: Optional item

14.4.4 Items targeted by the Software information asset type

The following table lists the items that are targeted by the **Software information** asset type.

Table 14–88: Items targeted by the Software information asset type

CSV file item name	Class	Property	Specification
Asset ID (Asset information)	AssetInfo	AssetID	O
Asset No. (Asset information)		AssetNo	O
Group ID (Asset information)		GroupID	O
Group name (Asset information)		GroupName	O
Group name (Asset information)		GroupName_EN	O
User ID (Asset information)		UserID	O
User name (Asset information)		UserName	O
User name (English)(Asset information)		UserName_EN	O
Usage management (Asset information)		AssetWorkKind	M
Software status (Asset information)		SoftwareStatus	M
Purchase price (Asset information)		PurchasePrice	O
Registration date (Asset information)		RegistrationDate	M

CSV file item name	Class	Property	Specif ication
Purpose (Asset information)	AssetInfo	Purpose	O
Notes (Asset information)		Note	O
Asset type (Asset information)		AssetKind	O
Update user name (Asset information)		UpdateUser	O
Stocktaking date (Asset information)		StocktakingDate	O
Start date of use (Asset information)		StartDate	O
End date of use (Asset information)		EndDate	O
Managed group ID (Asset information)		ManagerialGroupID	O
Managed group (Asset information)		ManagerialGroup	O
Managed group (Asset information)		ManagerialGroup_EN	O
User ID of administrator (Asset information)		ManagerialUserID	O
Administrator (Asset information)		ManagerialUser	O
Administrator (Asset information)		ManagerialUser_EN	O
User property field 32-1 (Asset information)		UserPropertyField32_1	O
User property field 32-2 (Asset information)		UserPropertyField32_2	O
User property field 32-3 (Asset information)		UserPropertyField32_3	O
User property field 32-4 (Asset information)		UserPropertyField32_4	O
User property field 32-5 (Asset information)		UserPropertyField32_5	O
User property field 32-6 (Asset information)		UserPropertyField32_6	O
User property field 64-1 (Asset information)		UserPropertyField64_1	O
User property field 64-2 (Asset information)		UserPropertyField64_2	O
User property field 128-1 (Asset information)		UserPropertyField128_1	O
User property field 128-2 (Asset information)		UserPropertyField128_2	O
User property field 255-1 (Asset information)		UserPropertyField255_1	O
User property field 255-2 (Asset information)		UserPropertyField255_2	O
User property area-1 (Asset information)		UserPropertyArea_1	O

CSV file item name	Class	Property	Specification
User property area-2 (Asset information)	AssetInfo	UserPropertyArea_2	O
User property code-1 (Asset information)		UserPropertyCode_1	O
User property code-2 (Asset information)		UserPropertyCode_2	O
User property code-3 (Asset information)		UserPropertyCode_3	O
User property code-4 (Asset information)		UserPropertyCode_4	O
User property code-5 (Asset information)		UserPropertyCode_5	O
User property code-6 (Asset information)		UserPropertyCode_6	O
User property date-1 (Asset information)		UserPropertyDate_1	O
User property date-2 (Asset information)		UserPropertyDate_2	O
User property date-3 (Asset information)		UserPropertyDate_3	O
User property date-4 (Asset information)		UserPropertyDate_4	O
User property date-5 (Asset information)		UserPropertyDate_5	O
User property date-6 (Asset information)		UserPropertyDate_6	O
User property unit-1 (Asset information)		UserPropertyUint_1	O
User property unit-2 (Asset information)		UserPropertyUint_2	O
User property unit-3 (Asset information)		UserPropertyUint_3	O
User property unit-4 (Asset information)		UserPropertyUint_4	O
User property unit-5 (Asset information)		UserPropertyUint_5	O
User property unit-6 (Asset information)		UserPropertyUint_6	O
Number of licenses (Software information)	SoftwareInfo	NumberOFLicense	O
Purchase point (Software information)		NumberOFPoint	O
User property field 128-1 (Software information)		UserPropertyField128_1	O

CSV file item name	Class	Property	Specification
User property field 128-2 (Software information)	SoftwareInfo	UserPropertyField128_2	O
User property field 255-1 (Software information)		UserPropertyField255_1	O
User property field 255-2 (Software information)		UserPropertyField255_2	O
User property area-1 (Software information)		UserPropertyArea_1	O
User property area-2 (Software information)		UserPropertyArea_2	O
User property code-1 (Software information)		UserPropertyCode_1	O
User property code-2 (Software information)		UserPropertyCode_2	O
Key ID (Software key information)	SoftwareKeyInfo	KeyID	O
Product ID (Software key information)		ProductID	O
License key (Software key information)		LicenseKey	O
Serial No. (Software key information)		SerialNo	O
Notes (Software key information)		Note	O
User property field 128-1 (Software key information)		UserPropertyField128_1	O
User property field 128-2 (Software key information)		UserPropertyField128_2	O
User property field 255-1 (Software key information)		UserPropertyField255_1	O
User property field 255-2 (Software key information)		UserPropertyField255_2	O
User property area-1 (Software key information)		UserPropertyArea_1	O
User property area-2 (Software key information)		UserPropertyArea_2	O
User property code-1 (Software key information)		UserPropertyCode_1	O
User property code-2 (Software key information)		UserPropertyCode_2	O
Software list ID (Software list)	SoftwareList	SoftwareListID	O
Software name (Software list)		SoftwareName	M
Software type (Software list)		SoftwareKind	O
License ID (License information)	LicenseInfo	LicenseID	O
License name (License information)		LicenseName	O
License type (License information)		LicenseType	O

CSV file item name	Class	Property	Specification
Upgrade assurance (License information)	LicenseInfo	UpGrade	O
Downgrade (License information)		DownGrade	O
Licensing method (License information)		PurchaseType	O
License category (License information)		LicenseCategory	O
Description (License information)		Description	O
Notes (License information)		Note	O
User property field 128-1 (License information)		UserPropertyField128_1	O
User property field 128-2 (License information)		UserPropertyField128_2	O
User property field 255-1 (License information)		UserPropertyField255_1	O
User property field 255-2 (License information)		UserPropertyField255_2	O
User property area-1 (License information)		UserPropertyArea_1	O
User property area-2 (License information)		UserPropertyArea_2	O
User property code-1 (License information)		UserPropertyCode_1	O
User property code-2 (License information)		UserPropertyCode_2	O

Legend:

M: Mandatory item during new registration

O: Optional item

14.4.5 Items targeted by the Software list asset type

The following table lists the items that are targeted by the **Software list** asset type.

Table 14–89: Items targeted by the Software list asset type

CSV file item name	Class	Property	Specification
Software list ID (Software list)	SoftwareList	SoftwareListID	O
Software name (Software list)		SoftwareName	M
Developer (Software list)		Developer	O
Software type (Software list)		SoftwareKind	M
Threshold (Software list)		Threshold	O
User property field 128-1 (Software list)		UserPropertyField128_1	O

CSV file item name	Class	Property	Specification
User property field 128-2 (Software list)	SoftwareList	UserPropertyField128_2	O
User property field 255-1 (Software list)		UserPropertyField255_1	O
User property field 255-2 (Software list)		UserPropertyField255_2	O
User property area-1 (Software list)		UserPropertyArea_1	O
User property area-2 (Software list)		UserPropertyArea_2	O
User property code-1 (Software list)		UserPropertyCode_1	O
User property code-2 (Software list)		UserPropertyCode_2	O

Legend:

M: Mandatory item during new registration

O: Optional item

14.4.6 Items targeted by the Group information asset type

The following table lists the items that are targeted by the **Group information** asset type.

Table 14–90: Items targeted by the Group information asset type

CSV file item name	Class	Property	Specification
Group ID (Group information)	GroupInfo	GroupID	M
Upper Group ID (Group information)		UpperLinkID	O
Group name (Group information)		GroupName	M
Group name (English)(Group information)		GroupName_EN	O
Group code (Group information)		GroupCode	O
Cost group code (Group information)		CostPriceCode	O
Managed label (Group information)		ManagedLabel	O
Description (Group information)		Explanation	O
ADGUID (Group information)		AdGuid	O
User property field 128-1 (Group information)		UserPropertyField128_1	O
User property field 128-2 (Group information)		UserPropertyField128_2	O
User property field 255-1 (Group information)		UserPropertyField255_1	O

CSV file item name	Class	Property	Specification
User property field 255-2 (Group information)	GroupInfo	UserPropertyField255_2	O
User property area-1 (Group information)		UserPropertyArea_1	O
User property area-2 (Group information)		UserPropertyArea_2	O
User property code-1 (Group information)		UserPropertyCode_1	O
User property code-2 (Group information)		UserPropertyCode_2	O

Legend:

M: Mandatory item during new registration

O: Optional item

14.4.7 Items targeted by the User information asset type

The following table lists the items that are targeted by the **User information** asset type.

Table 14–91: Items targeted by the User information asset type

CSV file item name	Class	Property	Specification
User ID (User information)	UserInfo	UserID	M
User name (User information)		UserName	M
User name (English)(User information)		UserName_EN	O
Phone (User information)		Telephonenumber	O
E-mail (User information)		Mail	O
Official title (User information)		ExecutiveName	O
Description (User information)		Explanation	O
User property field 128-1 (User information)		UserPropertyField128_1	O
User property field 128-2 (User information)		UserPropertyField128_2	O
User property field 255-1 (User information)		UserPropertyField255_1	O
User property field 255-2 (User information)		UserPropertyField255_2	O
User property area-1 (User information)		UserPropertyArea_1	O
User property area-2 (User information)		UserPropertyArea_2	O
User property code-1 (User information)		UserPropertyCode_1	O

CSV file item name	Class	Property	Specification
User property code-2 (User information)	UserInfo	UserPropertyCode_2	O
Group ID (Group information)	GroupInfo	GroupID	O
Group name (Group information)		FullPathName	O
Role ID (Role information)	RoleInfo	RoleID	O
Role name (Role information)		RoleName	O
Role name (Role information)		RoleName_EN	O
Managed label (Role information)		ManagedLabel	O
Official authority ID (Official authority)	JobRoleInfo	JobRoleID	O
Official authority name (Official authority)		JobRoleName	O

Legend:

M: Mandatory item during new registration

O: Optional item

14.4.8 Items targeted by the Location information asset type

The following table lists the items that are targeted by the **Location information** asset type.

Table 14–92: Items targeted by the Location information asset type

CSV file item name	Class	Property	Specification
Location ID (Location information)	LocationInfo	LocationID	O
Upper location ID (Location information)		UpperLinkID	O
Location (Location information)		LocationName	M
Location name (English)(Location information)		LocationName_EN	O
Contact post address (Location information)		Address	O
Area size (Location information)		AreaSize	O
Attribute (Location information)		Attribute	M
Description (Location information)		Explanation	O
User property field 128-1 (Location information)		UserPropertyField128_1	O
User property field 128-2 (Location information)		UserPropertyField128_2	O
User property field 255-1 (Location information)		UserPropertyField255_1	O

CSV file item name	Class	Property	Specification
User property field 255-2 (Location information)	LocationInfo	UserPropertyField255_2	O
User property area-1 (Location information)		UserPropertyArea_1	O
User property area-2 (Location information)		UserPropertyArea_2	O
User property code-1 (Location information)		UserPropertyCode_1	O
User property code-2 (Location information)		UserPropertyCode_2	O

Legend:

    M: Mandatory item during new registration

    O: Optional item

14.4.9 Items targeted by the Maintenance contract information asset type

The following table lists the items that are targeted by the **Maintenance contract information** asset type.

Table 14–93: Items targeted by the Maintenance contract information asset type

CSV file item name	Class	Property	Specification
Asset ID (Asset information)	AssetInfo	AssetID	O
Asset No. (Asset information)		AssetNo	O
Contract ID (Contract information)	Contract	ContractID	O
Contract No. (Contract information)		ContractNo	M
Frequency (Contract information)		RenewalTimes	O
Category (Contract information)		ContractKind	O
Subject (Contract information)		ContractObject	M
Contract date (Contract information)		ContractDate	M
Contract start date (Contract information)		StartDate	M
Contract end date (Contract information)		EndDate	M
Contracted company (Contract information)		Company	M
Contact post address (Contract information)		Address	O
Contact phone/e-mail (Contract information)		ContactInfo	O
Contact person (Contract information)		ContactName	O

CSV file item name	Class	Property	Specification
Contents (Contract information)	Contract	Contents	O
Total (Contract information)		TotalPrice	O
Monthly (Contract information)		MonthlyPrice	O
Description (Contract information)		Explanation	O
Status (Contract information)		ContractStatus	M
Contact person 2 (Contract information)		ContactName_2	O
Contact phone/e-mail 2 (Contract information)		ContactInfo_2	O
Contact person 3 (Contract information)		ContactName_3	O
Contact phone/e-mail 3 (Contract information)		ContactInfo_3	O
User property field 128-1 (Contract information)		UserPropertyField128_1	O
User property field 128-2 (Contract information)		UserPropertyField128_2	O
User property field 255-1 (Contract information)		UserPropertyField255_1	O
User property field 255-2 (Contract information)		UserPropertyField255_2	O
User property area-1 (Contract information)		UserPropertyArea_1	O
User property area-2 (Contract information)		UserPropertyArea_2	O
User property code-1 (Contract information)		UserPropertyCode_1	O
User property code-2 (Contract information)		UserPropertyCode_2	O
Group name (Group information)	GroupInfo	FullPathName	O

Legend:
   M: Mandatory item during new registration
   O: Optional item

14.4.10 Items targeted by the Rental contract information asset type

The following table lists the items that are targeted by the **Rental contract information** asset type.

