NetBackup™ Plug-in for VMware vSphere Client (HTML5) Guide

Release 10.1

VERITAS™

NetBackup™ Plug-in for VMware vSphere Client (HTML5) Guide

Last updated: 2022-08-30

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https://sort.veritas.com/data/support/SORT_Data_Sheet.pdf

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Introduction and notes

This chapter includes the following topics:

- About the NetBackup plug-in for VMware vSphere Client (HTML5)

- Notes on the NetBackup plug-in for vSphere Client (HTML5)

- How to access the features of the NetBackup plug-in for vSphere Client (HTML5)

About the NetBackup plug-in for VMware vSphere Client (HTML5)

With the NetBackup vSphere Client (HTML5) plug-in, you can use vSphere Client to monitor the backups of virtual machines that vCenter servers manage. You can also recover a virtual machine from a backup.

You can use the plug-in to do the following:

- View the backup status of virtual machines at various vSphere levels. For example: Datacenter, resource pool, ESXi host.

- View messages that are related to backups, such as snapshot deletion failure.

- Sort and filter the backup information and export the information for analysis.

- Recover virtual machines. (The recovery feature and the instant recovery feature are optional and are not required for monitoring virtual machine backups.)

- Instantly recover and power on a virtual machine.

- Configure a custom attribute to exclude virtual disks from backups.

Figure 1-1
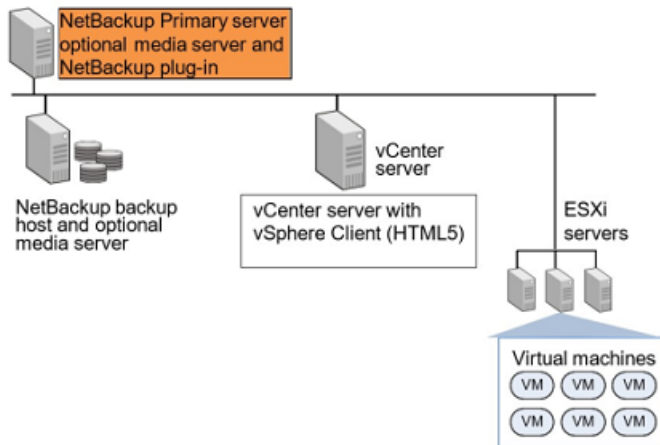
Support for ESXi

For the VMware versions that the NetBackup plug-in supports, see the following document:

Support for NetBackup in virtual environments

Notes on the NetBackup plug-in for vSphere Client (HTML5)

Note the following about the NetBackup plug-in:

- For the NetBackup version 10.0 and later, the plug-in is installed on the NetBackup server itself and is registered with the desired vCenter.

- The plug-in is based on the new Remote plug-in Architecture that is provided by VMware for version 6.7 U1 and later. Thus, NetBackup 10.0 is supported from vCenter version 6.7 U1 and later.

- Also, with vCenter 7.0 and later versions, multiple NetBackup servers are available for selection during Plug-in login. For more information See "Log-in to the plug-in" on page 36.

- User must log in to the plug-in with the same NetBackup server to access and manage backup and recovery of the virtual machines that are performed with a specific NetBackup server.

- To access and manage the backup and recovery of the virtual machines with a specific NetBackup server, the user must select the same NetBackup server when logging in to the Plug-in.

- With vSphere version 7.0, it is possible to register multiple NetBackup servers with the plug-in, which would appear in the login screen, for selection. Register each NetBackup primary server with the plug-in, in order to access it for recovery management and virtual disc exclusion. For detailed information about registration from multiple NetBackup servers, See "Installing the NetBackup plug-in for vSphere Client (HTML5)" on page 16.

- For NetBackup version 10.0, all the Plug-ins that are installed before the NetBackup version 10.0, are not supported.

- For detailed information about un-registration of the Plug-ins which are installed before NetBackup 10.0:
  See "Uninstalling the NetBackup plug-in for vSphere Client (HTML5)" on page 25.

- The best screen resolution for the plug-in is 1280 x 1024 or greater.

- The plug-in does not support auto-refresh. To refresh the display, click the vSphere Client refresh icon.

- In vCenter, the default retention period for vCenter events is 180 days. This value is the recommended setting.

- If an ESXi server is removed from vCenter and re-added, the events for the VMs managed by that ESXi are lost. For VM status, the plug-in shows "No Backup Information." The status changes as new backup events occur for each VM.

- See "Notes on the NetBackup recovery wizards" on page 53.

- The NetBackup primary server must be configured with backup policies of type **VMware**, with the **Post events to vCenter** option set to **All Events**.
  The plug-in monitors backups that a NetBackup **VMware** policy made. The plug-in does not monitor backups from other policy types.

  Note the following exceptions:

  - The plug-in does not monitor backups from a VMware policy that had **Use Replication Director** enabled and **Application Consistent Snapshot** disabled (under **Options**).

  - The plug-in does not monitor all the copies that a storage lifecycle policy (SLP) makes; it monitors the first image only.

- Search for virtual machines does not support non-ASCII characters. However, the search results show the VM names that contain non-ASCII characters. Therefore, you can search for ASCII characters only and still see the VMs that contain non-ASCII characters in their names.

How to access the features of the NetBackup plug-in for vSphere Client (HTML5)

The following table describes the location of the NetBackup plug-in features in vSphere Client (HTML5).

Table 1-1   Accessing basic functions of the NetBackup plug-in for vSphere Client

Feature	How to access the NetBackup plug-in.
Log in to the Plug-in	In vSphere client, click NetBackup. See "Log-in to the plug-in" on page 36.
Monitor the status of virtual machine backups.	In vSphere Client, click **Hosts and Clusters** or **VMs**, then click **Monitor**. Select the vSphere object to monitor, such as vCenter, ESXi server, VM, or other object. See "Backup monitoring displays in the NetBackup plug-in for vSphere Client (HTML5)" on page 43.
Configure a custom attribute to exclude disks from backups.	In vSphere Client, click **Veritas NetBackup**, then click **Virtual Disk Exclusion**. **Note:** The disk exclusion wizard is optional. It is not required for monitoring virtual machine backups.
Restore a virtual machine.	In vSphere Client, click **Veritas NetBackup**, then click **Recovery** or **Instant Recovery and Cleanup**. You can access the Recovery options in several other ways: See "How to access the NetBackup Recovery Wizard" on page 54. **Note:** The recovery wizards are optional. They are not required for monitoring virtual machine backups.

Installing the NetBackup plug-in for vSphere Client (HTML5)

This chapter includes the following topics:

- Requirements for the NetBackup plug-in for vSphere Client (HTML5)

- Using consistent vCenter naming with the NetBackup plug-in for vSphere Client (HTML5)

- vCenter privileges for managing NetBackup plug-in installation

- Notes on using the vSphere Client (HTML5) plug-in in a VMware Platform Services Controller (PSC) environment

- Installing the NetBackup plug-in for vSphere Client (HTML5)

- VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED for servers and clients

- Uninstalling the NetBackup plug-in for vSphere Client (HTML5)

- Uninstalling the NetBackup Local plug-in for vSphere Client (HTML5)

Requirements for the NetBackup plug-in for vSphere Client (HTML5)

This topic describes the overall requirements for installing and using the plug-in.

Table 2-1   NetBackup plug-in installation requirements

Requirement	Notes
NetBackup primary server	The NetBackup primary server must be installed before you can install the plug-in. The NetBackup primary server hosts the plug-in. During plug-in installation the vCenter refers to the details of the NetBackup server and accordingly opens the extension point.
	Note: Before using the plug-in, make sure NetBackup is configured to back up the virtual machines. The following for example are required:
	■ The VMware backup host (proxy, or access host).
	■ The credentials for the vCenter server.
	Note: Enter the vCenter server name in the same format in which it is registered in DNS and in the vCenter server (whether short or fully-qualified).
	Note: Veritas recommends the use of fully qualified names. The entire name must be properly formed without empty or null elements. For example, a fully-qualified name must include the domain name and not end in a period (.).
	■ A VMware policy to back up the VMs.
	■ In the policy's **Advanced Attributes**, the **Post vCenter events** option must be set to **All Events**.
	See "Installing the NetBackup plug-in for vSphere Client (HTML5)" on page 16.`
	The *NetBackup for VMware administrator's guide* explains how to configure NetBackup for VMware:
	http://www.veritas.com/docs/DOC5332
vCenter server credentials (user name and password)	NetBackup must have credentials for the vCenter servers where virtual machines are to be restored.
	For information on VMware Platform Services Controller (PSC) environments:
	See "Notes on using the vSphere Client (HTML5) plug-in in a VMware Platform Services Controller (PSC) environment" on page 15.
	Note: To install the plug-in, the **Extension** privileges are required on the vCenter.
	See "vCenter privileges for managing NetBackup plug-in installation" on page 14.
Consistent vCenter naming	See "Using consistent vCenter naming with the NetBackup plug-in for vSphere Client (HTML5)" on page 13.
vCenter privileges for backup monitoring	To use the plug-in to monitor virtual machine backups, the vCenter **Global** credentials **Manage custom attributes** and **Set custom attribute** are required.
	See "vCenter privileges for backup monitoring" on page 42.

Table 2-1   NetBackup plug-in installation requirements *(continued)*

Requirement	Notes
vCenter privileges for configuring a Custom Attribute to exclude disks from backups.	To use the plug-in to configure a Custom Attribute to exclude disks from backups, the vCenter **Global** credentials **Manage custom attributes** and **Set custom attribute** are required. See "About excluding virtual disks from the backup" on page 37.
NetBackup Recovery Wizards	See "How to access the NetBackup Recovery Wizard" on page 54.
NetBackup privileges or RBAC	See " NetBackup permissions for the plug-in" on page 31.