Table 14–94: Items targeted by the Rental contract information asset type

CSV file item name	Class	Property	Specification
Asset ID (Asset information)	AssetInfo	AssetID	O
Asset No. (Asset information)		AssetNo	O

CSV file item name	Class	Property	Specification
Contract ID (Contract information)	Contract	ContractID	O
Contract No. (Contract information)		ContractNo	M
Frequency (Contract information)		RenewalTimes	O
Category (Contract information)		ContractKind	O
Subject (Contract information)		ContractObject	M
Contract date (Contract information)		ContractDate	M
Contract start date (Contract information)		StartDate	M
Contract end date (Contract information)		EndDate	M
Contracted company (Contract information)		Company	M
Contact post address (Contract information)		Address	O
Contact phone/e-mail (Contract information)		ContactInfo	O
Contact person (Contract information)		ContactName	O
Contents (Contract information)		Contents	O
Total (Contract information)		TotalPrice	O
Monthly (Contract information)		MonthlyPrice	O
Description (Contract information)		Explanation	O
Status (Contract information)		ContractStatus	M
Contact person 2 (Contract information)		ContactName_2	O
Contact phone/e-mail 2 (Contract information)		ContactInfo_2	O
Contact person 3 (Contract information)		ContactName_3	O
Contact phone/e-mail 3 (Contract information)		ContactInfo_3	O
User property field 128-1 (Contract information)		UserPropertyField128_1	O
User property field 128-2 (Contract information)		UserPropertyField128_2	O
User property field 255-1 (Contract information)		UserPropertyField255_1	O
User property field 255-2 (Contract information)		UserPropertyField255_2	O
User property area-1 (Contract information)		UserPropertyArea_1	O

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CSV file item name	Class	Property	Specification
User property area-2 (Contract information)	Contract	UserPropertyArea_2	O
User property code-1 (Contract information)		UserPropertyCode_1	O
User property code-2 (Contract information)		UserPropertyCode_2	O
Group name (Group information)	GroupInfo	FullPathName	O

Legend:

    M: Mandatory item during new registration

    O: Optional item

14.4.11 Items targeted by the Lease contract information asset type

The following table lists the items that are targeted by the **Lease contract information** asset type.

Table 14–95: Items targeted by the Lease contract information asset type

CSV file item name	Class	Property	Specification
Asset ID (Asset information)	AssetInfo	AssetID	O
Asset No. (Asset information)		AssetNo	O
Contract ID (Contract information)	Contract	ContractID	O
Contract No. (Contract information)		ContractNo	M
Frequency (Contract information)		RenewalTimes	O
Category (Contract information)		ContractKind	O
Subject (Contract information)		ContractObject	M
Contract date (Contract information)		ContractDate	M
Contract start date (Contract information)		StartDate	M
Contract end date (Contract information)		EndDate	M
Contracted company (Contract information)		Company	M
Contact post address (Contract information)		Address	O
Contact phone/e-mail (Contract information)		ContactInfo	O
Contact person (Contract information)		ContactName	O
Contents (Contract information)		Contents	O
Total (Contract information)		TotalPrice	O

CSV file item name	Class	Property	Specification
Monthly (Contract information)	Contract	MonthlyPrice	O
Description (Contract information)		Explanation	O
Status (Contract information)		ContractStatus	M
Contact person 2 (Contract information)		ContactName_2	O
Contact phone/e-mail 2 (Contract information)		ContactInfo_2	O
Contact person 3 (Contract information)		ContactName_3	O
Contact phone/e-mail 3 (Contract information)		ContactInfo_3	O
User property field 128-1 (Contract information)		UserPropertyField128_1	O
User property field 128-2 (Contract information)		UserPropertyField128_2	O
User property field 255-1 (Contract information)		UserPropertyField255_1	O
User property field 255-2 (Contract information)		UserPropertyField255_2	O
User property area-1 (Contract information)		UserPropertyArea_1	O
User property area-2 (Contract information)		UserPropertyArea_2	O
User property code-1 (Contract information)		UserPropertyCode_1	O
User property code-2 (Contract information)		UserPropertyCode_2	O
Group name (Group information)	GroupInfo	FullPathName	O

Legend:

M: Mandatory item during new registration

O: Optional item

14.4.12 Items targeted by the Volume contract information asset type

The following table lists the items that are targeted by the **Volume contract information** asset type.

Table 14–96: Items targeted by the Volume contract information asset type

CSV file item name	Class	Property	Specification
Asset ID (Asset information)	AssetInfo	AssetID	O
Asset No. (Asset information)		AssetNo	O
Contract ID (Volume contract information)	VolumeContract	ContractID	O

CSV file item name	Class	Property	Specification
Contract No. (Volume contract information)	VolumeContract	ContractNo	M
Category (Volume contract information)		ContractKind	O
Software asset (Volume contract information)		ContractObject	O
Target point (Volume contract information)		TargetPoint	O
Contract date (Volume contract information)		ContractDate	O
Contract start date (Volume contract information)		StartDate	O
Contract end date (Volume contract information)		EndDate	O
Contracted company (Volume contract information)		Company	O
Contact post address (Volume contract information)		Address	O
Contact phone/e-mail (Volume contract information)		ContactInfo	O
Contact person (Volume contract information)		ContactName	O
Contents (Volume contract information)		Contents	O
Total (Volume contract information)		TotalPrice	O
Monthly (Volume contract information)		MonthlyPrice	O
Description (Volume contract information)		Explanation	O
Status (Volume contract information)		ContractStatus	M
User property field 128-1 (Volume contract information)		UserPropertyField128_1	O
User property field 128-2 (Volume contract information)		UserPropertyField128_2	O
User property field 255-1 (Volume contract information)		UserPropertyField255_1	O
User property field 255-2 (Volume contract information)		UserPropertyField255_2	O
User property area-1 (Volume contract information)		UserPropertyArea_1	O
User property area-2 (Volume contract information)		UserPropertyArea_2	O
User property code-1 (Volume contract information)		UserPropertyCode_1	O
User property code-2 (Volume contract information)		UserPropertyCode_2	O

CSV file item name	Class	Property	Specification
Group name (Group information)	GroupInfo	FullPathName	O

Legend:

    M: Mandatory item during new registration

    O: Optional item

14.4.13 Items targeted by the IP group information asset type

The following table lists the items that are targeted by the **IP group information** asset type.

Table 14–97: Items targeted by the IP group information asset type

CSV file item name	Class	Property	Specification
IP group ID (IP group information)	AddressGroup	IPGroupID	O
IP group name (IP group information)		IPGroupName	M
Start IP address(IP group information)		StartIPAddress	M
End IP address(IP group information)		EndIPAddress	M
Gateway address (IP group information)		Gateway	O
Subnet mask (IP group information)		SubnetMask	M
DHCP server name (IP group information)		DHCPServerName	O
Purpose (IP group information)		Purpose	O
User ID of administrator (IP group information)		ManagerialUserID	O
Group ID (IP group information)		GroupID	O
Location ID (IP group information)		LocationID	O
User property field 128-1 (IP group information)		UserPropertyField128_1	O
User property field 128-2 (IP group information)		UserPropertyField128_2	O
User property field 255-1 (IP group information)		UserPropertyField255_1	O
User property field 255-2 (IP group information)		UserPropertyField255_2	O
User property area-1 (IP group information)		UserPropertyArea_1	O
User property area-2 (IP group information)		UserPropertyArea_2	O

CSV file item name	Class	Property	Specification
User property code-1 (IP group information)	AddressGroup	UserPropertyCode_1	O
User property code-2 (IP group information)		UserPropertyCode_2	O

Legend:

M: Mandatory item during new registration

O: Optional item

14.4.14 Items targeted by the Device catalog information asset type

The following table lists the items that are targeted by the **Device catalog information** asset type.

Table 14–98: Items targeted by the Device catalog information asset type

CSV file item name	Class	Property	Specification
Catalog ID (Device catalog)	MachineCatalog	CatalogID	O
Device type (Device catalog)		MachineKind	O
Device name (Device catalog)		Name	M
Model (Device catalog)		Model	M
Developer (Device catalog)		Developer	O
Purchase price (Device catalog)		PurchasePrice	O
CPU (Device catalog)		CPUType	O
Processor speed (Device catalog)		CPUClock	O
Number of processors (Device catalog)		CPUNumber	O
Monitor type (Device catalog)		MonitorKind	O
Monitor resolution (Device catalog)		MonitorResolution	O
Monitor size (Device catalog)		MonitorSize	O
Memory (Device catalog)		MemorySize	O
Hard disk sizes (Device catalog)		TotalHDSize	O
Composition (Device catalog)		ModelKind	O
Specification (Device catalog)		Specification	O
Number of ports (Device catalog)		NumberOFPort	O
Line speed (Device catalog)		CircuitSpeed	O
User property field 32-1 (Device catalog)		UserPropertyField32_1	O
User property field 32-2 (Device catalog)		UserPropertyField32_2	O
User property field 32-3 (Device catalog)		UserPropertyField32_3	O

CSV file item name	Class	Property	Specification
User property field 32-4 (Device catalog)	MachineCatalog	UserPropertyField32_4	O
User property field 32-5 (Device catalog)		UserPropertyField32_5	O
User property field 32-6 (Device catalog)		UserPropertyField32_6	O
User property field 32-7 (Device catalog)		UserPropertyField32_7	O
User property field 32-8 (Device catalog)		UserPropertyField32_8	O
User property field 64-1 (Device catalog)		UserPropertyField64_1	O
User property field 64-2 (Device catalog)		UserPropertyField64_2	O
User property field 64-3 (Device catalog)		UserPropertyField64_3	O
User property field 64-4 (Device catalog)		UserPropertyField64_4	O
User property field 64-5 (Device catalog)		UserPropertyField64_5	O
User property field 64-6 (Device catalog)		UserPropertyField64_6	O
User property field 64-7 (Device catalog)		UserPropertyField64_7	O
User property field 64-8 (Device catalog)		UserPropertyField64_8	O
User property field 128-1 (Device catalog)		UserPropertyField128_1	O
User property field 128-2 (Device catalog)		UserPropertyField128_2	O
User property field 128-3 (Device catalog)		UserPropertyField128_3	O
User property field 128-4 (Device catalog)		UserPropertyField128_4	O
User property field 128-5 (Device catalog)		UserPropertyField128_5	O
User property field 128-6 (Device catalog)		UserPropertyField128_6	O
User property field 128-7 (Device catalog)		UserPropertyField128_7	O
User property field 128-8 (Device catalog)		UserPropertyField128_8	O
User property field 255-1 (Device catalog)		UserPropertyField255_1	O

CSV file item name	Class	Property	Specification
User property field 255-2 (Device catalog)	MachineCatalog	UserPropertyField255_2	O
User property field 255-3 (Device catalog)		UserPropertyField255_3	O
User property field 255-4 (Device catalog)		UserPropertyField255_4	O
User property field 255-5 (Device catalog)		UserPropertyField255_5	O
User property field 255-6 (Device catalog)		UserPropertyField255_6	O
User property field 255-7 (Device catalog)		UserPropertyField255_7	O
User property field 255-8 (Device catalog)		UserPropertyField255_8	O
User property area-1 (Device catalog)		UserPropertyArea_1	O
User property area-2 (Device catalog)		UserPropertyArea_2	O
User property area-3 (Device catalog)		UserPropertyArea_3	O
User property area-4 (Device catalog)		UserPropertyArea_4	O
User property code-1 (Device catalog)		UserPropertyCode_1	O
User property code-2 (Device catalog)		UserPropertyCode_2	O
User property code-3 (Device catalog)		UserPropertyCode_3	O
User property code-4 (Device catalog)		UserPropertyCode_4	O
User property code-5 (Device catalog)		UserPropertyCode_5	O
User property code-6 (Device catalog)		UserPropertyCode_6	O
User property code-7 (Device catalog)		UserPropertyCode_7	O
User property code-8 (Device catalog)		UserPropertyCode_8	O
User property code-9 (Device catalog)		UserPropertyCode_9	O
User property code-10 (Device catalog)		UserPropertyCode_10	O
User property code-11 (Device catalog)		UserPropertyCode_11	O
User property code-12 (Device catalog)		UserPropertyCode_12	O
User property date-1 (Device catalog)		UserPropertyDate_1	O
User property date-2 (Device catalog)		UserPropertyDate_2	O
User property date-3 (Device catalog)		UserPropertyDate_3	O
User property date-4 (Device catalog)		UserPropertyDate_4	O
User property date-5 (Device catalog)		UserPropertyDate_5	O
User property date-6 (Device catalog)		UserPropertyDate_6	O
User property unit-1 (Device catalog)		UserPropertyUint_1	O
User property unit-2 (Device catalog)		UserPropertyUint_2	O

CSV file item name	Class	Property	Specif ication
User property unit-3 (Device catalog)	MachineCatalog	UserPropertyUint_3	O
User property unit-4 (Device catalog)		UserPropertyUint_4	O
User property unit-5 (Device catalog)		UserPropertyUint_5	O
User property unit-6 (Device catalog)		UserPropertyUint_6	O

Legend:

M: Mandatory item during new registration

O: Optional item

14.4.15 Items targeted by the Problems asset type

The following table lists the items that are targeted by the **Problems** asset type.

Table 14–99: Items targeted by the Problems asset type

CSV file item name	Class	Property	Specification
Maintenance log ID (Maintenance log)	Maintenance	MaintenanceID	O
Managed No. (Maintenance log)		ManagedNo	M
Asset No. (Maintenance log)		AssetNo	O
Status (Maintenance log)		MaintenanceStatus	M
Registration date (Maintenance log)		MaintenanceDate	M
Overview of problem (Maintenance log)		ObstacleContents	M
Completion date (Maintenance log)		CompletingDate	O
Overview of solution (Maintenance log)		MeasureContents	O
Expense (Maintenance log)		Expense	O
Reference materials (URL) (Maintenance log)		ReferenceData	O
Worker (Maintenance log)		Worker	O
Registrar (Maintenance log)		UserName	M
Event-issuing host (Maintenance log)		EventHost	O
Host where problem occurred (Maintenance log)		MaintenanceHost	O
Importance (Maintenance log)		Importance	O
Event serial number (Maintenance log)		EventNo	O
JP1/IM execute host (Maintenance log)		ExecutionHost	O

CSV file item name	Class	Property	Specification
Notes (Maintenance log)	Maintenance	Note	O
Problem type (Maintenance log)		MaintenanceKind	M
User property field 128-1 (Maintenance log)		UserPropertyField128_1	O
User property field 128-2 (Maintenance log)		UserPropertyField128_2	O
User property field 255-1 (Maintenance log)		UserPropertyField255_1	O
User property field 255-2 (Maintenance log)		UserPropertyField255_2	O
User property area-1 (Maintenance log)		UserPropertyArea_1	O
User property area-2 (Maintenance log)		UserPropertyArea_2	O
User property code-1 (Maintenance log)		UserPropertyCode_1	O
User property code-2 (Maintenance log)		UserPropertyCode_2	O

Legend:

M: Mandatory item during new registration

O: Optional item

14.4.16 Items targeted by the Assigned license information asset type

The following table lists the items that are targeted by the **Assigned license information** asset type.

Table 14–100: Items targeted by the Assigned license information asset type

CSV file item name	Class	Property	Specification
Asset No. (Asset information)	AssetInfo	AssetNo	O
Group name (Asset information)		GroupName	M
Asset ID (Hardware information)	HardwareInfo	AssetID	O
Asset ID (Software information)	SoftwareInfo	AssetID	M
User ID (User information)	UserInfo	UserID	O
User name (User information)		UserName	O
Key ID (Software key information)	SoftwareKeyInfo	KeyID	O
Product ID (Software key information)		ProductID	M
License key (Software key information)		LicenseKey	M
Serial No. (Software key information)		SerialNo	M

Legend:

M: Mandatory item during new registration

O: Optional item

14.4.17 Items targeted by the Patches asset type

The following table lists the items that are targeted by the **Patches** asset type.

Table 14–101: Items targeted by the Patches asset type

CSV file item name	Class	Property	Specification
Asset ID (Asset information)	AssetInfo	AssetID	O
Asset No. (Asset information)		AssetNo	O
Patch ID (Patch name list)	PatchList	PatchID	O
Patch name (Patch name list)		PatchName	O
Patch version (Patch name list)		PatchVersion	O
Applied status (Patch information)	PatchInfo	InstalledStatus	M
Installed date (Patch information)		InstalledDate	O
ITDM2 management information acquisition control (Patch information)		InfoInd	O

Legend:

M: Mandatory item during new registration

O: Optional item

14.4.18 Items targeted by the Virus definition asset type

The following table lists the items that are targeted by the **Virus definition** asset type.

Table 14–102: Items targeted by the Virus definition asset type

CSV file item name	Class	Property	Specification
Asset ID (Asset information)	AssetInfo	AssetID	O
Asset No. (Asset information)		AssetNo	O
Anti-virus product name (Virus definition information)	InstalledVirus DefInfo	VirusDefName	M
Anti-virus product version (Virus definition information)		SoftwareVersion	O
Version of virus detection engine (Virus definition information)		EngineVersion	O
Resident/nonresident (Virus definition information)		ResidentKind	O
Installed date (Virus definition information)		InstalledDate	O
Virus definition version (Virus definition information)		VirusDefVersion	O

CSV file item name	Class	Property	Specification
ITDM2 management information acquisition control (Virus definition information)	InstalledVirus DefInfo	InfoInd	O

Legend:

M: Mandatory item during new registration

O: Optional item

14.4.19 Items targeted by the Related asset information asset type

The following table lists the items that are targeted by the **Related asset information** asset type.

Table 14–103: Items targeted by the Related asset information asset type

CSV file item name	Class	Property	Specification
Parent asset ID (Related asset information)	RelationAssetInfo	ParentAssetID	O
Child asset ID (Related asset information)		ChildAssetID	O
Parent asset number (Related asset information)		ParentAssetNo	O
Child asset number (Related asset information)		ChildAssetNo	O

Legend:

O: Optional item

14.4.20 Items targeted by the Division information asset type

The following table lists the items that are targeted by the **Division information** asset type.

Table 14–104: Items targeted by the Division information asset type

CSV file item name	Class	Property	Specification
Division ID (Division information)	DivisionInfo	DivisionID	O
Group ID (Division information)		GroupID	E
Group name (Division information)		FullPathName	
Division name (Division information)		DivisionName	M
Group ID (Group information)	GroupInfo	GroupID	O
Group name (Group information)		FullPathName	O

Legend:

M: Mandatory item during new registration

E: Either property must be specified during new registration.

O: Optional item

14.4.21 Items targeted by the Assign Divisions asset type

The following table lists the items that are targeted by the **Assign Divisions** asset type.

Table 14–105: Items targeted by the Assign Divisions asset type

CSV file item name	Class	Property	Specification
Division ID (Division information)	DivisionInfo	DivisionID	O
Group ID (Division information)		GroupID	E
Group name (Division information)		FullPathName	
Division name (Division information)		DivisionName	M
User ID (User information)	UserInfo	UserID	O
User name (User information)		UserName	O

Legend:

    M: Mandatory item during new registration

    E: Either property must be specified during new registration.

    O: Optional item

Appendixes

A. Organization of Folders

This appendix describes the organization of the folders for Asset Console and the asset management server's virtual directory.

A.1 Folder organization of Asset Console

The following table describes the organization of the folders that are created when Asset Console is installed.

Table A–1: Organization of the folders for Asset Console

Folder name			Description
Asset-Console-installation-folder (`jp1asset`)	`\aimdb`	--	Folder storing the database
	`\bin`	--	Folder storing DLL files
	`\conf`	--	Folder storing linkage setting files
		`\event`	Folder storing event issuance setup files
		`\imcc`	Folder storing event extended definition files
		`\infoView`	Folder storing automatic authentication setting files
	`\db`	--	Folder storing data files, log files, and other files related to the database
	`\env`	--	Folder storing environment settings information
	`\eur`	--	Folder storing form definition files, user definition files, and option description files
	`\exe`	--	Folder storing executable files
	`\help`	--	Folder storing HTML help files and the files constituting windows
	`\log`	--	Folder storing log files
	`\map`	--	Folder storing table definition information
	`\patch`	--	Folder storing executable files of patches when Asset Console patches are installed
	`\plug-in`	--	Folder storing plug-ins
	`\sample`	--	Folder storing sample files
		`\AD`	Folder storing the sample script for updating the asset management database based on the user organization information of Active Directory, as well as a document summarizing the sample script explanation and usage
	`\scriptbatch`	--	Folder storing the definition files for executing batch processing on the asset information by tasks
	`\scriptwork`	--	Folder storing temporary files and template files for command execution

Folder name				Description
Asset-Console-installation-folder (jp1asset)	\template	--		Folder storing search template files
	\work	--		Work folder

Legend:
    --: Not applicable

A.2 Folder organization of the asset management server's virtual directory

The table below describes the folder organization of the asset management server after it has been installed.

The default virtual directory for the asset management server is *Asset-Console-installation-folder*\wwwroot.

Table A–2: Organization of the folders for the asset management server's virtual directory

Folder name		Description
asset-management-server's-virtual-directory	\bin	Folder storing the executable files of the asset management server
	\csv	Asset management server's work folder
	\data	Folder storing upload files
	\gif	Folder storing image data files
	\log	Folder storing log files
	\script	Folder storing definition files
	\template	Folder storing the template files used for window operation

B. List of Processes

The table below lists the name of each Asset Console process and describes its function. The processes are listed in alphabetical order of the process names. Each process name is followed in parentheses by the number of instances of the process that may execute concurrently, where *n* indicates a positive integer.

Table B–1: Name and function of each process

Process name	Function
jamdbsetup.exe(1)	Process for creating a table space to which a meta table information is to be imported (started at setup)
jamdeur.exe(*n*)	Process used during output of PDF files
jamclasstbl.exe(1)	Process for creating in the database a table area required for the asset management server (started at setup)
jamconvdats.exe(1)	Process used during database conversion
jamexport.exe(*n*)	Process for the export command
jamimport.exe(*n*)	Process for the import command
jamscript.exe(*n*)	Process for manipulating the asset management database, such as search and update operations (also used during task execution and for summing)
jamsetup.exe(*n*)	Process for setting the environment information needed for operation of the asset management server
jamTakeITDM2Info.exe(1)	Process used for acquiring data from JP1/IT Desktop Management 2 - Manager
jamztrbl.exe(1)	Process used for collecting log information (started by the user to acquire log information in the event of an error)

Note

Because Asset Console runs on Microsoft Internet Information Services, the Microsoft Internet Information Services process inetinfo.exe is resident.

C. System Requirements and Estimates

This appendix describes the memory, disk space, and CPU performance required for the asset management server.

C.1 Memory requirements

The following is the amount of memory required to run the asset management server.

- To manage up to 5,000 computers:
  Allocate 1.0 gigabyte or more.
- To manage from 5,001 to 30,000 computers:
  Allocate 8.0 gigabytes or more.

C.2 Disk space requirements

The amount of disk space required to run the asset management system is derived from the total disk space required for the asset management database and for the asset management server.

This appendix provides formulas for estimating the required disk space.

(1) Disk space required for the asset management database

Size of database

= (Σ (*size of information to be used* **x** *number of registered items*) + (*amount of data for license total*) + (*amount of Item data*) + (*amount of definition data*)) **x** 1.4 **x** 1.5

Note

The disk area (containing both management area and operation area) required for database operation is automatically allocated. The size that is automatically allocated depends on the size of the asset management database as shown below.

Table C–1: Disk area required for asset management database operation

Database size	Management area	Operation area
100 (MB)	+ 637 (MB)	+ 81 (MB)
101 to 500 (MB)	+ 1,757 (MB)	+ 404 (MB)
501 more (MB)	+ 7,147 (MB)	+ 404 (MB)

Size of information to be used

The following table provides guidelines for *size of information to be used*.