For a list of NetBackup versions and VMware versions that are supported for the plug-in, see the following document:

■ *Support for NetBackup 7.x and 8.x in virtual environments*:
http://www.veritas.com/docs/000006177

Using consistent vCenter naming with the NetBackup plug-in for vSphere Client (HTML5)

The name of the vCenter server must be identical in the following locations:

■ In the vCenter server installation.

■ In the NetBackup credentials.

■ In the NetBackup plug-in installation.

■ In the `VimApiUrl` name.
See To set the `VimApiUrl` name

■ In the `Runtime` name.
See To set the `Runtime` name

Note: If the vCenter server name is not entered correctly, the plug-in may not be able to access one or more of the virtual machine images.

To set the VimApiUrl **name**

1 In vSphere Client, click **Global Inventory Lists**. Under **Resources**, click
     vCenter Servers and select the vCenter. Then click **Configure > Advanced
     Settings**.

2 Scroll down to locate the VirtualCenter.VimApiUrl key.

3 Set the VirtualCenter.VimApiUrl key to the following:

     https://*correct hostname of the vCenter machine*/sdk

     Where *hostname* is the current host name of the vCenter.

     For example: https://vCenter1.example.com/sdk

To set the Runtime **name**

     Use the following procedure in the VMware vSphere 6.7 documentation:

     Configure Runtime Settings for vCenter Server

vCenter privileges for managing NetBackup plug-in installation

To install the NetBackup vSphere Client (HTML5) plug-in, use the vSphere Client
to make sure that the **Extension** privileges are set in vCenter. The **Extension**
privileges must be set on each vCenter where the plug-in is to be installed.

Note: The **Extension** privileges are also required for updating or uninstalling the
plug-in.

For assistance setting privileges, refer to the appropriate VMware vSphere
Documentation Center.

In the vSphere Client interface, the **Extension** privileges may look similar to the
following:
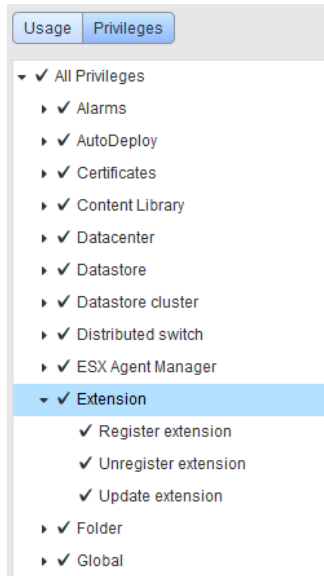
Notes on using the vSphere Client (HTML5) plug-in in a VMware Platform Services Controller (PSC) environment

For the vCenter servers that a VMware Platform Services Controller (PSC) manages, note the following about the NetBackup plug-in:

- The Plug-in must be accessible to all the vCenter servers under the PSC. The plug-in only needs to be installed on one of the vCenter servers. All the NetBackup primary servers associated with the vCenter, should be registered with the plug-in. The installed plug-in is accessible to all the vCenter servers under the PSC.

- You must register the NetBackup primary server on each vCenter server where virtual machines are to be restored.

- Backups of the virtual machines that reside on vCenter servers under the PSC can be restored to any vCenter under the PSC. Backups of the virtual machines that reside on vCenter servers outside of the PSC cannot be restored to vCenter servers under the PSC.

  For example: A VM was backed up on vCenter 1. To restore that VM to vCenter 2, both vCenters need to be under the same PSC. In this case, the NetBackup primary server needs credentials at least for vCenter 2.

- Only plug-in version 10.0 supported for NetBackup version 10.0 and later.

Note: Earlier version of the plug-in does not support NetBackup version 10.0 onwards.

- If you have NetBackup version prior to 10.0, continue to use earlier version of the plug-in. Or uninstall earlier version of the plugin. For uninstalling, See "Uninstalling the NetBackup Local plug-in for vSphere Client (HTML5)" on page 27.

Installing the NetBackup plug-in for vSphere Client (HTML5)

Table 2-2   Installation cases with the links

Installation cases	Description with the link
Case 1	See "Register Plug-in when no other Plug-in (either Local or current) is installed" on page 16.
Case 2	See "Register Plug-in when no Local Plug-in registered, and one or more Plug-ins's are already registered" on page 18.
Case 3	See "Register plug-in when local plug-in already registered but no other Plug-in registered" on page 20.
Case 4	See "Register Plug-in when local Plug-in already registered, and one or more Plug-in's already registered" on page 22.

Register Plug-in when no other Plug-in (either Local or current) is installed

Use this procedure of register a plug-in when no plug-in either local or current is installed.

To install the NetBackup plug-in from the NetBackup primary server

1   Enter the following command on the primary server:

Windows

`install_path\NetBackup\bin\goodies\vwcp_manage.exe`

UNIX, Linux

`/usr/openv/netbackup/bin/goodies/vwcp_manage`

2   On the primary server, start `vwcp_manage` to begin plug-in 10.x installation. Note the following:

   ■   `vwcp_manage` is a NetBackup Administration Console application. Ensure that your UNIX or Linux environment supports NetBackup Administration Console applications.

   ■   If you run the command with administrator or root privileges, the command discovers the available vCenters and presents them in a list. Otherwise, you must provide the vCenter names.

   ■   The `vwcp_manage` command detects any existing version of the plug-in and lets you either upgrade it or uninstall it. See "Uninstalling the NetBackup plug-in for vSphere Client (HTML5)" on page 25.

   ■   The `vwcp_manage` command does not uninstall the older NetBackup plug-in for vCenter (C# plug-in). The older plug-in continues to exist separately from the new one. You can uninstall the older plug-in as explained in the NetBackup Plug-in for VMware vCenter Guide for NetBackup 8.0.

   Note: Support for the older NetBackup plug-in for vCenter has been discontinued.

3   Registration begins with the End User License Agreement. Click **Accept**.

4   On the **VMware vCenter Server Details** dialog, enter the required credential details and click **Validate.**

   Note: The vCenter credentials require the Extension privileges. See "vCenter privileges for managing NetBackup plug-in installation" on page 14.

   If the `vwcp_manage` command was not run with administrator or root privileges, you must enter the vCenter name (or IP address) manually.

5 If the **VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED** configuration option is enabled See "VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED for servers and clients" on page 24., the security alert pop up appears.

> **Note:** If there are multiple vCenter server root certificates, the security alert appears for each of the certificate.

6 Click **Continue** if you trust the certificate, else click **Cancel**.

- If you trust one or more certificates and the certificates are successfully validated, the wizard proceeds with the plug-in registration process.

- If you do not trust any of the certificates or the certificate validation fails, the plug-in installation does not proceed further.

7 Click **Register**.

8 Click **Continue** to accept the security alert about NetBackup plug-in installation.

9 After successful installation, click **Close**.

10 Log on to vSphere Client (HTML5). If you are currently logged on, log out first. Ensure that **Veritas NetBackup** appears as one of the options in the left pane.

11 If the **Veritas NetBackup** option is not available, See "The NetBackup plug-in is not shown in the vSphere Client (HTML5) interface even after registration" on page 71.

Register Plug-in when no Local Plug-in registered, and one or more Plug-ins's are already registered

To install the NetBackup plug-in from the NetBackup primary server

1 Enter the following command on the primary server:

Windows

```
install_path\NetBackup\bin\goodies\vwcp_manage.exe
```

UNIX, Linux

```
/usr/openv/netbackup/bin/goodies/vwcp_manage
```

2 On the primary server, run the `vwcp_manage` command to begin plug-in 10.x installation.

Notes:

- ■ `vwcp_manage` is a NetBackup Administration Console application. Ensure that your UNIX or Linux environment supports NetBackup Administration Console applications.

- ■ If you run the command with administrator or root privileges, the command discovers the available vCenters and presents them in a list. Otherwise, you must provide the vCenter names.

- ■ The `vwcp_manage` command detects any existing version of the plug-in and lets you either upgrade it or uninstall it. See "Uninstalling the NetBackup plug-in for vSphere Client (HTML5)" on page 25.

- ■ The `vwcp_manage` command does not uninstall the older NetBackup plug-in for vCenter (C# plug-in). The older plug-in continues to exist separately from the new one. You can uninstall the older plug-in as explained in the NetBackup Plug-in for VMware vCenter Guide for NetBackup 8.0.

    Note: Support for the older NetBackup plug-in for vCenter has been discontinued.

3 On the **End User License Agreement** window. Click **Accept**.

4 On the **VMware vCenter Server Details** dialog, entire the required credential details and click **Validate.**

Note: The vCenter credentials require the Extension privileges. See "vCenter privileges for managing NetBackup plug-in installation" on page 14..

If the `vwcp_manage` command was not run with administrator or root privileges, you must enter the vCenter name (or IP address) manually.

5 If the **VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED** configuration option is enabled See "VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED for servers and clients" on page 24., the security alert pop up appears.

Note: If there are multiple vCenter server root certificates, the security alert appears for each of the certificate.

6 Click **Continue** if you trust the certificate, else click **Cancel**.

- ■ If you trust one or more certificates and they are certificates are validated, the wizard proceeds with the plug-in registration process.

- ■ If you do not trust any of the certificates or the certificate validation fails, the plug-in installation does not proceed further.

7 On the **Plug-in Registration** window, the screen displays a list of other NetBackup servers which are currently monitored with the Plug-in. Click **Register**.

8 Click **Continue** to accept the security alert about NetBackup plug-in installation.

9 After successful installation, click **Close**.

10 Log on to vSphere Client (HTML5). If you are currently logged on, logout and then relog in. Ensure that **Veritas NetBackup** appears in the navigation pane.

11 If the **Veritas NetBackup** option is not available,See "The NetBackup plug-in is not shown in the vSphere Client (HTML5) interface even after registration" on page 71.

Register plug-in when local plug-in already registered but no other Plug-in registered

To install the NetBackup plug-in from the NetBackup primary server

1 On the NetBackup primary server, locate the following command:

Windows

`install_path\NetBackup\bin\goodies\vwcp_manage.exe`

UNIX, Linux

`/usr/openv/netbackup/bin/goodies/vwcp_manage`

2 On the primary server, run the `vwcp_manage` command to begin plug-in 10.x installation.

Notes:

- ■ `vwcp_manage` is a NetBackup Administration Console application. Ensure that your UNIX or Linux environment supports NetBackup Administration Console applications.