Table C–2: Size of each information item

Information to be used	Size per item (kilobytes)
Hardware information[#1]	51.4
Software information[#2]	28.2
Device catalog	0.5

Information to be used	Size per item (kilobytes)
Maintenance contract information	1.3
Lease contract information	1.3
Rental contract information	1.3
Company catalog	0.9
Software list	0.4
Installed software list	0.4
Patch list	0.2
IP group information	0.8
IP address control information[#3]	0.3
Location information	1.2
user information	0.8
Group information	1.0
Role information	0.4
Official authority	0.3
Device change log	0.8
Software update log	0.4
Volume contract information	0.8
Maintenance log	2.6

#1

This estimate assumes that the following information is included:

- One asset information item (2.7 kilobytes per item)
- One hardware information item (1.4 kilobytes per item)
- Three network information items (0.6 kilobytes per item)
- 20 transfer log entries (1.2 kilobytes per item)
- 60 installed software information items (0.3 kilobytes per item)
- 10 patch information items (0.1 kilobytes per item)
- One virus definition information item (0.5 kilobytes per item)
- One ITDM2 management information item (2.0 kilobytes per item)

#2

This estimate assumes that the following information is included:

- One asset information item (2.7 kilobytes per item)
- One software information item (0.1 kilobytes per item)
- 50 software key information items (0.5 kilobytes per item)
- One license information item (0.4 kilobytes per item)

#3

As many IP address control information items as the total number of IP addresses available within the address range registered for the IP group information are required.

Note

The size of each information item to be used is based on the following conditions:

- Data is set only for items (including user properties) that can be set by GUI operations or when ITDM2 management information is imported. The average size of the values to be set is assumed to be 30 bytes. If the data size is less than 30 bytes, the size of the managed area is assumed.

- For items that cannot be set by GUI operations or when ITDM2 management information is imported, only the size of the managed area is assumed.

- The asset information and maintenance contract information associate one or more device information items.

Amount of data for license total

= (α + β) **x** *number of times licenses totaled* (kilobytes)

α = *average number of software assets owned by one group* **x** *number of groups* **x** 0.5

β = *average number of software assets that have been installed on a device* **x** *number of devices* **x** 0.5

This formula assumes that one software product requires 0.5 kilobytes of space.

Amount of Item data

= (*size of defined Item* **x** *number of defined Items registered*) + (*amount of data required for Item management* **x** *number of Items requested*)

Size of defined Item: 150.0 kilobytes

Amount of data required for Item management: 4.0 kilobytes

The size of a defined Item shown here is an average over the provided four Item templates. The actual size of a defined Item depends on the numbers of activities and Items that are to be defined.

Amount of definition data

= 30.0 megabytes

The index area requires about 40% of the table size. For details about how to determine the size of the index area, see the DBMS documentation.

To achieve efficient access to the asset management database, a free space of about 50% of the table size is required.

(2) Disk space required for the asset management server

Size required for server

= *size of data obtained as search results* **x** *average number of searches per login* **x** *average number of concurrent logins*

To upload a file as an attached file using a window operation, treat the size of the attached file as part of the disk capacity.

(3) Asset Console installation size

The Asset Console installation size is 180 megabytes.

C.3 CPU performance

The following shows the minimum and recommended CPU performance required to run Asset Console.

- Minimum required
  1-GHz or faster 32-bit processor
  1.4-GHz or faster 64-bit processor

- Recommended performance
  To manage up to 5,000 computers: 1.5-GHz or faster processor
  To manage from 5,001 to 30,001 computers: 3-GHz or faster 4-core processor

D. Section and Key Names for Environment Setup Information

The table below provides the section and key names corresponding to the environment setup information that is specified in the $ENVIRONMENT built-in function (get environment information) in access definition files.

Table D–1: Section and key names corresponding to the environment setup information

Category	Section name	Environment setting	Key name
Database Information	DATABASE	**Login ID**	USER
		Service name	SERVICE_NAME
		Number of concurrent connections	COUNT
		Number of connections for search	LONGTIME_COUNT

		Case sensitivity in LIKE searches
		• **YES:**
		  Case sensitive
		• **NO:**
		  Case insensitive
			SEARCH_CASE_SENSITIVE

Session Information	SERVER	**Communication-less monitoring time**	SESSTION_TIME
		Number of concurrent user logins	COUNT

Basic Information	BASE	**Show PDF button**
		• **YES:**
		  Show
		• **NO:**
		  Hide
			EUR

		Time-out time for PDF file creation	EUR_TIMEOUT
		Number of result lines to display	REFERENCE_NUM

		Show number column
		• **YES:**
		  Show
		• **NO:**
		  Hide
			REFERENCE_FIELD

		Number of search results displayed on a page	REFERENCE_NUMONPAGE
		Trash group ID for deletions	UNDEF_GROUP
		Trash location ID for deletions	UNDEF_LOCATION
		Threshold for license excess	LICENSE_LIMIT

		Automatic login settings
		• **YES:**
		  Show
		• **NO:**
		  Hide
			COMPO_AUTOLOGIN

		Number of days that cookies are effective	COMPO_EXPIRES
		Settings for a group that uses a group-specific IP group • **NO:**	GROUP_AUTO

Category	Section name	Environment setting	Key name
Basic Information	BASE	**Do not set** • **OVERWRITE**: **Set** • **YES:** **To only set a group that has not been set**	GROUP_AUTO
		Settings for a locations that uses a location-specific IP group • **NO:** **Do not set** • **OVERWRITE:** **Set** • **YES:** **To only set a location that has not been set**	LOCATION_AUTO
		Acquisition of DHCP address update log • **YES:** **Acquire** • **NO:** **Do not acquire**	DHCP_HISTORY
		Sort key for the group-specific tree display • **GroupInfo.GroupID:** **Group ID** • **GroupInfo.GroupName:** **Local name** • **GroupInfo.GroupName_EN:** **Group name (English)** • **GroupInfo.FullPathName:** **Group name** • **GroupInfo.UserPropertyField128_1:** **User property field 128-1** • **GroupInfo.UserPropertyField128_2:** **User property field 128-2** • **GroupInfo.UserPropertyField255_1:** **User property field 255-1** • **GroupInfo.UserPropertyField255_2:** **User property field 255-2**	GROUP_ORDERKEY
		Acquisition of contract history • **YES:** **Acquire** • **NO:** **Do not acquire**	CONTRACT_HISTORY
		Display substitute items by default • **YES:** **Show** • **NO:** **Hide**	SURROGATE
		Create new Item from Item outbox • **ENABLE:** **Create** • **DISABLE:**	INCIDENT_COPY

Category	Section name	Environment setting	Key name
Basic Information	BASE	**Do not create**	INCIDENT_COPY

		Status to display in device search windows
		• **USE:**
		   Display only active codes
		• **ALL:**
		   Display all codes
			ASSET_STATUS

		Device log management
		• **YES:**
		   Manage
		• **NO:**
		   Do not manage
			UPDATE_RECORD

		Audit log entry output
		• **0:**
		   Do not output audit log entries
		• **1:**
		   Output audit log entries
			AUDITLOG_LEVEL

		Audit log entry output folder	AUDITLOG_PATH

Mail Notification Information	MAIL	**Notification by e-mail**
		• **YES:**
		   Notify
		• **NO:**
		   Do not notify
			EXPIRATION_NOTICE

		Email notification to Item agents
		• **YES:**
		   Email
		• **NO:**
		   Do not email
			SURROGATE_MAIL_NOTICE

		Address to e-mail	NOTICE_MAILTO
		Sender's e-mail address	NOTICE_MAILFROM

Link with Directory Server	BASE	**Directory server usage**
		• **YES:**
		   Use
		• **CTF:**
		   Use for authentication only
		• **NO:**
		   Do not use
			DIRECTORY

	LDAP	**Encoding**
		• **SHIFT-JIS**
		   Shift JIS
		• **UTF-8**
		   UTF-8
			CHAR_CODESET

		Server name	HOST_NAME
		Port number	PORT_NO
		Access user	ACCESS_UID
		Response monitoring time	TIMELIMIT

Category	Section name	Environment setting	Key name
Link with Directory Server	LDAP	**User information DN**	PEOPLE_DN
		User ID attribute name	USER_ATTR
		User name attribute name	USER_NAME_ATTR
ITDM2 Linkage	ITDM2	**JP1/ITDM2-Manager database login ID**	USER
		Name of the service connecting to the JP1/ITDM2-Manager database	SERVICE_NAME
		Multiplex	MULTIOLICITY

E. Replacing the Asset Management Server and Changing Its Settings

This appendix describes how to replace the asset management server, and how to change its settings. This appendix also describes how to change the database size and rename the host.

Note

Use the following procedure to change the date and time on the asset management server:

1. Obtain a backup of the database in CSV format.

2. Execute `jamemb_dbstop.bat` to stop the database.

3. Change the date and time.

4. Re-create the database.

5. Recover the database from the backup (CSV file).

E.1 Replacing the asset management server

This appendix explains the procedure for replacing the asset management server machine. This procedure can be used also when converting the DBMS during the replacement.

1. On the machine existing before migration, obtain a backup of the asset management database in CSV format.
   For details about how to obtain a backup of the asset management database in CSV format, see *12.1.1 Backing up and restoring the asset management database in CSV format*.

2. Install Asset Console on the conversion-destination machine.
   For the procedure for installing Asset Console, see *5.2.2 Installing Asset Console*.

3. In the Server Setup dialog box, set **Login ID** and **Service name** in **Database Information**.

4. From the Database Manager dialog box, create an asset management database.
   For details about how to create an asset management database, see *5.4 Creating an asset management database*.

5. Copy the uploaded files to the conversion-destination machine.
   For details about the storage destination of the uploaded files, see *12.1.3(1) Backing up uploaded files*.

6. From the Database Manager dialog box, restore the asset management database.
   For details about how to restore the asset management database, see *12.1.1(3) Restoring the asset management database from the Database Manager dialog box*.

E.2 Changing the size of a database

You can change the size of a database by re-creating the asset management database as described below. The following procedure applies when the existing data is inherited to the re-created database. If you do not want to inherit the data after the asset management database is re-created, perform only step 2.

1. Obtain a backup of the asset management database in CSV format.
   For details about how to obtain a backup of the asset management database in CSV format, see *12.1.1 Backing up and restoring the asset management database in CSV format*.

2. Create an asset management database.

   Specify a desired size and create the asset management database. For details about how to create an asset management database, see *5.4.1 How to create an asset management database*.

3. Restore the asset management database.

   Restore the backup file in CSV format that was acquired in step 1. In **Backup folder name**, specify the path to the backup file. For details about how to restore the asset management database, see *12.1.1(3) Restoring the asset management database from the Database Manager dialog box*.

E.3 Renaming the host

This section describes how to rename the host. You can use the same procedure to rename a logical host in a cluster environment.

Note

   Before you rename the host, stop all Asset Console services, commands, and tasks on the asset management server in the following order:

   1. World Wide Web Publishing Service or World Wide Web Publishing

   2. Asset Console commands and tasks

   When you run Asset Console after having changed the host name, start the services in the reverse order of the order in which they were stopped.

1. Stop the database.

   For details about how to stop the database, see *E.4(2) Stopping the database*.

2. Use a text editor to open the `pdsys` file that is stored in *Asset-Console-installation-folder*`\aimdb\conf`.

3. In the `pdsys` file, change *host-name* in `pdunit -x` *host-name* `-u unt1 -d "`*Asset-Console-installation-folder*`\aimdb"`.

   If the above entry is longer than 80 bytes, specify it on multiple lines by adding \ at the end of each line other than the last line so that each line has 80 or fewer bytes. The following shows an example:

```
pdunit -x host-name -u unt1\
-d "Asset-Console-installation-folder\aimdb"
```

4. Use a text editor to open the following files that are stored in *Asset-Console-installation-folder*`\aimdb\emb`:

   - `HiRDB.ini`
   - `reorganization_al.bat`
   - `reorganization_tb.bat`

5. In each file, change *host-name* in `PDHOST=`*host-name*.

6. Rename the OS host.

7. Restart the OS.

E.4 Starting and stopping the database

This appendix describes how to start and stop the database. When executing an Asset Console task in a 64-bit OS, you must execute it using the 32-bit command prompt. For the execution procedure, see *F.2 Notes on executing commands and tasks in a 64-bit OS*.

(1) Starting the database

You can start the database by executing `jamemb_dbstart.bat` as a user with administrator permissions.

The function, format, and return values of `jamemb_dbstart.bat` are explained below.

`jamemb_dbstart.bat` is stored in the following folder:

Asset-Console-installation-folder\exe

(a) Function

Starts the database.

(b) Format

```
jamemb_dbstart.bat
```

(c) Return values

Returns the following return values:

Return value	Description
0	Normal termination
101	Error occurred during processing.

(d) Note on command execution

While the database is being started, executing an import or export command might cause the startup to fail. Wait until the startup is complete, and then execute the import or export command.

(2) Stopping the database

You can stop the database by executing `jamemb_dbstop.bat` as a user with administrator permissions.

The function, format, and return values of `jamemb_dbstop.bat` along with notes on command execution, are explained below.

`jamemb_dbstop.bat` is stored in the following folder:

Asset-Console-installation-folder\exe

(a) Function

Stops the database.

(b) Format

```
jamemb_dbstop.bat
```

(c) Return values

Returns the following return values:

Return value	Description
0	Normal termination
101	Error occurred during processing.

(d) Notes on command execution

Before stopping the database, stop Asset Console services, commands, and tasks on the asset management server in the following order:

1. World Wide Web Publishing Service or World Wide Web Publishing

2. Asset Console commands and tasks

To run Asset Console after having stopped the database by executing `jamemb_dbstop.bat`, start the services in the reverse order of the order in which they were stopped.

F. Notes on Using Asset Console in a 64-bit OS

F.1 Notes on installing Asset Console in a 64-bit OS

When installing Asset Console in a 64-bit OS, you must set up Microsoft Internet Information Services.

(1) Setting up Microsoft Internet Information Services

(a) Using Microsoft Internet Information Services 6.0

When installing Asset Console in Windows Server 2003 (x64), you need settings for running 32-bit applications.

From the command prompt, change the current directory to `%windir%\Inetpub\AdminScripts`, and then execute the following command:

```
cscript.exe adsutil.vbs set W3SVC/AppPools/Enable32BitAppOnWin64 "true"
```

(b) Using Microsoft Internet Information Services 7.0, 7.5, 8.0, or 8.5

To install Asset Console in the 64-bit version of Windows Server 2008 or Windows Server 2012, set **Enable 32-Bit Applications** to **True** in the application pool settings used by the website in which Asset Console's virtual directory is registered. For details about how to set an application pool, see *5.8.2(3) Creating application pools*.

(2) Setting application pools

To install Asset Console in a 64-bit OS, set the application pool for both of the following sites, or create an application pool for the jp1asset site and then apply the settings to the following sites:

- jp1asset site
- Higher-order website above the jp1asset site

If there are higher-order websites, specify the application pool settings for use up to the top website.

Note that the specified settings affect any websites subordinate to the top website. If you find any problems, create the jp1asset site in a separate website.

F.2 Notes on executing commands and tasks in a 64-bit OS

To execute Asset Console commands and tasks in a 64-bit OS, follow the procedure described below.

(1) To execute a batch operation or VBScript

1. Execute the following command:

```
%windir%\syswow64\cmd.exe
```

   The 32-bit mode command prompt appears.

2. At the 32-bit mode command prompt, execute Asset Console's batch operation or VBScript.

(2) To register a task

1. Register the task in the following format:

```
%windir%\syswow64\cmd.exe /c "program-to-be-executed"
```

Specification examples follow:

```
%windir%\syswow64\cmd.exe /c "cscript.exe "C:\Program Files (x86)\HITACHI
\jp1asset\exe\jamSoftwareAddUp.vbs" GENERATION=1"
```

G. Audit Log Output

Asset Console can record the registration, updating, or deletion of data in or from the management information as database traceability records in the audit log file. Because the audit log file does not have a transaction management mechanism, the contents of the audit log do not match the contents of the database. To record the operations performed on the management information to the fullest extent, an audit log is output immediately before the database is accessed. In this way, both completed operations on the management information and attempted operations can be detected.

The information that is output to Asset Console's audit log is explained below.

G.1 Types of events that are output to the audit log

The table below shows the types of events for which audit log data is output and the triggers for Asset Console to output audit log data. A trigger type is an identifier for classifying the events that are output to the audit log.

Table G–1: Types of events that are output to the audit log

Event type	Description	Output trigger for Asset Console
ConfigurationAccess	This event indicates updating of configuration information.	Outputs the records of addition, updating, and deletion in the following operations and job categories: • **Server Setup** • **System Management** 　**Group and User** 　**Search Users** 　**Location** 　**IP Group** 　**Software Name** 　**Installed Software** • **System Management** 　**Role** 　**Customize Managed Items** 　**Customize Job Windows** 　**Customize Job Menu**
Authentication	This event indicates that authentication failed or succeeded.	Outputs the records of login to or logout from Asset Console.
ContentAccess	This event indicates that the asset information managed by Asset Console was accessed.	Outputs the records of addition, updating, and deletion in the following job categories: • **Device Management** 　**Device Totals** 　**Device List** 　**Unused Device List** 　**New Device** 　**Batch Update** 　**Totals of Stocktaking-Unexecuted Devices** 　**Device Change Log** • **Software License** 　**Owned License List** 　**Excess License List** 　**Unauthorized Usage List** 　**Unknown Usage List**

Event type	Description	Output trigger for Asset Console
ContentAccess	This event indicates that the asset information managed by Asset Console was accessed.	**New Software** **Software List** **Transfer License** **New Volume License** **Volume License List** **Update History**

G.2 Audit log storage format

This appendix explains the format used to store audit log data.

Audit log data is output to ASTAUDIT0n.LOG. When the size of this log file reaches 1 megabyte, 1 is added to the ending number of the file name and audit log data is output to this new file. In other words, when ASTAUDIT01.LOG reaches the specified size and must be switched, log data is written to ASTAUDIT02.LOG. When ASTAUDIT02.LOG reaches the specified size, log data is written to ASTAUDIT03.LOG.

A maximum of nine generations of log files can be used. When ASTAUDIT09.LOG reaches the specified size, ASTAUDIT01.LOG is initialized and log data is written to it. When ASTAUDIT01.LOG reaches the specified size, ASTAUDIT02.LOG is initialized and log data is written to it.

G.3 Audit log output format

This appendix explains the output format and output destination of audit log data, and the items that are output in the auditlog. This appendix also provides an audit log output example.

(1) Audit log data output format

Each audit log entry begins with CALFHM, which indicates the audit log format, followed by an audit log revision number and the applicable output item.

The following figure shows the format of each audit log entry.

Figure G–1: Auditlog data output format

```
CALFHM X.X, output-item-1=value-1, output-item-2＝value-2, ..., output-item-n=value-n
```

(2) Audit log data output destination

Audit log data is output to the folder that was specified for **Audit log entry output folder** in the Server Setup dialog box. The default folder is the following:

Asset-Console-installation-folder\auditlog

For details about how to specify the audit log data output destination in the Server Setup dialog box, see the explanation of the audit log entry output folder in *5.3.4 Setting Basic Information*.

(3) Items output in the audit log

There are two types of items that are output in the audit log: *common output items* and *fixed output items*. Each type is explained below.

- Common output items

  These are common items that are output for all JP1 products for which audit log data is output.

- Fixed output items

  These items are output individually for each JP1 product for which audit log data is output.

(a) Common output items

The following table shows the values that are output for the common output items and their description.

Table G–2: Common output items in the audit log

No.	Output item		Value	Description
	Item name	Output attribute name		
1	Common specification identifier	--	CALFHM	Identifier that indicates the audit log format
2	Common specification revision number	--	$X.X$	Revision number for managing the audit log
3	Sequence number	seqnum	Sequence number	Audit log sequence number
4	Message ID	msgid	KDAM*xxxx-x*	Message ID for each product
5	Date/time	date	*YYYY-MM-DD*T*hh:mm:ss.sssTZD*[#]	Audit log acquisition date/time and time zone
6	Generated program name	progid	JP1ITDM2	Name of the program in which the event occurred
7	Generated component name	compid	- ac-stu Server setup component - ac-w3c Asset Console's job component that is executed on IIS by a browser or other product-related program	Name of the component in which the event occurred
8	Generated process ID	pid	Process ID	ID of the process in which the event occurred
9	Generated location	ocp:host	Host name	Name of the host in which the event occurred If the host name cannot be acquired, no value is displayed.
10	Event type	ctgry	- ConfigurationAccess - Authentication - ContentAccess	Identifiers for classifying the events that are output to the audit log
11	Event result	result	- Success Success - Failure Failure - Occurrence	Result of the event that occurred

No.	Output item		Value	Description
	Item name	Output attribute name		
11	Event result	result	Occurrence of an event that does not have success or failure classification	Result of the event that occurred
12	Subject identification information	subj:euid	Windows account	Information about the user who caused the event
		subj:uid	Asset Console user ID	

Legend:

--: Attribute name is not output.

#

YYYY indicates the year; *MM*, the month; *DD*, the day; *hh*, the hour; *mm*, the minute; *ss*, the second; and *sss*, the millisecond.

T separates the date from the time.

TZD is the time zone identifier. One of the following is output:

+*hh*:*mm*: Indicates that the local time is ahead of GMT by *hh*:*mm*.

−*hh*:*mm*: Indicates that the local time is behind GMT by *hh*:*mm*.

Z: Indicates that the local time is the same as GMT.

(b) Fixed output items

The following table shows the values that are output for the fixed output items and their description.

Table G–3: Fixed output items in the audit log

No.	Output item		Value	Description
	Item name	Output attribute name		
1	Object information	obj	- acJOB Setup (batch system) - acAuth Authentication (login) - acClass Asset Console's job processing	Information about the file or database that caused the event
2	Action information	op#	- Login Login - Logout Logout - Add Addition - Update Update - Delete Deletion	Information about the user operation that caused the event
3	Table name	obj:table#	- Device - Software - Group - User - Location - Software name - License name	Managed class name

No.	Output item		Value	Description
	Item name	Output attribute name		
3	Table name	`obj:table`[#]	• `Installed software name` • `Role` • `Managed item` • `Customize Job Windows` • `Customize Job Menu`	Managed class name
4	Free description	`msg`[#]	Arbitrary message	Message indicating the event contents

\#

For details about the messages that are output and the related items that are set in correspondence to these messages, see *G.4 Audit log messages and related output items*.

(4) Audit log output example

The following example shows the audit log output when a user logs in to Asset Console and executes server setup.

The following operations are executed in this case:

1. Executing server setup.

2. Logging in to Asset Console.

3. Registering device information.

4. Logging out of Asset Console.

The following figure shows an example of the audit log output.

Figure G–2: Exampleof audit log output

G.4 Audit log messages and related output items

The following table shows the messages that are output to the audit log and the related items that are set in correspondence to these messages.

Table G–4: Audit log messages and related output items

Message	Related output item				Remarks
	ctgry	result	op	obj:table	
Setup was executed.	ConfigurationAccess	Occurrence	Update	N/A	Setup dialog box
Logged in.	Authentication	Success	Login	N/A	Login
Login failed.	Authentication	Failure	Login	N/A	Login
Logged out.	Authentication	Success	Logout	N/A	Logout
Registration was successful. (AssetInfo.AssetNo)	ContentAccess	Success	Add	Device	**New Device**
Updating was successful. (AssetInfo.AssetNo)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Device** tab
The network was added. (AssetInfo.AssetNo;NetworkInfo.NetworkID;NetworkInfo.IPAddress;NetworkInfo.NodeName)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Network** tab
The installed software was added. (AssetInfo.AssetNo;InstalledList.InstalledID;InstalledList.InstalledName)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Software** tab
The patch was added. (AssetInfo.AssetNo;PatchInfo.PatchID;PatchList.PatchName;PatchInfo.InstalledStatus)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Patch** tab
The anti-virus software was added. (AssetInfo.AssetNo;InstalledVirusDefInfo.VirusDefName)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Anti-Virus** tab
A related device was added. (AssetInfo.AssetNo)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Related Devices** tab
The subject of a contract was registered. (AssetInfo.AssetNo;Contract.ContractNo)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Contract** tab
The maintenance log was registered. (AssetInfo.AssetNo;Maintenance.ManagedNo)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Maintenance** tab
The network was deleted. (AssetInfo.AssetNo;NetworkInfo.NetworkID;NetworkInfo.IPAddress;NetworkInfo.NodeName)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Network** tab
	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Network** tab ➡ Network Details dialog box
The network was updated. (AssetInfo.AssetNo;NetworkInfo.NetworkID;NetworkInfo.IPAddress;NetworkInfo.NodeName)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Network** tab ➡ Network Details dialog box
The installed software was deleted. (AssetInfo.AssetNo;InstalledList.InstalledID;InstalledList.InstalledName)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Software** tab