- ■ If you run the command with administrator or root privileges, the command discovers the available vCenters and presents them in a list. Otherwise, you must provide the vCenter names.

- ■ The `vwcp_manage` command detects any existing version of the plug-in and lets you either upgrade it or uninstall it. See "Uninstalling the NetBackup plug-in for vSphere Client (HTML5)" on page 25.

■ The vwcp_manage command does not uninstall the older NetBackup plug-in for vCenter (C# plug-in). The older plug-in continues to exist separately from the new one. You can uninstall the older plug-in as explained in the NetBackup Plug-in for VMware vCenter Guide for NetBackup 8.0.

Note: Support for the older NetBackup plug-in for vCenter has been discontinued.

3   Registration begins with the End User License Agreement. Click **Accept**.

4   On the **VMware vCenter Server Details** dialog, entire the required credential details and click **Validate.**

Note: The vCenter credentials require the Extension privileges. See "vCenter privileges for managing NetBackup plug-in installation" on page 14..

If the vwcp_manage command was not run with administrator or root privileges, you must enter the vCenter name (or IP address) manually.

5   If the **VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED** configuration option is enabled See "VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED for servers and clients" on page 24., the security alert pop up appears.

Note: If there are multiple vCenter server root certificates, the security alert appears for each of the certificate.

6   Ensure that on the **Select the plug-in type** dialog, **Remote Plug-in** option is selected. Click **Next**.

Note: When a local plug-in is already registered, and no other plug-in is registered then, on the **Select the plug-in type** dialog, by default **Remote Plug-in** option is selected

7   Click **Register**.

8   Click **Continue** to accept the security alert about NetBackup plug-in installation.

9   After successful installation, click **Close**.

10 Log on to vSphere Client (HTML5). If you are currently logged on, logout and then relog in. Ensure that **Veritas NetBackup** appears in the navigation pane.

11 If the **Veritas NetBackup** option is not available,See

Register Plug-in when local Plug-in already registered, and one or more Plug-in's already registered

To install the NetBackup plug-in from the NetBackup Primary Server

1 Enter the following command on the primary server:

Windows

`install_path\NetBackup\bin\goodies\vwcp_manage.exe`

UNIX, Linux

`/usr/openv/netbackup/bin/goodies/vwcp_manage`

2 On the primary server, run the `vwcp_manage` command to begin plug-in 10.x installation.

Notes:

- `vwcp_manage` is a NetBackup Administration Console application. Ensure that your UNIX or Linux environment supports NetBackup Administration Console applications.

- If you run the command with administrator or root privileges, the command discovers the available vCenters and presents them in a list. Otherwise, you must provide the vCenter names.

- The `vwcp_manage` command detects any existing version of the plug-in and lets you either upgrade it or uninstall it. See "Uninstalling the NetBackup plug-in for vSphere Client (HTML5)" on page 25.

- The `vwcp_manage` command does not uninstall the older NetBackup plug-in for vCenter (C# plug-in). The older plug-in continues to exist separately from the new one. You can uninstall the older plug-in as explained in the NetBackup Plug-in for VMware vCenter Guide for NetBackup 8.0.

Note: Support for the older NetBackup plug-in for vCenter has been discontinued.

3   On the **End User License Agreement** window. Click **Accept**.

4   On the **VMware vCenter Server Details** dialog, entire the required credential details and click **Validate.**

> **Note:** The vCenter credentials require the Extension privileges. See "vCenter privileges for managing NetBackup plug-in installation" on page 14..
>
> If the vwcp_manage command was not run with administrator or root privileges, you must enter the vCenter name (or IP address) manually.

5   If the **VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED** configuration option is enabled See "VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED for servers and clients" on page 24., the security alert pop up appears.

> **Note:** If there are multiple vCenter server root certificates, the security alert appears for each of the certificate.

6   Ensure that on the **Select the plug-in type** dialog, **Remote Plug-in** option is selected. Click **Next**.

> **Note:** When a local plug-in is already registered, and no other plug-in is registered then, on the **Select the plug-in type** dialog, by default **Remote Plug-in** option is selected

7   Click **Register**.

8   Click **Continue** to accept the security alert about NetBackup plug-in installation.

9   After successful installation, click **Close**.

10 Log on to vSphere Client (HTML5). If you are currently logged on, logout and then relog in. Ensure that **Veritas NetBackup** appears in the navigation pane.

11 If the **Veritas NetBackup** option is not available,See "The NetBackup plug-in is not shown in the vSphere Client (HTML5) interface even after registration" on page 71.

To install the NetBackup plug-in from the NetBackup appliance as primary server

1   Log on to the appliance as a NetBackup CLI user and run the
    `vwcp_manage`command to install the plug-in. The command is located at
    `/usr/openv/netbackup/bin/goodies/vwcp_manage`

    For example:

    ```
    vwcp_manage --register –v vCenter.example.com –u vCenter_username
    –p password_file
    ```

    `password_file` is the path to a text file that contains only the password.

    Note: As a NetBackup CLI user, you can create text files in your home directory
    only at `/home/nbusers`. For more information on the `vwcp_manage` command,
    see the NetBackup Commands Reference Guide.

    ---

2   Log on to vSphere Client (HTML5). If you are currently logged on, log out and
    re-log in. The Veritas NetBackup option must appear in the navigation pane
    and in Shortcuts. If it is not available, See "The NetBackup plug-in is not shown
    in the vSphere Client (HTML5) interface even after registration" on page 71.

3   To register the plug-in with another vCenter server, repeat this procedure.

VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED for servers and clients

The `VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED` option enables the
validation of virtualization server certificates using its root or intermediate certificate
authority (CA) certificates.

Before you enable the option, review the steps from the 'Validating VMware
virtualization server certificates in NetBackup ' section in the NetBackup for VMware
Administrator's Guide.

By default, the `VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED` option is set to
`UNDEFINED`.

The security certificate validation is enabled for RHV and Nutanix AHV servers, but
is disabled for VMware servers.

Note: In a scenario where an external CA can be configured for one virtualization server, but not for the other, two separate backup hosts must be used. The VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED option must be set to YES for the backup host where the external CA can be configured. The VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED must be set to YESfor the backup host where the external CA can be configured. The option must be set to NO for the other backup host.

Table 2-3   VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED information

Usage	Description
Where to use	On NetBackup primary server or all access hosts.
How to use	Use the nbgetconfig and the nbsetconfig commands to view, add, or change the option.
	For information about these commands, see the NetBackup Commands Reference Guide.
	Use the following format to enable certificate validation for the RHV, VMware, or Nutanix AHV servers:
	VIRTUALIZATION_HOSTS_SECURE_CONNECT_ENABLED = YES
Equivalent Administration Console property	No equivalent exists in the **NetBackup Administration Console** host properties.

Uninstalling the NetBackup plug-in for vSphere Client (HTML5)

You can unregister and uninstall the plug-in.

Note: To unregister and uninstall the plug-in, the vCenter credentials require the **Extension** privileges.

See "vCenter privileges for managing NetBackup plug-in installation" on page 14.

To unregister and uninstall the NetBackup plug-in by means of the NetBackup primary server

1   On the NetBackup primary server, run the `vwcp_manage` command:

Windows: *install_path*`\NetBackup\bin\goodies\vwcp_manage.exe`

UNIX, Linux: `/usr/openv/netbackup/bin/goodies/vwcp_manage`

2   On the **End User License Agreement** screen, click **Accept**.

3   On the **VMware vCenter Server Details** dialog, select the vCenter from the pull-down list and enter the vCenter credentials. Click **Validate**.

4   Case1 : Unregister Plug-in when no Local Plug-in installed:

■   On the **Unregister the Plug-in** dialog, click **Unregister** and confirm it.

■   On the **Finish** dialog, click **Close**.

Case2: Unregister Plug-in when Local Plug-in installed.

■   On the **Select the Plug-in type** dialog, select the Remote plug-in and click **Next**.

■   On the **Unregister the Plug-in** window, click **Unregister** and confirm it.

■   On the **Finish** dialog, click **Close**.

Case3: Unregister the plugin when more then 1 plug-ins are registered

■   On the **Select the Plug-in type** dialog, select the Remote Plug-in and click **Next**.

■   On the **Unregister the Plug-in** window, click **Unregister** and confirm it.

■   On the **Finish** dialog, click **Close**.

Note: This unregister's the Plug-in from the logged in NetBackup primary server but other NetBackup primary servers remain unaffected.

5   Log on to the vSphere Client. If you are currently logged on, log out first.

To unregister and uninstall the NetBackup plug-in for vSphere Client (HTML5) by means of the NetBackup appliance as primary server

1   Log on to the appliance as a NetBackup CLI user and run the `vwcp_manage` command to uninstall the plug-in.

The `vwcp_manage` command is located here:

`/usr/openv/netbackup/bin/goodies/vwcp_manage`

For example:

`vwcp_manage --unregister -v vCenter.example.com -u`
`vCenter_username -p password_file`

Where *password_file* is the path to a text file that contains only the password.

Note: As a NetBackup CLI user, you can create text files in your home directory only: `/home/nbusers`

For more information on the `vwcp_manage` command, see the *NetBackup Commands Reference Guide*:

http://www.veritas.co m/docs/000003214

2   Log on to the vSphere Client. If you are currently logged on, log out first.

Uninstalling the NetBackup Local plug-in for vSphere Client (HTML5)

You can unregister and uninstall the plug-in.

Note: To unregister and uninstall the plug-in, the vCenter credentials require the **Extension** privileges.

See "vCenter privileges for managing NetBackup plug-in installation" on page 14.

To unregister and uninstall the NetBackup plug-in by means of the NetBackup primary server

1   On the NetBackup primary server, run the `vwcp_manage` command:

Windows: `install_path\NetBackup\bin\goodies\vwcp_manage.exe`

UNIX, Linux: `/usr/openv/netbackup/bin/goodies/vwcp_manage`

2   On the **End User License Agreement** screen, click **Accept**.

3   On the **VMware vCenter Server Details** dialog, select the vCenter from the pull-down list and enter the vCenter credentials. Click **Validate**.

4   Unregister Local Plug-in when one or more Plug-ins installed.

- On the **Select the Plug-in type** dialog, select the local plug-in and click **Next**.

- On the **Unregister the Plug-in** window, click **Unregister** and confirm it.

- On the **Finish** dialog, click **Close**.

5   Log on to the vSphere Client. If you are currently logged on, log out first.

To unregister and uninstall the NetBackup local plug-in for vSphere Client (HTML5) by means of the NetBackup appliance as primary server

1   Log on to the appliance as a NetBackup CLI user and run the `vwcp_manage` command to uninstall the plug-in.

Note: The `vwcp_manage` command is located at `/usr/openv/netbackup/bin/goodies/vwcp_manage`

For example:

```
vwcp_manage --unregisterLocal -v vCenter.example.com -u
vCenter_username -p password_file
```

Note: `password_file` is the path to a text file that contains only the password.

Note: As a NetBackup CLI user, you can create text files in your home directory only at `/home/nbusers`. For more information see, NetBackup Commands Reference Guide

---

2   Log on to the vSphere Client. If you are currently logged on, log out first.

Plug-in Configurations

This chapter includes the following topics:

- Configuration overview for the NetBackup Recovery and Instant Recovery Wizards

- Port usage for the NetBackup vSphere Client (HTML5) plug-in

- Setting vCenter privileges for recovering virtual machines

- NetBackup permissions for the plug-in

- Configuring vCenter CA Certificates in NetBackup primary server

Configuration overview for the NetBackup Recovery and Instant Recovery Wizards

Note: The NetBackup Recovery and Instant Recovery Wizards are optional features of the NetBackup plug-in for vSphere Client (HTML5). The wizards provide a means of recovering virtual machines. They are not required for monitoring virtual machine backups.

To use the NetBackup Recovery and Instant Recovery Wizards to restore virtual machines, configure the following:

Table 3-1   Configuring the NetBackup Recovery Wizard

Sr. No	Description	Reference topic
1	Configure ports for the NetBackup Web Services.	See "Port usage for the NetBackup vSphere Client (HTML5) plug-in" on page 30.

Table 3-1   Configuring the NetBackup Recovery Wizard *(continued)*

Sr. No	Description	Reference topic
2	Set the required vCenter privileges.	See "Setting vCenter privileges for recovering virtual machines" on page 31.
3	Set NetBackup privileges	See " NetBackup permissions for the plug-in" on page 31.
4	Configure vCenter CA Certificates	See "Configuring vCenter CA Certificates in NetBackup primary server" on page 33.

Port usage for the NetBackup vSphere Client (HTML5) plug-in

The following table shows the standard ports to be used in a NetBackup plug-in environment.

Table 3-2   Ports used in NetBackup and the vSphere Client plug-in environment

Source	Port number	Destination
For Plug-in access: vCenter server version 7.0 and later (or vSphere Client server if deployed independently)	`RESTful` interface at port 1556 (https)	Primary server
For Plug-in access: vCenter server version before 7.0 (or vSphere Client server if deployed independently)	`RESTful` interface at port 443 (https)	Primary server
Primary server	443	vCenter server
Backup host	443	vCenter server
Backup host	902 (for `nbd` or `nbdssl`)	ESXi

Setting vCenter privileges for recovering virtual machines

Use the following procedure to set the user privileges in vCenter for the NetBackup Recovery wizards. Set the privileges on each vCenter where virtual machines may need to be restored.

If the user account to access the plug-in cannot be assigned administrator privileges, you must set the following permissions at the vCenter level.

To set vCenter privileges for recovering virtual machines

1 In vSphere Client, click **Administration > Roles**.

2 Under **Roles**, click **Administrator**.

3 Click **Privileges**.

4 Scroll down to **Global** and make sure **Log Event** is listed.

5 Scroll down to **NetBackup Recovery** and make sure the following are listed:

   Add or Remove NetBackup Servers

   Virtual Machine Recovery

6 Set these privileges on each vCenter where virtual machines may need to be restored.

Caution: The NetBackup **Virtual Machine Recovery** privilege grants global recovery authorization. It allows users with that role to recover any virtual machine that resides on that vCenter. Use caution when granting this privilege to users.

NetBackup permissions for the plug-in

Use NetBackup web UI to assign these permissions. See RBAC section in NetBackup™ Web UI Administrator's Guide.

Table 3-3   Permissions required to perform recovery operations in remote plug-in

Operation	Description	Additional required operations
Global > NetBackup management > Access hosts		
View	View the access hosts that are configured.	

Table 3-3   Permissions required to perform recovery operations in remote plug-in *(continued)*

Operation	Description	Additional required operations
Global > NetBackup management > NetBackup backup images		
View	View the attributes of the backup images.	
Assets > VMware assets		
View	View VMs, vCenter servers, and ESX hosts.	
View, Restore targets	View the available destinations to which to restore an asset.	View
Restore	Restore to the original or to an alternate location.	View Global > NetBackup management > NetBackup backup images > View Global > NetBackup management > Access hosts > View On the target location: View restore targets
Allow restore to overwrite	Allow a restore to overwrite an existing asset. Without this permission a user must restore an existing asset to a different location.	View Restore

Table 3-4   Permissions required to perform instant recovery operations in remote plug-in

Operation	Description	Additional required operations
Global > NetBackup management > Access hosts		
View	View the access hosts that are configured.	
Global > NetBackup management > NetBackup backup images		

Table 3-4 Permissions required to perform instant recovery operations in remote plug-in *(continued)*

Operation	Description	Additional required operations
View	View the attributes of the backup images.	
Assets > VMware assets		
View	View VMs, vCenter servers, and ESX hosts.	
View, Restore targets	View the available destinations to which to restore an asset.	View
Restore	Restore to the original or to an alternate location.	View Global > NetBackup management > NetBackup backup images > View Global > NetBackup management > Access hosts > View On the target location: View restore targets
Allow restore to overwrite	Allow a restore to overwrite an existing asset. Without this permission a user must restore an existing asset to a different location.	View Restore
Instant Restore	Option to recover and power on the virtual machines instantly.	Restore

Configuring vCenter CA Certificates in NetBackup primary server

NetBackup 10.0.1 onwards, vCenter CA certificate is automatically added to truststoreVWCP. In case of multiple certificates, configured in the vCenter, only certificate issued to and issued by Certificate Authority is added to the

truststoreVWCP. If the vCenter CA certificate is not added automatically then follow the steps to add it manually:

1 Download the vCenter CA certificates from *https://<vCenter IP/FQDN>/certs/download.zip*

2 Extract the contents of a zip file to any local location.

3 Get the `storepass` from `Veritas/NetBackup/var/global/jkskey` .

4 Update and run the following command:

Windows

```
C:\Program Files\Veritas\NetBackup\jre\bin\keytool"
-storetype BCFKS providerpath "C:\Program
Files\Veritas\NetBackup\wmc\ webserver\lib\ccj-3.0.1.jar" -
providerclass com.safelogic.cryptocomply.
jcajce.provider.CryptoComplyFipsProvider
-importcert -trustcacerts -file
C:\Users\labuser\Downloads\download \certs\win\ vCenter
Certificate -keystore "C:\Program Files
\Veritas\NetBackup\var\global\wsl\credentials\truststoreVWC
P.bcfks" -storepass 3588289782 -alias VMwareCA
```

Linux

```
/usr/openv/java/jre/bin/keytool -storetype BCFKS -providerpath
/usr/openv/wmc/webserver/lib/ccj-3.0.1.jar -providerclass com.
safelogic.cryptocomply.jcajce.provider.CryptoComplyFipsProvider
-importcert -trustcacerts -file /root/c3bc1e7a.0 -keystore
/usr/openv/var/global/wsl/credentials/truststoreVWCP.bcfks -
storepass
87324987439 -alias VMwareCA
```

Log in to the Plug-in

This chapter includes the following topics:

- Sign-in for the Plug-in
- Prerequisites
- Log-in to the plug-in
- Sign out of the plug-in

Sign-in for the Plug-in

Starting with NetBackup 10.0, it is mandatory to explicitly log in to the Plug-in. The user needs to have valid NetBackup user credentials.

User can log in to the NetBackup server to manage recovery and instant recovery for virtual machines which are backed up by that NetBackup server. Thus, to log in to any NetBackup server, you need to register the server with the plug-in.

Note: Login is required only in case of managing recovery and instant recovery. However, it is not needed for the monitoring purpose.

Prerequisites

- The user must have valid NetBackup user credentials.
- The user credentials must have appropriate privileges, to access specific feature of the Plug-in.

> **Note:** For example, a specific user with privileges to perform recovery, can only perform recovery on the virtual machines. The other user would see error describing insufficient rights.

Log-in to the plug-in

- Log in to vSphere Client with valid credentials.

- In the navigation pane, click **Veritas NetBackup**.

- On the **Log-in** screen, select applicable NetBackup primary server and provide valid NetBackup user credentials.

> **Note:** For vCenter version 7.0 and later, multiple NetBackup servers are available for selection. All the NetBackup servers, need to be registered with the Plug-in.
>
> For vCenter versions before 7.0, multiple NetBackup servers registration is not possible and hence only one server is displayed for selection.

Sign out of the plug-in

- Click **LOGOUT** to sign out from the Plug-in.

- After the successful logout the login screen is displayed.