Message	Related output item				Remarks
	ctgry	result	op	obj:table	
The installed software was updated. (AssetInfo.AssetNo;InstalledList.InstalledID;InstalledList.InstalledName)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Software** tab ➡ Installed Software dialog box
The patch was deleted. (AssetInfo.AssetNo;PatchInfo.PatchID;PatchList.PatchName;PatchInfo.InstalledStatus)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Patch** tab
The anti-virus software was deleted. (AssetInfo.AssetNo;InstalledVirusDefInfo.VirusDefName)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Anti-Virus** tab
The related device was removed. (AssetInfo.AssetNo)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Related Devices** tab
The subject of a contract was removed. (AssetInfo.AssetNo;Contract.ContractNo)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Contract** tab
The maintenance log was updated. (AssetInfo.AssetNo;Maintenance.ManagedNo)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ Maintenance Log Details dialog box ➡ Edit Maintenance Log dialog box
The maintenance log was deleted. (AssetInfo.AssetNo;Maintenance.ManagedNo)	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Maintenance** tab
	ContentAccess	Success	Update	Device	Device Details dialog box ➡ **Maintenance** tab ➡ Maintenance Log Details dialog box
Updating via a batch change operation was successful. (AssetInfo.AssetNo)	ContentAccess	Success	Update	Device	Batch Update ➡ Set Changes dialog box
Deletion was successful. (AssetInfo.AssetNo)	ContentAccess	Success	Delete	Device	Device Details dialog box ➡ **Device** tab
Registration was successful. (AssetInfo.AssetNo;SoftwareList.SoftwareName)	ContentAccess	Success	Add	Software	**New Software**
The license was assigned. (AssetInfo.AssetNo;SoftwareList.SoftwareName)	ContentAccess	Success	Update	Software	Device Details dialog box ➡ **License** tab ➡ Assign License dialog box
Updating was successful. (AssetInfo.AssetNo;SoftwareList.SoftwareName)	ContentAccess	Success	Update	Software	Software Details dialog box ➡ **Asset** tab
					Software Details dialog box ➡ **Key** tab ➡ Add License Key dialog box
					Software Details dialog box ➡ **Key** tab ➡ Key Details dialog box

Message	Related output item				Remarks
	ctgry	result	op	obj:table	
Updating was successful. (AssetInfo.AssetNo;SoftwareList.SoftwareName)	ContentAccess	Success	Update	Software	Software Details dialog box ➡ **Key** tab
The license was transferred. (AssetInfo.AssetNo;SoftwareList.SoftwareName)	ContentAccess	Success	Update	Software	**Transfer License** ➡ Set Destination dialog box ➡ **Destination Group** tab
					Transfer License ➡ Set Destination dialog box ➡ **Transfer Key** tab
The volume contract was registered. (VolumeContract.ContractNo)	ContentAccess	Success	Update	Software	**New Volume License**
The volume contract was deleted. (VolumeContract.ContractNo)	ContentAccess	Success	Update	Software	**Volume License List**
					Volume License Details dialog box ➡ **Contract** tab
The volume contract was updated. (VolumeContract.ContractNo)	ContentAccess	Success	Update	Software	Volume License Details dialog box ➡ **Contract** tab
					Volume License Details dialog box ➡ **Software** tab
The license was removed. (AssetInfo.AssetNo;SoftwareList.SoftwareName)	ContentAccess	Success	Update	Software	Device Details dialog box ➡ **License** tab
Deletion was successful. (AssetInfo.AssetNo;SoftwareList.SoftwareName)	ContentAccess	Success	Delete	Software	**Software List**
Registration was successful. (GroupInfo.GroupID;GroupInfo.FullPathName)	ConfigurationAccess	Success	Add	Group	**Group and User** ➡ Add Group dialog box
Updating was successful. (GroupInfo.GroupID;GroupInfo.FullPathName)	ConfigurationAccess	Success	Update	Group	**Group and User** ➡ Browse Groups dialog box
					Group and User ➡ Group Details dialog box
					Group and User ➡ Group Details dialog box ➡ **Division** tab ➡ Register Division dialog box
					Group and User ➡ Group Details dialog box ➡ **Division** tab ➡ Refresh Division dialog box

Message	Related output item				Remarks
	ctgry	result	op	obj:table	
Updating was successful. (GroupInfo.GroupID;GroupInfo.Full PathName)	ConfigurationAccess	Success	Update	Group	**Group and User** ➡ Group Details dialog box ➡ **Division** tab
					Group and User ➡ Group Details dialog box ➡ **Division** tab ➡ Assign Division dialog box
Deletion was successful. (GroupInfo.GroupID;GroupInfo.Full PathName)	ConfigurationAccess	Success	Delete	Group	**Group and User**
					Group and User ➡ Group Details dialog box
Registration was successful. (UserInfo.UserID;UserInfo.UserNam e)	ConfigurationAccess	Success	Add	User	**Group and User**
Updating was successful. (UserInfo.UserID;UserInfo.UserNam e)	ConfigurationAccess	Success	Update	User	**Group and User** ➡ Browse Groups dialog box
					Group and User ➡ User Details dialog box
Deletion was successful. (UserInfo.UserID;UserInfo.UserNam e)	ConfigurationAccess	Success	Delete	User	**Group and User**
					Group and User ➡ User Details dialog box
Registration was successful. (LocationInfo.LocationID;LocationIn fo.FullPathName)	ConfigurationAccess	Success	Add	Location	**Location** ➡ Add Location dialog box
Updating was successful. (LocationInfo.LocationID;LocationIn fo.FullPathName)	ConfigurationAccess	Success	Update	Location	**Location** ➡ Browse Locations dialog box
					Location ➡ Location Details dialog box
Deletion was successful. (LocationInfo.LocationID;LocationIn fo.FullPathName)	ConfigurationAccess	Success	Delete	Location	**Location**
					Location ➡ Location Details dialog box
Registration was successful. (SoftwareList.SoftwareListID;Softwa reList.SoftwareName)	ConfigurationAccess	Success	Add	Software name	**New Software** ➡ Browse Software dialog box ➡ Add Software dialog box
					Software Name Details ➡ Add Software dialog box
Updating was successful. (SoftwareList.SoftwareListID;Softwa reList.SoftwareName)	ConfigurationAccess	Success	Update	Software name	**Software Name** Details ➡ Integrate Software dialog box
					Software Name ➡ Software Name Details dialog box

Message	Related output item				Remarks
	ctgry	result	op	obj:table	
Updating was successful. (SoftwareList.SoftwareListID;SoftwareList.SoftwareName)	ConfigurationAccess	Success	Update	Software name	**Software Name** ➡ Software Name Details dialog box ➡ **Assign** tab ➡ Add Installed Software dialog box
					Software Name ➡ Software Name Details dialog box ➡ **Assign** tab
					Software Name ➡ Software Name Details dialog box ➡ **License** tab ➡ Add License dialog box
					Software Name ➡ Software Name Details dialog box ➡ **License** tab
					Software Name ➡ Software Name Details dialog box ➡ **Downgrade** tab ➡ Browse Software dialog box
					Software Name ➡ Software Name Details dialog box ➡ **Downgrade** tab
					New Software ➡ Browse License dialog box ➡ Add License dialog box
					License Information Details dialog box
Deletion was successful. (SoftwareList.SoftwareListID;SoftwareList.SoftwareName)	ConfigurationAccess	Success	Delete	Software name	**Software Name**
Registration was successful. (SoftwareList.SoftwareListID;SoftwareList.SoftwareName;LicenseInfo.LicenseID;LicenseInfo.LicenseName)	ConfigurationAccess	Success	Add	License name	**New Software** ➡ Browse License dialog box ➡ Add License dialog box
					Software Name Details dialog box ➡ **License** tab ➡ Add License dialog box
Updating was successful. (SoftwareList.SoftwareListID;SoftwareList.SoftwareName;LicenseInfo.LicenseID;LicenseInfo.LicenseName)	ConfigurationAccess	Success	Update	License name	License Information Details dialog box

Message	Related output item				Remarks
	ctgry	result	op	obj:table	
Deletion was successful. (SoftwareList.SoftwareListID;SoftwareList.SoftwareName;LicenseInfo.LicenseID;LicenseInfo.LicenseName)	ConfigurationAccess	Success	Delete	License name	License Information Details dialog box
					Software Name Details dialog box ➡ **License** tab
Updating was successful. (InstalledList.InstalledID;InstalledList.InstalledName)	ConfigurationAccess	Success	Update	Installed software name	**Installed Software** ➡ Batch Update dialog box
					Installed Software ➡ Installed Software Details dialog box
Deletion was successful. (InstalledList.InstalledID;InstalledList.InstalledName)	ConfigurationAccess	Success	Delete	Installed software name	**Installed Software**
Registration was successful. (RoleInfo.RoleID;RoleInfo.RoleName)	ConfigurationAccess	Success	Add	Role	**Role** ➡ Add Role dialog box
Updating was successful. (RoleInfo.RoleID;RoleInfo.RoleName)	ConfigurationAccess	Success	Update	Role	**Role** ➡ Role Details dialog box
Deletion was successful. (RoleInfo.RoleID;RoleInfo.RoleName)	ConfigurationAccess	Success	Delete	Role	**Role** ➡ Role Details dialog box
Updating was successful. (Class name)	ConfigurationAccess	Success	Update	Managed item	**Customize Managed Items**
Initialization was successful.	ConfigurationAccess	Success	Update	Customize Job Windows	**Customize Job Windows**
Updating was successful. (Window name)	ConfigurationAccess	Success	Update	Customize Job Windows	**Customize Job Windows** ➡ Edit of Window name dialog box
Updating was successful.	ConfigurationAccess	Success	Update	Customize Job Menu	**Customize Job Menu**

Legend:

  N/A: Not applicable

#

  Values are output inside the parentheses.

Note

  Even when registration to or updating of the asset management server fails, a `Success` audit log is output as an event indicating that an operation was performed.

G.5 Settings for outputting audit log data

To specify the settings for outputting audit log data, use the Server Setup dialog box. For details, see *Audit log entry output* and *Audit log entry output folder* under *5.3.4 Setting Basic Information*.

H. Reference Material for This Manual

H.1 Related publications

This manual is part of a related set of manuals. The manuals in the set are listed below (with the manual numbers):

- *Job Management Partner 1 Version 10 Job Management Partner 1/IT Desktop Management 2 Asset Console Description* (3021-3-375(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/IT Desktop Management 2 - Asset Console Administration Guide* (3021-3-377(E))

Note that, in this manual, the titles of the above manuals are indicated with the abbreviated form, in which *Job Management Partner 1 Version 10 Job Management Partner 1/IT Desktop Management 2 - Asset Console* is omitted. When you encounter abbreviated manual titles, replace them with the complete titles, adding the omitted part.

To learn about collecting information from JP1/IT Desktop Management 2 - Manager, see the following manuals:

- *Job Management Partner 1 Version 10 Job Management Partner 1/IT Desktop Management 2 Overview and System Design Guide* (3021-3-368(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/IT Desktop Management 2 Configuration Guide* (3021-3-369(E))

To learn about the functions that are necessary to manage problems that occurred in the asset management system based on JP1 events, see the following manuals:

- *Job Management Partner 1 Version 10 Job Management Partner 1/Base User's Guide* (3021-3-301(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager Overview and System Design Guide* (3021-3-305(E))
- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Manager GUI Reference* (3021-3-308(E))

To learn about the functions that are necessary to display the asset information about the devices related to a specific Item, see the following manual:

- *Job Management Partner 1 Version 10 Job Management Partner 1/Integrated Management - Service Support Configuration and Administration Guide* (3021-3-364(E))

To learn about messages output from the database, see the following manual:

- *HiRDB Version 8 Messages* (3020-6-358(E))

H.2 Conventions: Abbreviations for product names

Windows 8 and Windows Server 2012 do not have a Start menu. To select menu items, use the Start screen, which is displayed by clicking the start button at the lower left corner of the screen.