Excluding virtual disks from the backup

This chapter includes the following topics:

■ About excluding virtual disks from the backup

■ Setting the exclude disks Custom Attribute

About excluding virtual disks from the backup

NetBackup provides several methods to exclude virtual machine disks from backups. One method lets you exclude the virtual disks that are defined in a virtual machine's **Custom Attributes**. NetBackup then excludes those disks if you specify the custom attribute name in the backup policy.

Veritas provides a **Virtual Disk Exclusion** option in the NetBackup plug-in for vSphere Client (HTML5). You can use that option to configure and apply a custom attribute to a virtual machine or multiple virtual machines.

To use the plug-in to configure a custom attribute to exclude disks from backups, the vCenter Global credentials **Manage custom attributes** and **Set custom attribute** are required.
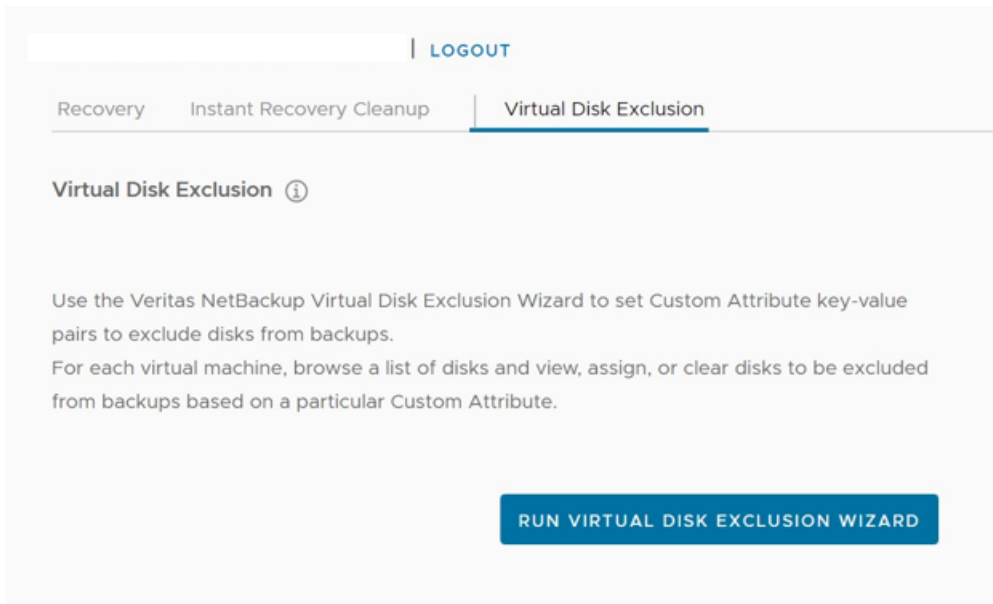
Setting the exclude disks Custom Attribute

The NetBackup plug-in for vSphere Client (HTML5) includes a **Virtual Disk Exclusion** option. Use that option to create a VMware custom attribute of the virtual disks to exclude from backups.

You can select up to and including 50 virtual machines to which you can apply a custom attribute.

To set the exclude disks Custom Attribute

1   In vSphere Client, click **Veritas NetBackup**.

2   Click **Virtual Disk Exclusion**, then click **RUN VIRTUAL DISK EXCLUSION WIZARD**.

| LOGOUT

Recovery   Instant Recovery Cleanup   Virtual Disk Exclusion

Virtual Disk Exclusion (i)

Use the Veritas NetBackup Virtual Disk Exclusion Wizard to set Custom Attribute key-value pairs to exclude disks from backups.

For each virtual machine, browse a list of disks and view, assign, or clear disks to be excluded from backups based on a particular Custom Attribute.

RUN VIRTUAL DISK EXCLUSION WIZARD

3 On the **Virtual Machine Selection** screen, select the VMs to which you want to apply the Custom Attribute, as follows:

Virtual Disk Exclusion Wizard

1 Virtual Machine Selection	**Search and Add Virtual Machines**
2 Virtual Disk Selection	⊘ Successfully added 1 Virtual machines
3 Review Selections	

vCenter Server   prolcl303.pne.ven.veritas.com

Custom Attribute   NB_DISK_EXCLUDE_LIST

🔍 vm   **SEARCH**

Search is case sensitive

ⓘ 3 Virtual Machines Added

+ ADD VIRTUAL MACHINE   RESET SEARCH PARAMETERS

	Display Name	DNS Name	Host Name	BIOS UUID	Instance UUID	ESX Host
☐	vcenter_ipv6_ ch15bl15VM20	ch15bl15vm20.pne	ch15bl15vm20.pne.ve	564d53ff-d344-0836-97c9-b850201feb40	522f2def-444b-8c52-7e48-04755c38a838	10.210.48.72
☐	vcenter_65u1_ipv6	ch15bl15vm18.pne	ch15bl15vm18.pne.ve	564d7d59-8c80-796e-a47f-bb087f5a151f	528153e8-cd91-a9cc-3a9d-9ce8f21c40d4	10.210.48.72
☑	win2k16_nilesh_ipv6_master	ch15bl15vm11.PNE	ch15bl15vm11.PNE.VE	564d3289-3517-9e4d-7d58-2ebfbfa9e5e3	52156b0b-3550-5bab-e363-f94d58cba013	10.210.48.72
☐	ch15bl15vm01_rhel74_master	ch15bl15vm01.pne	ch15bl15vm01.pne.ve	564dfbc9-26b1-baa4-b99e-90d48e050cc8	523ddada-b725-839c-c3a9-212bb6b4a5f6	10.210.48.72
☐	SQL_2k14_Win_2012_r2_nilesh_ll	ch15bl15vm12.PNE	ch15bl15vm12.PNE.VI	564d435d-1b78-c39f-2ab7-17342a13318e	52bb9963-b15f-a4c7-d228-9cdb47ccb885	10.210.48.72

☑ 1

a. In the **vCenter Server** drop-down list, select the vCenter server that hosts the virtual machines.

By default, the wizard selects the server that you selected in the vSphere Client.

b. In the **Custom Attribute** field, enter the name for the attribute.

By default, Veritas suggests **NB_DISK_EXCLUDE_LIST**.

c. Click in the **Search** field to enter a value to search for, then click **Search**.

The wizard displays the VMs that match that value.

d. In the search results list, select the VMs to which you want to add the Custom Attribute and then click **ADD VIRTUAL MACHINE**. You can change the **Search Results** order by clicking on the column headers.

At the top of the screen, a message shows how many VMs that you successfully added.

e. To continue to the next wizard screen, click **Next**.

4 On the **Select Virtual Disks to Exclude** screen, select the virtual disks to which you want to apply the Custom Attribute, as follows:

Virtual Disk Exclusion Wizard

	Select Virtual Disk to Exclude
1 Virtual Machine Selection	Added Virtual Machines
2 Virtual Disk Selection	
3 Review Selections	

	Display Name			Custom Attribute	
⋮	vcenter_ipv6_ ch15bl15VM20			NB_DISK_EXCLUDE_LIST	

ⓘ 1 Virtual Disk Excluded

Available Disks for vcenter_ipv6_ ch15bl15VM20: Showing 12 results

	Exclude Disk	Label	Location	Path	Capacity
☑ ⚠		Hard disk 1	scsi0-0	[PUNBNRHP3PAR-02_16TB_LUN3] vcenter_ipv6/vcenter_ipv6.vmdk	12,582,912 KB
☐		Hard disk 2	scsi0-1	[PUNBNRHP3PAR-02_16TB_LUN3] vcenter_ipv6/vcenter_ipv6_1.vmdk	1,838,080 KB
☐		Hard disk 3	scsi0-2	[PUNBNRHP3PAR-02_16TB_LUN3] vcenter_ipv6/vcenter_ipv6_2.vmdk	26,214,400 KB
☐		Hard disk 4	scsi0-3	[PUNBNRHP3PAR-02_16TB_LUN3] vcenter_ipv6/vcenter_ipv6_3.vmdk	26,214,400 KB
☐		Hard disk 5	scsi0-4	[PUNBNRHP3PAR-02_16TB_LUN3] vcenter_ipv6/vcenter_ipv6_4.vmdk	10,485,760 KB

a. Select a virtual machine in the list of virtual machines.

You can remove VMs or refresh the display by clicking the vertical ellipsis next to the VM:

⋮

b. In the **Available Disks** list, select the disk or disks to add to the Custom Attribute. You can select all disks in the list by clicking the check box next to the **Exclude disk** column header. If a disk is excluded already, a warning icon appears in the **Exclude disk** column.

c. Repeat steps a and b for each virtual machine.

d. When you finish selecting disks, click **Next** to continue to the next wizard screen.

5 On the **Review Selections** screen, review and set the Custom Attribute, as follows:

Virtual Disk Exclusion Wizard

1 Virtual Machine Selection	Review Selections
2 Virtual Disk Selection	Virtual Machines and Exclude Disk
3 Review Selections	

Display Name	Custom Attribute	Excluded Disks
vcenter_ipv6_ ch15bl15VM20	NB_DISK_EXCLUDE_LIST	scsi0-0

EXCLUDE DISKS

⊘ Successfully set virtual disk exclusions

SHOW MORE DETAILS >>

a. Review the selections for the disks to exclude.

b. Click **Exclude Disks** to add the Custom Attribute to all of the selected VMs. The list box shows the results of the operation.

c. Click **Finish**.

Monitoring backup status

This chapter includes the following topics:

- vCenter privileges for backup monitoring

- Backup monitoring displays in the NetBackup plug-in for vSphere Client (HTML5)

- Summary display

- Virtual Machines display

- Events display

- Using the Veritas NetBackup plug-in for backup reporting

- How to respond to backup status
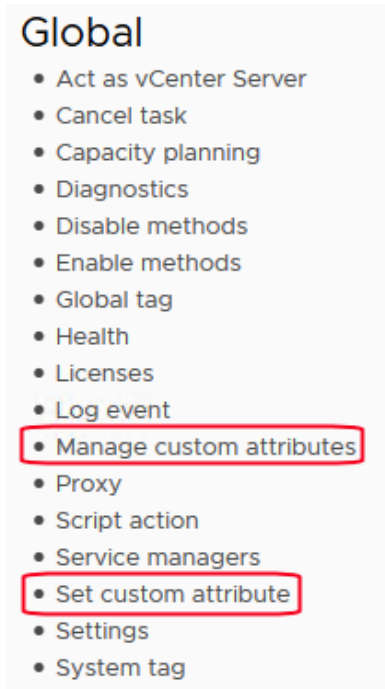
vCenter privileges for backup monitoring

Before you can use the NetBackup plug-in for vSphere Client (HTML5) to monitor virtual machine backups, you must set vCenter privileges. Use vSphere Client to make sure that the following **Global** privileges are set in vCenter:

Manage custom attributes

Set custom attribute

If the user account to access the plug-in cannot be assigned administrator privileges, you must set these permissions at the vCenter level. For assistance setting privileges, refer to the appropriate VMware vSphere Documentation Center.

In vSphere Client, the **Global** privileges may look similar to the following:

Global
- Act as vCenter Server
- Cancel task
- Capacity planning
- Diagnostics
- Disable methods
- Enable methods
- Global tag
- Health
- Licenses
- Log event
- Manage custom attributes
- Proxy
- Script action
- Service managers
- Set custom attribute
- Settings
- System tag

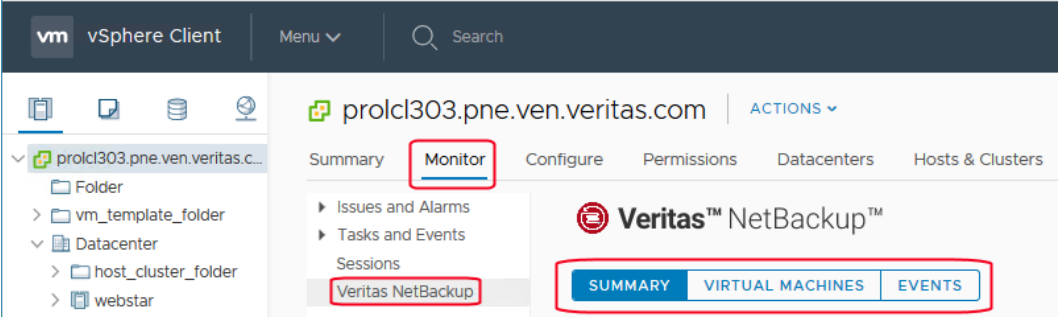# Backup monitoring displays in the NetBackup plug-in for vSphere Client (HTML5)

In vSphere Client, on the **Monitor** tab, click **Veritas NetBackup** to display VM backup information.

Note: Select an object, such as a vCenter, folder, datacenter, or ESXi host. The plug-in displays information for the VMs within the object that you select.

Figure 6-1   The three monitor options: Summary, Virtual Machines, Events

The following table describes the available displays based on the selected objects:

Table 6-1   Summary, Virtual Machines, and Events displays in the
NetBackup plug-in for vSphere Client (HTML5)

| View	Information shown
Summary	A summary and graphical display of backup success and backup events for a specified time period. Can show the current backup status for a selected VM. See "Summary display" on page 44.
Virtual Machines	Tabular display of backup information for a group of VMs. **Note:** This display is available when you click on a vSphere object that is higher than the level of a VM. You can filter the information with a range of criteria. Includes an option for customized sorting in multiple columns. See "Virtual Machines display" on page 46.
Backup Events	More detailed tabular display of backup information based on events. Can show backup events for a VM or its parent object. You can filter the information with a range of criteria. Includes an option for customized sorting in multiple columns. See "Events display" on page 49.

Summary display

This display summarizes backup status, backup events, and backup age for the VMs in the vSphere object that you select. If you select an individual VM, the Summary display shows backup status and events for that VM. . If you select a

non-VM object, then for the backup events the information suggests you to visit individual VM for more details of the events data.

The following shows an example of the Summary display for multiple VMs.

Figure 6-2   Summary display
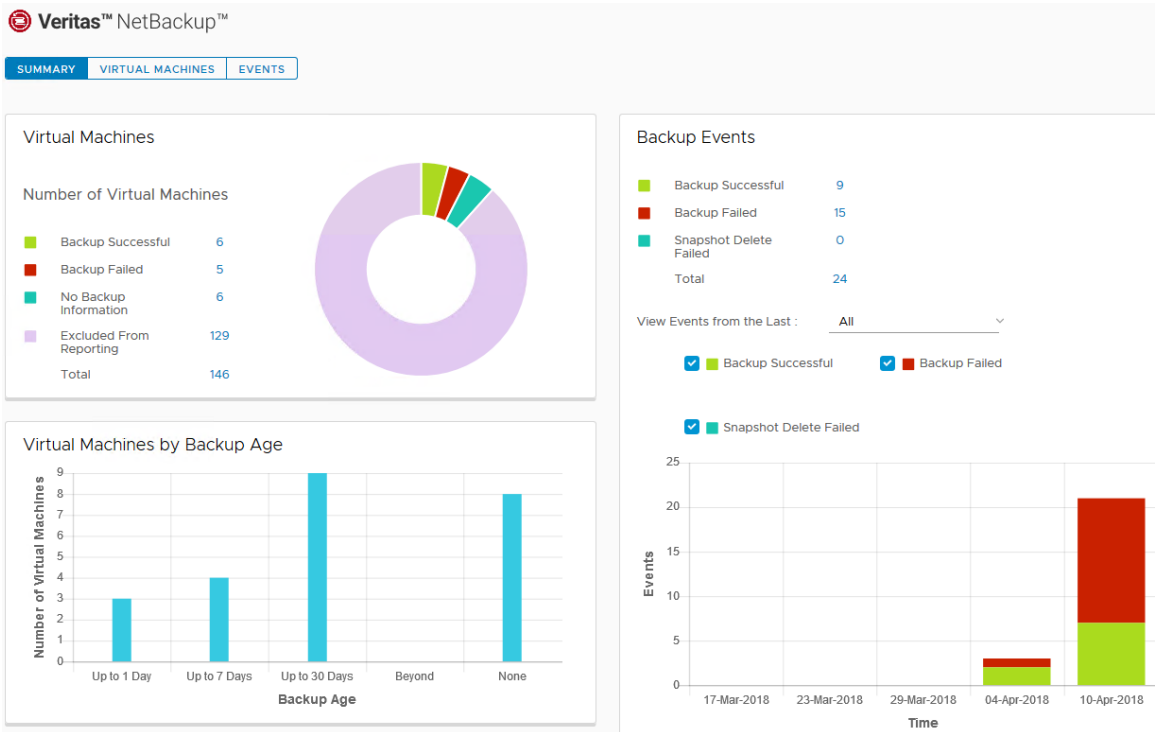
The Summary display presents the following backup information.

Table 6-2   Summary display in the NetBackup plug-in for vSphere Client (HTML5)

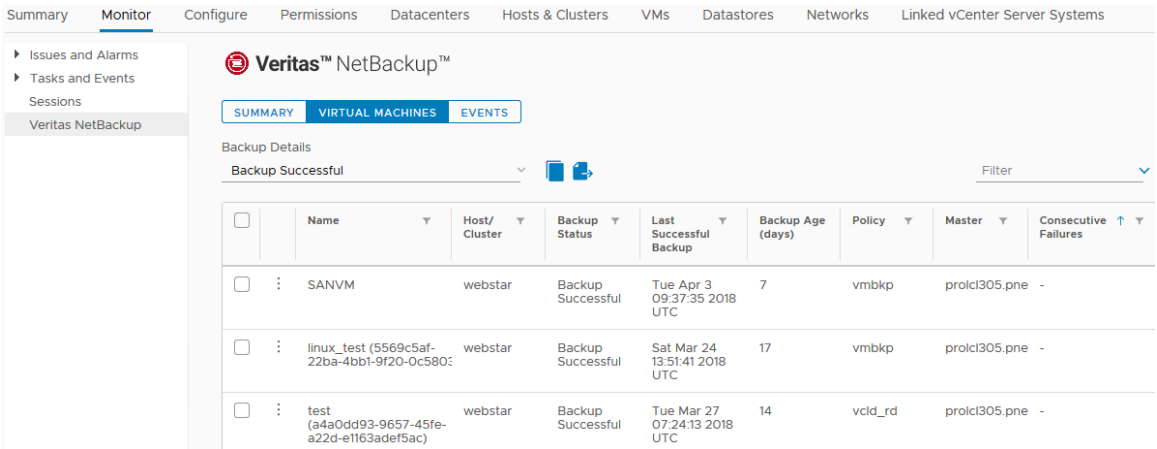| Panel	Description
Virtual Machines	Shows the current backup status for a particular VM or for all the VMs that belong to the selected vSphere object.
	If the vSphere object is higher than the level of a VM, the backup status appears in a color-coded pie chart.
	Note: If the panel applies to more than one VM: click on the linked values (such as for **Backup Successful** or **Total**) to see the details in the **Virtual Machines** display.

Table 6-2	Summary display in the NetBackup plug-in for vSphere Client (HTML5) *(continued)*

Panel	Description
Virtual Machines By Backup Age	Shows the backup age of the VMs in a bar chart. This panel is available only for a vSphere object that is higher than the level of a VM.
Backup Events	**For an indivisual VM:** Lists the total number of backup events and a breakdown of the events by **Backup Successful**, **Backup Failed**, and **Snapshot Delete Failed**. **Note:** Click on the linked values for **Backup Successful**, **Backup Failed**, **Snapshot Delete Failed**, or **Total** to see the details in the **Events** display. Includes a color-coded bar chart that represents the type and number of backup events that occurred within a specified period. You can configure the chart as follows: ■ Select the types of events that appear in the chart by clicking on the color-coded check boxes. ■ Select a different time period from **View events from the last**. **For Multiple VMs:** User needs to visit an individual VM for more details of its events data.