This manual uses the following abbreviations for product names:

Abbreviation	Full name or meaning
ActiveX	ActiveX(R)
Asset Console or AC	Job Management Partner 1/IT Desktop Management 2 - Asset Console
EUR	uCosminexus EUR: EUR Server Enterprise 09-00 or later
JP1/Base	Job Management Partner 1/Base 10-00 or later
JP1/IM	Job Management Partner 1/Integrated Management - Manager
	Job Management Partner 1/Integrated Management - Rule Operation
	Job Management Partner 1/Integrated Management - View
	Job Management Partner 1/Integrated Manager - Central Console
	Job Management Partner 1/Integrated Manager - Central Scope
	Job Management Partner 1/Integrated Manager - View
JP1/IM - Manager	Job Management Partner 1/Integrated Management - Manager
	Job Management Partner 1/Integrated Manager - Central Console
JP1/IM - Service Support	Job Management Partner 1/Integrated Management - Service Support 10-00 or later
Linux	Linux(R)
Pentium	Pentium(R)

This manual uses the following abbreviations for Microsoft product names:

Abbreviation		Full name or meaning
MBSA		Microsoft(R) Baseline Security Analyzer
Microsoft Internet Information Services or IIS		Microsoft(R) Internet Information Services 6.0
		Microsoft(R) Internet Information Services 7.0
		Microsoft(R) Internet Information Services 7.5
		Microsoft(R) Internet Information Services 8.0
		Microsoft(R) Internet Information Services 8.5
Microsoft Windows Script Host		Microsoft(R) Windows(R) Script Host
Windows 7[#1]	Windows 7 Enterprise	Microsoft(R) Windows(R) 7 Enterprise
	Windows 7 Home Premium	Microsoft(R) Windows(R) 7 Home Premium
	Windows 7 Professional	Microsoft(R) Windows(R) 7 Professional
	Windows 7 Starter	Microsoft(R) Windows(R) 7 Starter
	Windows 7 Ultimate	Microsoft(R) Windows(R) 7 Ultimate
Windows 8[#1]	Windows 8	Windows(R) 8
	Windows 8 Enterprise	Windows(R) 8 Enterprise
	Windows 8 Pro	Windows(R) 8 Pro
Windows 8.1[#1]	Windows 8.1	Windows(R) 8.1
	Windows 8.1 Enterprise	Windows(R) 8.1 Enterprise

Abbreviation			Full name or meaning
Windows 8.1[#1]	Windows 8.1 Pro		Windows(R) 8.1 Pro
Windows Internet Explorer			Windows(R) Internet Explorer(R) 7
			Windows(R) Internet Explorer(R) 8
			Windows(R) Internet Explorer(R) 9
			Windows(R) Internet Explorer(R) 10
			Windows(R) Internet Explorer(R) 11
Windows Server 2003[#1]	Windows Server 2003 (x86)		Microsoft(R) Windows Server(R) 2003 R2, Enterprise Edition
			Microsoft(R) Windows Server(R) 2003, Enterprise Edition
			Microsoft(R) Windows Server(R) 2003 R2, Standard Edition
			Microsoft(R) Windows Server(R) 2003, Standard Edition
	Windows Server 2003 (x64)		Microsoft(R) Windows Server(R) 2003 R2, Enterprise x64 Edition
			Microsoft(R) Windows Server(R) 2003 R2, Standard x64 Edition
			Microsoft(R) Windows Server(R) 2003, Enterprise x64 Edition
			Microsoft(R) Windows Server(R) 2003, Standard x64 Edition
Windows Server 2008[#1#2]	Windows Server 2008 Datacenter		Microsoft(R) Windows Server(R) 2008 R2 Datacenter
	Windows Server 2008 Enterprise		Microsoft(R) Windows Server(R) 2008 R2 Enterprise
			Microsoft(R) Windows Server(R) 2008 Enterprise
			Microsoft(R) Windows Server(R) 2008 Enterprise without Hyper-V(R)
	Windows Server 2008 Standard		Microsoft(R) Windows Server(R) 2008 R2 Standard
			Microsoft(R) Windows Server(R) 2008 Standard
			Microsoft(R) Windows Server(R) 2008 Standard without Hyper-V(R)
Windows Server 2012[#1#3]	Windows Server 2012[#3]	Windows Server 2012 Datacenter	Microsoft(R) Windows Server(R) 2012 Datacenter
		Windows Server 2012 Standard	Microsoft(R) Windows Server(R) 2012 Standard
	Windows Server 2012 R2		Microsoft(R) Windows Server(R) 2012 R2 Datacenter
			Microsoft(R) Windows Server(R) 2012 R2 Standard
Windows Vista[#1]			Microsoft(R) Windows Vista(R) Business
			Microsoft(R) Windows Vista(R) Enterprise
			Microsoft(R) Windows Vista(R) Home Basic
			Microsoft(R) Windows Vista(R) Home Premium
			Microsoft(R) Windows Vista(R) Ultimate
Windows XP[#1]			Microsoft(R) Windows(R) XP Home Edition Operating System
			Microsoft(R) Windows(R) XP Professional Operating System

#1

If there are no functional difference between OSs, *Windows* is used generically, referring to Windows 7, Windows 8, Windows 8.1, Windows Server 2003, Windows Server 2008, Windows Server 2012, Windows Vista, and Windows XP.

#2
Does not include installations that include the Server Core option.

#3
If Windows Server 2012 R2 is noted alongside Windows Server 2012, the description for Windows Server 2012 does not apply to Windows Server 2012 R2.

H.3 Conventions: Acronyms

This manual also uses the following acronyms:

Acronyms	Full name or meaning
AMD	Advanced Micro Devices
API	Application Programming Interface
ASP	Active Server Pages
BIOS	Basic Input/Output System
CD	Compact Disc
CD-R	Compact Disc Recordable
CD-R/W	Compact Disc Read/Write
CN	Common Name
CPU	Central Processing Unit
CSV	Comma Separated Value
DAT	Digital Audio Tape
DBMS	Data Base Management System
DC	Domain Component
DHCP	Dynamic Host Configuration Protocol
DLL	Dynamic Linking Library
DN	Distinguished Name
DVD	Digital Versatile Disk
FAQ	Frequently Asked Question
FD	Floppy Disk
GUI	Graphical User Interface
HD	Hard Disk
HTML	Hyper Text Markup Language
HTTP	Hyper Text Transfer Protocol
ID	Identification
IP	Internet Protocol
ISAPI	Internet Server Application Programming Interface
IT	Information Technology

Acronyms	Full name or meaning
ITU	International Telecommunication Union
JIS	Japanese Industrial Standards
LDAP	Lightweight Directory Access Protocol
MAC	Media Access Control
MIB	Management Information Base
MIME	Multipurpose Internet Mail Extensions
MO	Magneto-Optical disk
ODBC	Open Data Base Connectivity
OS	Operating System
OU	Organization Unit
PC	Personal Computer
PDF	Portable Document Format
RDB	Relational Database
SID	System ID
SMTP	Simple Mail Transfer Protocol
SNMP	Simple Network Management Protocol
SP	Service Pack
SSL	Secure Socket Layer
TCP/IP	Transmission Control Protocol/Internet Protocol
URL	Uniform Resource Locator
USB	Universal Serial Bus
UTF	UCS Transformation Format
WS	Work Station
WWW	World Wide Web
XML	eXtensible Markup Language

H.4 Conventions: Fonts and symbols

The following table explains the text formatting conventions used in this manual:

Font	Convention
Bold	Bold characters indicate text in a window, other than the window title. Such text includes menus, menu options, buttons, radio box options, or explanatory labels. For example: • From the **File** menu, choose **Open**. • Click the **Cancel** button. • In the **Enter name** entry box, type your name.
Italic	Italic characters indicate a placeholder for some actual text to be provided by the user or system. For example:

Font	Convention

Italic	• Write the command as follows:
	  copy *source-file target-file*
	• The following message appears:
	  A file was not found. (file = *file-name*)
	Italic characters are also used for emphasis. For example:
	• Do *not* delete the configuration file.

Monospace	Monospace characters indicate text that the user enters without change, or text (such as messages) output by the system. For example: • At the prompt, enter dir. • Use the send command to send mail. • The following message is displayed: The password is incorrect.

The following table explains the symbols used in this manual:

Symbol	Convention
|	In syntax explanations, a vertical bar separates multiple items, and has the meaning of OR. For example: A|B|C means A, or B, or C.
{ }	In syntax explanations, curly brackets indicate that only one of the enclosed items is to be selected. For example: {A|B|C} means only one of A, or B, or C.
[ ]	In syntax explanations, square brackets indicate that the enclosed item or items are optional. For example: [A] means that you can specify A or nothing. [B|C] means that you can specify B, or C, or nothing.
...	In coding, an ellipsis (...) indicates that one or more lines of coding are not shown for purposes of brevity. In syntax explanations, an ellipsis indicates that the immediately preceding item can be repeated as many times as necessary. For example: A, B, B, ... means that, after you specify A, B, you can specify B as many times as necessary.

Conventions for permitted characters

In most cases, only the following characters are permitted as syntax elements (if other characters are permitted, the manual will state this explicitly):

Type	Definition
Alphabetic characters	A to Z, a to z
Upper-case alphabetic characters	A to Z
Lower-case alphabetic characters	a to z
Numeric characters	0 to 9
Alphanumeric characters	A to Z, a to z, 0 to 9
Symbols	! " # $ % & ' ( ) * + , - . / : ; < = > @ [\ ] ^ ` _ { | } ~ ? space

H.5 Conventions: Version numbers

The version numbers of Hitachi program products are usually written as two sets of two digits each, separated by a hyphen. For example:

- Version 1.00 (or 1.0) is written as 01-00.
- Version 2.05 is written as 02-05.
- Version 2.50 (or 2.5) is written as 02-50.
- Version 12.25 is written as 12-25.

The version number might be shown on the spine of a manual as *Ver. 2.00,* but the same version number would be written in the program as *02-00*.

H.6 About online help

JP1/IT Desktop Management 2 provides online help in relation to the following subjects:

How to use products

This help provides operation examples for products, instructions on how to use the product's functions, and troubleshooting procedures. You can view these help topics by selecting **IT Desktop Management 2 Help** from the **Help** menu in the JP1/IT Desktop Management 2 user interface.

Window descriptions

This help describes how to use the screen that is currently displayed. You can view these help topics by clicking the **Help** button in the user interface.

Job Management Partner 1/IT Desktop Management 2 - Asset Console Creating an Access Definition File Guide (`assetscr.chm`)

Describes how to use scripts of JP1/IT Desktop Management 2 - Asset Console to add your own original processes. The Help file is stored in the following folder:

JP1/IT Desktop Management 2 - Asset Console-installation-folder`\help`

H.7 Conventions: KB, MB, GB, and TB

This manual uses the following conventions:

- 1 KB (kilobyte) is 1,024 bytes.
- 1 MB (megabyte) is $1,024^2$ bytes.
- 1 GB (gigabyte) is $1,024^3$ bytes.
- 1 TB (terabyte) is $1,024^4$ bytes.

I. Glossary

access permission

Restrictions set for some of the asset information managed in an asset management system so that the users who can access the information are limited. Examples of such information are information about tax returns or maintenance contract fees.

Access permissions that can be set in an asset management system include restrictions on the following:

- User authentication based on user ID and password
- Availability of the system by user role
- Role-based limitations on the functionality that can be executed from windows
- Role-based limitations on the menus

accessory (device type)

A type of hardware asset, including **Monitor**, **Hard disk**, **CD-R**, **CD-R/W**, **DVD**, **DAT**, **MO**, **Printer**, **Peripheral Device**, **USB Device**, and **Storage**. In the asset management system, hardware is classified into three device types: computing, accessories, and networking.

Active Directory services

Windows main component that manages information on objects comprising a Windows network environment and the relationships between these objects. The following generic names also exist:

- Active Directory Rights Management Service (AD RMS)
- Active Directory Domain Service (AD DS)
- Active Directory Lightweight Directory Service (AD LDS)
- Active Directory Certificate Service (AD CS)
- Active Directory Federation Service (AD FS)

activity

Processing that is a component of an Item definition and which is executed when the Item is sent to the next worker. Examples of such processing are **Apply** and **Approve**.

Flow Designer is used to define activities, and Activity Designer is used to set activity details.

administrator

A network manager or device administrator in the group that handles company IT asset management tasks (an information systems management department). The administrator can handle all asset information.

asset

A unit of managing assets by user.

Assets include device-related, software-related, and user-specific assets. The device-related assets consist of one or more devices, and software-related assets consist of one or more software items. User-specific assets consist of user-specific information.

Asset Console

A product that can reduce management costs and can streamline IT asset management jobs required for tasks such as installing assets, managing software licenses, and performing device maintenance. The product helps achieve these goals by using a database to implement integrated management of asset information such as hardware information (including network devices), software information, and contract information. Additionally, integrated management of IT assets can be achieved by linking Asset Console to JP1 products such as JP1/IM.

asset information

Information used to manage the hardware and software assets in a company. The asset information is represented by data such as **Asset No.**, **Group name**, **User name**, **Location name**, and is not the hardware or software asset itself.

Asset No. is used to identify each asset and can be assigned by the user. In an asset management system, **Asset No.** is the most basic unit of asset management.

asset management database

A database that stores asset information.

asset management server

A server that manages asset information and provides services related to asset information.

asset management system

A system that manages asset information. An asset management system consists of the following programs:

- Asset management server
- Web browser

association class

A class defining the relationship between object classes.

An association represents a relationship between multiple classes. Specifically, an association defines a multiplex level between two classes and how the two classes are processed when data is added or deleted.

audit log

Log data that is output as a trace record of internal control. Audit log contains information about who executed what, when, and where.

class

A set of management information classified by asset information category. An asset management system handles object classes and association classes.