Virtual Machines display

The Virtual Machines display is available when you click on a vSphere object that is higher than the level of a VM. The display lists backup information for each VM. The following is an example of the Virtual Machines display.

Figure 6-3   Virtual Machines display in the NetBackup plug-in for vSphere Client (HTML5)
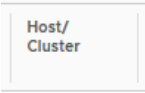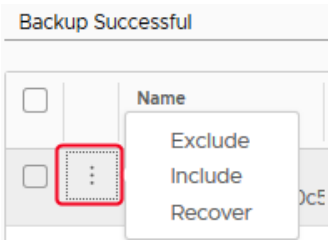

The following table describes the fields and options in the Virtual Machines display.

Table 6-3   Fields and options in the Virtual Machines display

Option	Description
All	For the selected vSphere object, shows all backup status (successful, failed, and so forth).
Backup Successful	For the selected vSphere object, shows only the VMs that were successfully backed up.
Backup Failed	For the selected vSphere object, shows only the VMs that were not successfully backed up.
No Backup Information	For the selected vSphere object, shows only the VMs for which no backup status exists.
	For example: The VM may not be included in a NetBackup policy, or the **Post events to vCenter** policy option may not be correctly configured. Contact the NetBackup administrator.
Excluded From Reporting	For the selected vSphere object, shows the VMs that were intentionally excluded from scheduled backups (contact the NetBackup administrator).
Name	The name of the VM.
Host/Cluster	The ESXi host or cluster that contains the VM.

Table 6-3	Fields and options in the Virtual Machines display *(continued)*

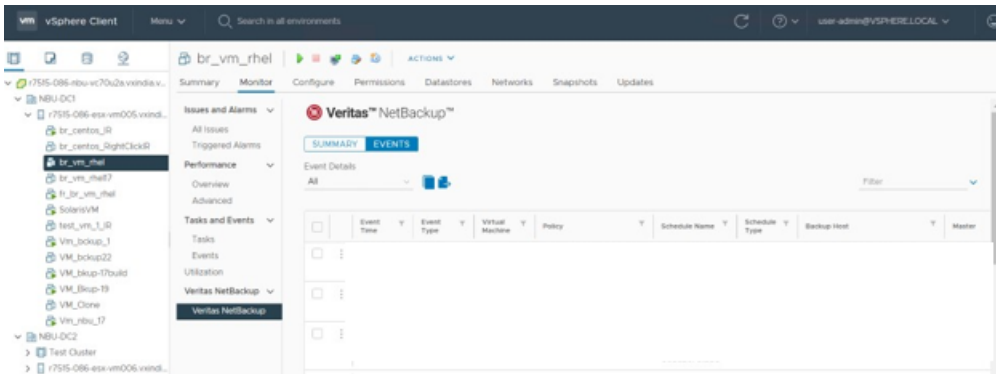| Option	Description
Backup Status	The current status of backups for the VM. The status values are: No Backup Information, Backup Successful, Backup Failed, Excluded From Reporting
Last Successful Backup	The date and time of the last successful backup.
Policy	The NetBackup policy that created the backup.
Primary	The NetBackup primary server where the backup policy is defined.
Consecutive Failures	The number of consecutive backup failures.
	You can adjust the width of each column.
	Click on the vertical ellipsis next to a row to exclude or include a VM in the display, or to recover the VM. **Exclude**: Marks a selected VM so that its backup status and other information are not displayed. **Include**: Reverses the **Exclude** option: Adds a VM's backup status and other information to the display. **Recover**: Brings up the **Recovery Wizard**, to recover the VM.
	Click the export icon to export the rows to a comma-separated text (CSV) file: To export the information for a particular VM, first click on the check box of the VM. Click the copy icon to save the information to the Clipboard:

Events display

This display shows backup information based on events, such as backup successful, backup failed, and snapshot delete failed.
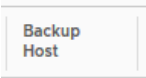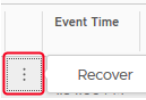
The following is an example of the Events display.

Figure 6-4 Events display

Table 6-4 Fields and options in the Events display

Option	Description
ALL	For the selected vSphere object, shows all backup status (successful, failed, and so forth).
Backup Successful	For the selected vSphere object, shows only the VMs that were successfully backed up.
Backup Failed	For the selected vSphere object, shows only the VMs that were not successfully backed up.
Snapshot Delete Failed	For the selected vSphere object, shows only the VMs for which NetBackup failed to delete the snapshot after the backup completed. **Note:** After it creates a snapshot, NetBackup deletes the snapshot when the backup completes. If NetBackup fails to delete snapshots, the performance of the VM may eventually decline. In that case, you may need to delete the snapshots manually.
Event Time	The time at which that the event occurred.
Event Type	The values are: Backup Successful, Backup Failed, Snapshot Delete Failed.
Virtual Machine	The name of the VM.
Policy	The NetBackup policy that created the backup.

Table 6-4   Fields and options in the Events display *(continued)*

Option	Description
Schedule Name	The name of the schedule for the backup.
Schedule Type	The type of schedule for the backup.
Backup Host	The backup host (proxy) that performed the backup.
Primary	The NetBackup primary server where the backup policy is defined.
Job Duration	The amount of time that the backup job needed to complete.
Expiration	The date on which the backup expires.
Backup Host	You can adjust the width of each column.
Event Time Recover	To recover a VM, select **Backup Successful** under **Event Details**, click on the vertical ellipsis in the VM's row, and click **Recover**. The **Recovery Wizard** appears.
	Click the export icon to export the rows to a comma-separated text (CSV) file: To export the information for a particular VM, first click on the check box of the VM. Click the copy icon to save the information to the Clipboard:

Using the Veritas NetBackup plug-in for backup reporting

The following procedures explain how to find VM backup status in the NetBackup plug-in for vSphere Client (HTML5).

The information that appears in the **Veritas NetBackup** tab applies only to the vSphere object that you select.

To find backup status for a single VM

1   Select the VM in vSphere Client (HTML5).

2   On the **Monitor** tab, click **Veritas NetBackup**.

3   Use the **Summary** or **Events** displays to see the backup status.

To find backup status for multiple VMs

1   Select the appropriate object in vSphere Client (such as datacenter or ESXi host).

2   On the **Monitor** tab, click **Veritas NetBackup**.

The **Summary** display shows the backup success rate for the VMs overall.

See "Summary display" on page 44.

3   For the backup status of particular VMs, click **Virtual Machines** and find the VMs in the **Name** column.

You can click on a column header to reorder the entries in that column, or to move or widen the column.

You can use **Filter** to limit the type of information that appears.

See "Virtual Machines display" on page 46.

See "Events display" on page 49.

To determine the age of existing backups

1   Select the appropriate object in vSphere Client (such as datacenter or ESXi host).

2   On the **Monitor** tab, click **Veritas NetBackup**.

3   Click **Summary**.

Virtual Machines By Backup Age shows the age of the backups (up to one day, 7 days, 30 days, and so forth).

4   For information on backup age per VM, click **Virtual Machines** and look at the **Backup Age (days)** column.

5   To save the report, click the copy icon or export icon:

The copy icon copies the information to the Clipboard. The export icon exports the rows to a comma-separated text (CSV) file.

How to respond to backup status

For the backup status that is reported in the NetBackup plug-in for vSphere Client (HTML5), try the following suggested actions. You may need to confer with the NetBackup administrator.

Table 6-5   Tips for responding to backup status in the NetBackup plug-in for vSphere Client

Status	Action
Backup failures	■ Look at the number of consecutive failures on the **Virtual Machines** display. ■ If too many failures have occurred, export the display results (use the save-file icon in the lower right). Send the file to the NetBackup administrator.
No backup information	■ The VM may not be included in a NetBackup policy, or the **Post events to vCenter** policy option may not be correctly configured. Contact the NetBackup administrator. ■ The VM may be intentionally excluded from scheduled backups (contact the NetBackup administrator). In that case, you can right-click on the VM's row in the **Virtual Machines** display and click **Exclude**. The **Exclude** option removes the VM's status from the display. ■ The ESXi server may have been removed from the vCenter server. See "Notes on the NetBackup plug-in for vSphere Client (HTML5)" on page 8.
Snapshot delete failed	NetBackup attempts to delete old snapshots at the start of each backup. If snapshots are not deleted, you can manually delete them in vSphere Client.

Restoring virtual machines

This chapter includes the following topics:

- Notes on the NetBackup recovery wizards

- How to access the NetBackup Recovery Wizard

- Restore virtual machine

- Perform Instant Recovery of virtual machines

- Instant Recovery: Cleaning the recovery environment and releasing the NetBackup resources

Notes on the NetBackup recovery wizards

NetBackup provides common wizard for virtual machine recovery and instant recovery.

Use the Veritas NetBackup **Recovery Wizard** to restore a virtual machine from its NetBackup image. You can restore the virtual machine to its original location or to a different location.

Use the Veritas NetBackup **Instant Recovery Wizard** to instantly restore virtual machine backup images. With instant recovery, you can immediately restore a virtual machine into your production environment. Instant virtual machine recovery helps improve recovery time objectives (RTO) and minimizes disruption and downtime of the production VMs.

Note the following about the NetBackup plug-in's recovery wizards:
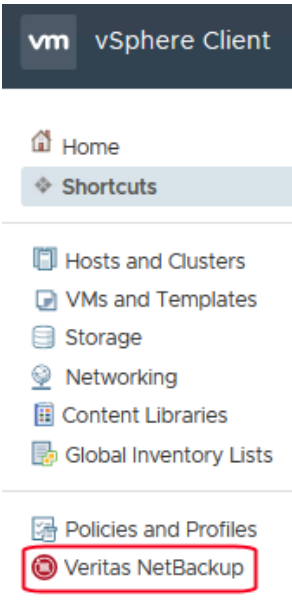
- For the pre-requisites for using the recovery wizards:
  See "Configuration overview for the NetBackup Recovery and Instant Recovery Wizards" on page 29.