CN (Common Name)

Entry name attribute in Active Directory. For example, the name of a person (user) is a CN.

code ID

A unique ID assigned to an item managed by code in the asset management database. When codes are edited, codes are added or deleted based on this code ID.

computing (device type)

A type of hardware asset, including **PC**, **PC server**, **UNIX**, **UNIX server**, **Smart Device**, and **Other system device**. In the asset management system, hardware is classified into three device types: computing, accessories, and networking.

contract information

Information used to manage device and software assets under maintenance, lease, or rental contracts.

By grouping multiple devices and software assets with the same contract and then assigning a contract number to the group, the user can manage the devices and software assets by contract.

Customize Job Windows

A function for limiting the operations available from windows by user role.

This functionality allows the components of each window (such as buttons, search conditions, and editable items) to be changed according to the user role.

data file

A CSV file required for importing or exporting data. A data file consists of item title lines and data lines.

For an import operation, asset information (asset data) is specified for each association class.

For an export operation, the output destination of asset information is specified for each association class.

data files definition file

A text file that is needed in order to import or export multiple data files in a batch operation.

A data files definition file defines the names of all data files to be imported or exported, and defines the display names of the association classes that correspond to the data files.

DC (Domain Component)

The element that constitutes a domain name in Active Directory.

device catalog

Registration information that is predetermined for a product, such as CPU and memory size.

When registering a new device, the user can select a product from the device catalog and thereby save the time needed to enter the items predetermined for the product.

device change log

Information used to manage changes to devices, such as memory size and disk space. This information can be used to check for any illegitimate physical changes to a CPU, memory, or disk.

The device change log data is organized into fields such as **Update date**, **Hard disk sizes**, **Memory**, and **Processor**.

division

Information for managing other groups as group jobs. Multiple divisions can be set up for each group. Assigning a division to a user allows that user to manage the information about the group (division group) that is set up as a division group for the division.

division group
    Information about the group that is set to a division.

DN (Distinguished Name)
    Identifier for uniquely identifying each entry in the Active Directory's directory tree. A distinguished name
    consists of a character string made up by linking entry attributes using commas (,).

EUR
    A program that inputs table data and print forms. EUR provides the functionality that allows the user to
    design various forms without the need for complicated programming, and without having to know the
    format of the data source.

event manager
    A user assigned to check Asset Console asset information from JP1/IM. If a password is set up for this user
    in advance, the user can automatically be logged into Asset Console when the user checks asset information
    from the Event Console window.

export
    Output of information from the asset management database to a CSV file, in a batch operation.

    There are three export methods:

    - Export by using the **Export** job menu

      The user creates export conditions for selecting the asset information to be output and, in a batch
      operation, outputs the information to a CSV file. This method can be used at any location where the
      user can log in to Asset Console.

    - Export by using `jamCsvExport.bat`

      By executing this from the command line on the asset management server, the user can perform the
      same export processing as can be performed from the Export window.

    - Export by using `thejamexport` command

      This method outputs data, in a batch operation, from the asset management database to CSV files as
      is. A CSV file is output for each class. This export function is implemented by a command provided
      by Asset Console.

form
    Settings of each window customized by the **Customize Job Windows** function. For example, the settings
    can specify whether to show or hide buttons and search conditions.

    A form is set for each window, and multiple forms can be set for the same window.

group
    A unit for handling user information. If user information is handled according to the groups to which users
    belong, access to the information can be controlled for each group.

group information
    Information required for managing groups, such as the departments using the asset management system.
    Group information is represented by fields such as **Local name**, **Group code**, and **Cost group code**.

hardware information

Information used to manage hardware assets. Hardware information includes information about all hardware assets handled in an asset management system that uses Asset Console. Hardware information is about the devices themselves, and includes fields such as **Device type** and **Device name**.

import

The loading of information, in a batch operation, from a CSV file into the asset management database.

There are three import methods:

- Import by using the **Impor**t job menu

  The user creates import conditions and updates asset information in the CSV file in a batch operation.

  This method can be used at any location where the user can log in to Asset Console. The user can update asset management database information without having to know the CSV file format, classes, or the relationships between classes.

- Import by using `jamCsvImport.bat`

  By executing this from the command line at the asset management server, the user can perform the same import processing as can be performed from the **Import** job menu. This method is useful for automating operations because the user can update asset management database information without having to know the CSV file format, classes, or the relationships between classes. Compared to the `jamimport` command, however, the processing takes more time.

- Import by using the `jamimport` command

  This method loads, in a batch operation, all data from a CSV file into the asset management database as is. The CSV file contains information about data in the asset management database that is to be added, changed, or deleted. This import function is implemented by a command provided by Asset Console.

incident

A unit of error events that degrade IT service quality or prevent normal system operation.

installed software information

Information used to manage the software assets installed on each device.

Installed software information is used by importing information from a program such as JP1/IT Desktop Management 2 - Manager into an asset management database.

Therefore, the names and versions of software assets depend on the source system (such as JP1/IT Desktop Management 2 - Manager) from which the information is imported.

installed software list

Information used to manage the names of software assets installed on each device. It is also used to manage various settings for installed software assets.

IP group information

Information used to manage IP addresses in groups. IP addresses can be managed under easy-to-understand names assigned to the groups.

IT assets

IT devices, such as PCs and printers, existing in a company, software assets, and the network environment for using them.

IT service

A service that satisfies the needs of customers by using an IT system to support implementation of businesses and services.

Item

Work with a defined route, such as **Equipment Deployment Request Form** or **Error Report Form**.

Item auditor

The official authority for auditing execution Items.

A user who has this official authority can view the latest Item statuses and attached files in the Execution Item Management window.

Item category

A category of Items classified by the nature of the work.

In the New Item window used to select a new Item, each Item category is displayed on a separate tab.

ITIL

A framework that systematizes IT system setup and operations. Setting up an IT system based on this framework is expected to enable the user to optimize IT services and continually improve day-to-day processes.

JP1 event

JP1-specific management information generated for detecting and reporting events (such as job execution results and service errors) that occur in a system managed by JP1.

Asset Console can acquire these JP1 events via JP1/IM.

JP1/Base

The product that provides the basic functionality of JP1/IM. This product includes functionality for sending and receiving JP1 events, managing users, and controlling startup. The product also functions as an agent of a JP1/IM system.

JP1/Base is a prerequisite for JP1/IM.

JP1/IM

A product that achieves integrated management of an entire corporate information system. By collaborating with JP1-series products that manage system operations in various ways, JP1/IM uses JP1 events to implement integrated management of the events that occur in the system. If an error occurs, JP1/IM promptly notifies the administrator and provides the infrastructure for operations needed to identify the location of the error and investigate its cause.

JP1/IM - Service Support

A product that provides the functionality for quickly investigating the cause (and taking action for) an Item that requires a solution (due to, for example, an inquiry or a system error).

JP1/IT Desktop Management 2 - Manager management information

Information that includes the status of hardware utilization and the types of software assets installed on a managed device. This management information is acquired from JP1/IT Desktop Management 2 - Manager.

In an asset management system, the management information acquired from JP1/IT Desktop Management 2 - Manager can be registered as asset information.

JP1/IT Desktop Management 2 window

A window used for JP1/IT Desktop Management 2 - Manager operations. This term is used in contrast to Asset Console windows, which are simply called *windows*.

LDAP (Lightweight Directory Access Protocol)

A subset of the Directory Access Protocol used for accessing directories that support the ITU-recommended X.500 model. Active Directory is compatible with LDAP.

license category

The license categories for a purchased license are **Install license** and **User license**. Licenses are totaled for each **license category**.

license information

Information used to manage the details of software licenses.

License information includes fields such as **License name**, **Upgrade assurance**, **Downgrade**, **License type**, **Licensing method**, and **License category**.

license type

The type of a purchased license. The license types are listed below:

- **Install license**
- **User license**
- **Server license**
- **Client access license**
- **Managed node license**
- **CPU license**
- **Second license**
- **Concurrent execution license**

License type is used to manage the details of licenses and has no effect on the results of license totaling.

location information

Information used to manage asset locations. The location information includes fields such as **Local name**, **Address**, **Area size**, and **Attribute**.

maintenance log

Information used to manage details about device errors and remedial actions. If JP1/IM is linked, JP1 events can be acquired as maintenance log information.

The maintenance log data is organized into fields such as **Reg. date**, **Overview of problem**, **Importance**, **Host where problem occurred**, **Completion date**, **Overview of solution**, **Expense**, and **Reference materials (URL)**.

managed item

An individual piece of information managed by Asset Console. It corresponds to a class property managed in the asset management database.

managed label

A label set to limit accesses by group. If the same managed label (any character string) is set for both a group and a user role, the users with the corresponding role can handle only the information belonging to the group and subgroups for which that managed label is set.

managed level

A level for managing licenses. A managed level is set for installed software assets. The managed level is set in the Installed Software window, or in the settings for assigning information acquired from JP1/IT Desktop Management 2 - Manager.

There are three managed levels:

- **Managed object**

  Includes software assets in the number of used licenses.

- **Managed object not in license count**

  Does not include software assets in the number of used licenses. Information is registered as installed software assets.

- **Unmanaged object**

  Does not manage licenses nor register information as installed software assets.

management name

A name used to identify the value for a text field, text area, or drop-down list defined by Form Designer when an Item is defined. The user can specify any character string without having to know the class properties.

This name is used with Activity Designer to specify how to update the asset management database.

meta table

A table required to establish correspondence between class and table in the asset management database. When Asset Console is set up, importing the meta table to the asset management database defines the data structure of the database.

network information

Information used to manage the location of each device in the network. Network information includes fields such as **IP address**, **MAC address**, **Node name**, and **Computer name**.

networking (device type)

A type of hardware asset, including **HUB**, **Router**, **Network printer**, and **Networking**. In an asset management system, hardware is classified into three device types: computing, accessories, and networking.

node

A component of an Item definition that represents a worker (or group) on the route of the Item. For example, an **Applicant** or **Approval user** is a node.

Flow Designer is used to define the nodes.

object

A collective name for components placed on the Item window, such as text fields and buttons. Form Designer is used to set objects.

object class

A class is a unit for managing asset information. An *object class* is the information representing each item managed by the asset management system. The information is represented by tables that correspond to classes and properties, or represented in the format used to input date to or output data from the asset management database.

official authority

Authority to limit the workers that can execute processing, such as to approve an Item.

To execute work for which an official authority is defined, the user must have that official authority separately from the permissions needed to log in to Asset Console.

OU (Organization Unit)

The name attribute of organization entries in Active Directory. An organization unit corresponds to a group name.

patch information

Information used to manage each device's patch application status, such as **Installation date** and **Applied status**.

patch name list

Information, such as **Patch name** and **Patch version**, used to manage patch names.

property

An attribute of a class.

role information

Information used to manage the user roles in the asset management system. `Administrator` and `User` are set as the default user roles.

route

The order of workers that handle an Item.

An Item is processed sequentially along the defined route. Flow Designer is used to define an Item's route.

shared management item

Information that can be optionally set by the user, such as user name and asset number. Shared management item information is acquired from JP1/IT Desktop Management 2 - Manager.

In an asset management system, shared management item information acquired by JP1/IT Desktop Management 2 - Manager can be registered as asset information.

SNMP trap

Asset Console can acquire SNMP traps from JP1/IM as JP1 events.

software information

Information about the software assets registered in an asset management system, such as commercial software, shareware, and freeware. Software information includes fields such as **Asset ID**, **Software name**, and **Number of licenses**.

software key information

Key information used to assign licenses to target devices and users. Software key information includes fields such as **Product ID**, **License key**, and **Serial No.**.

task

The processing contents that are combined when defining an activity, which is the processing executed when an Item is sent to the next worker.

For example, an activity for registering information about a newly installed device is defined by combining the **Add new device** and **Add network information** tasks.

Activity Designer is used to set the tasks for each activity.

user information

Information used to manage the users of the asset management system. User information includes fields such as **User name**, **Phone**, **E-mail**, and **Official title**.

user library

A library for sharing images among Items by uploading the images to the asset management server. Images must be added to the user library before they can be inserted in an Item window by Form Designer.

user report

Work (job) added by the user, and the window used to execute that work. Asset Console not only provides predefined job menus, but also enables the user to add user-specific jobs (user reports).

virtual directory

Asset Console must set a virtual directory to make Web contents accessible on IIS.

virus definition information

Information about the anti-virus software product installed on a device and about the virus definition files. The information includes fields such as **Anti-virus product name**, **Anti-virus product version**, and **Virus definition version**.

volume contract information

Information used to manage details about software volume licenses.

The volume license information includes fields such as **Software assets**, **Number of Target points**, **Contract date**, **Contract start date**, **Contract end date**, **Contracted company**, **Overview of contract**, and **Status**.

window

A window used for Asset Console operations. This term is used in contrast to JP1/IT Desktop Management 2 - Manager windows.

worker
	A user who executes an Item. An Item is sent to individual workers according to a defined route.

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