- The recovery wizards are an optional feature of the plug-in. They are not required for monitoring virtual machine backups.

- The NetBackup **Recovery Wizard** is for recovery of an entire virtual machine, not for recovery of individual files. To recover individual files from the virtual machine backup, use the **NetBackup Backup, Archive, and Restore** interface. Or use the plug-in's **Instant Recovery Wizard** to boot the virtual machine instantly and access the files.
  See also: "About restore of individual files" and "Restoring individual files" in the *NetBackup for VMware Administrator's Guide*.

- The recovery wizards do not support recovery of vCloud Director backup images. To recover virtual machines into vCloud Director, use the **NetBackup Backup, Archive, and Restore** interface.
  See the "Use NetBackup for vCloud Director" chapter in the *NetBackup for VMware Administrator's Guide*.

- You can also perform VM recovery and instant recovery using the `nbrestorevm` command. For more information, refer to the *NetBackup for VMware Administrator's Guide* and the *NetBackup Commands Reference Guide*.
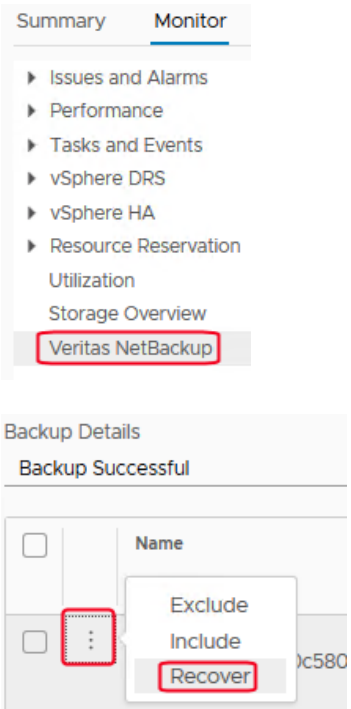
How to access the NetBackup Recovery Wizard

In vSphere Client (HTML5), you can launch the NetBackup recovery wizard as shown in the table below.

Table 7-1	How to start the NetBackup recovery wizard in vSphere Client
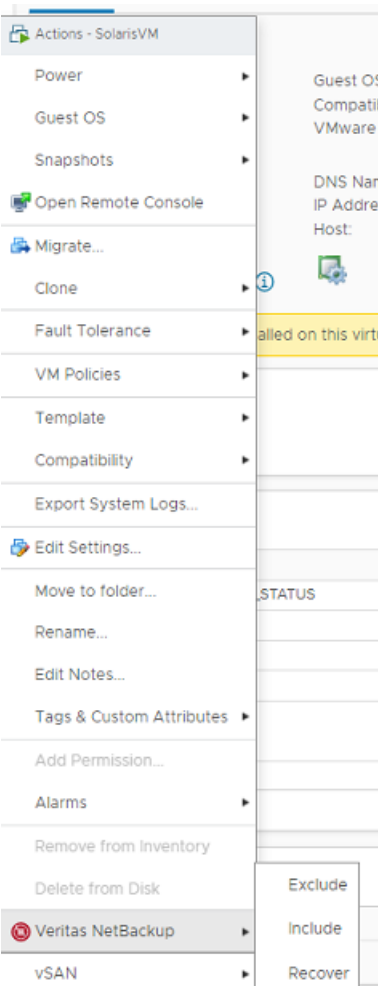
Action	Description
vm vSphere Client ⌂ Home ◆ Shortcuts ▭ Hosts and Clusters ▭ VMs and Templates ▤ Storage ◉ Networking ▦ Content Libraries ▣ Global Inventory Lists ▨ Policies and Profiles ◎ Veritas NetBackup 🐾 Administration	**1** In the vSphere Client left pane (or in the **Menu**), click **Veritas NetBackup**. **2** Login to specific NetBackup server. **3** Click **Recovery** or **Instant Recovery and Cleanup**. **4** Click **RUN RECOVERY WIZARD** or **RUN INSTANT RECOVERY WIZARD**.
Log-in	Login page appears if you are not already logged in.

Table 7-1   How to start the NetBackup recovery wizard in vSphere Client
(continued)

Action	Description
Summary Monitor ▶ Issues and Alarms ▶ Performance ▶ Tasks and Events ▶ vSphere DRS ▶ vSphere HA ▶ Resource Reservation Utilization Storage Overview Veritas NetBackup Backup Details Backup Successful ☐ Name ⋮ Exclude Include Recover 0c580 ☐	In vSphere Client, click the **Monitor** tab, then click **Veritas NetBackup**. Click **Virtual Machines** or **Events**, click on the vertical ellipsis next to a virtual machine that had a successful backup, and click **Recover**.

	Table 7-1	How to start the NetBackup recovery wizard in vSphere Client *(continued)*

Action	Description
	In the **Virtual Machines** pane (or in the left pane), right-click on the VM to restore and click **Veritas NetBackup > Recover**.

Restore virtual machine

1. On the **Recovery Wizard > Virtual Machine Selection** dialog, select the virtual machine to restore. See

2. On the **Recovery Points** tab:

- Select the appropriate date and time range and click **SEARCH RECOVERY POINTS**.

- From the **Recovery Points**, select **Virtual machine recovery** and click **Next**. See "Recovery points screen" on page 59.

   Note: You can restore the virtual machine to its original location or to a different location.

3 From the **Recovery Target** tab, fill the following details:

- **Display Name**: Name of the VM

- **ESXi server or cluster**

- **Resource pool or vApp**

- **Datastore or Datastore cluster**

- Click **NEXT**.

   Note: Click **CHANGE** in front of receptive field to change the default value.

4 On the **Recovery Options** tab, select all the applicable options. See "Recovery options screen" on page 60.

5 On the **Pre-Recovery Check** tab, review all the parameters. Click **RUN PRE-RECOVERY CHECK**.

6 Once the pre-recovery check is successful, click **START RECOVERY**.

7 Click **OK** for **Recovery Job Initiated** dialog.

Virtual Machine Selection screen

Select the virtual machine to restore.

Note: The Recovery Wizard is dismissed when you click on the side navigation or header, and any entries cannot be saved. Click **Acknowledge** to continue.
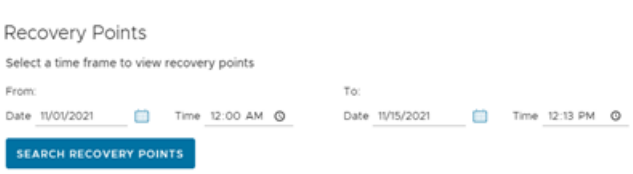
Table 7-2   Fields in the Virtual Machine Selection screen

Field	Description
VMware server	Shows the VMware server where the plug-in is installed. **Note:** Use the drop-down list to select the VMware server where the VM resided when it was backed up. **Note:** If the plug-in is not authorized to restore VMs, this field is empty.
SEARCH	Enter the name (or portion of the name) of the virtual machine that you want to restore, and click **Search**. **Note:** This field is case-sensitive.
Search Results	The results of the search appear in this list. Click the virtual machine to restore and then click **Next**. The NetBackup primary server identifies each VM in the backup policy as a "client." In the search results, the **NetBackup Client Name** column displays that name.

Recovery points screen

Select the recovery point from which to restore the virtual machine.

Table 7-3   Fields in the Recovery Points screen

Field	Description
Search Recovery Points	Use the **From** and **To** date and time fields to choose a date range, then click **SEARCH RECOVERY POINTS**. Recovery Points Select a time frame to view recovery points From: To: Date 11/01/2021 🗓 Time 12:00 AM ⏱ Date 11/15/2021 🗓 Time 12:13 PM ⏱ SEARCH RECOVERY POINTS
Recovery Points	Lists the recovery points that fall within the search dates. Select a recovery point. Instant Recovery option will be enabled if and only if the recovery point is ready for instant recovery.
Virtual Machine Recovery	Select the Virtual Machine Recovery option to restore a virtual machine from its NetBackup recovery point. You can restore the virtual machine to its original location or to a different location.

Table 7-3	Fields in the Recovery Points screen *(continued)*
Field	**Description**
Instant Virtual machine Recovery	Select the Instant Virtual Machine Recovery option to instantly restore virtual machine backup recovery point.

Select the Recovery Target screen

Provide the name for the recovery target, and appropriately select the ESXi server, the resource pool and the datastore cluster.

Table 7-4	
Field	**Description**
Display Name	The display name of the VM image.
ESXi server or cluster	The selected ESXi server or cluster name. Click Change to select different value for this field.
Resource pool or vApp	The selected resource pool server or cluster name. Click Change to select different value for this field.
Data store or Data store cluster	The selected datastore server. Click Change to select different value for this field.

Recovery options screen

Click the check boxes to select the networks for the recovered virtual machine.

Table 7-5	Fields in the Network Selection screen
Field	**Description**
Allow overwrite of existing virtual machine	To overwrite the existing virtual machine.
Power on after recovery	To power on the recovered virtual machine.
Recovery Host	Select the recovery host for the recovery.
Advanced options	
Create a new BIOS UUID	To create the new BIOS UUID.

Table 7-5	Fields in the Network Selection screen *(continued)*
Field	**Description**
Create a new instance UUID	To create the new instance UUID.
Remove backing information for devices	To remove information.
Remove original network configuration	To remove original network associated with the backed up VM.
Remove tag association	To remove tags associated with backed up VM.
Retain original hardware version	To retain the original hardware versions of backed up VMs.
Format of restored virtual disks	Select Provision for backed up VMs virtual disks. Options available are: ■ Original provisioning ■ Thick provisioning lazy zeroed ■ Thick provisioning eager zeroed ■ Thin provisioning
Transport mode	Select transport mode from backup or from below options: ■ Use transport mode used for backup ■ Try the selected transport mode in the following order: ■ SAN ■ HotAdd ■ LAN ■ NBD ■ NBDSSL

Review Virtual Machine Recovery screen

Preview the recovery details, run a pre-recovery check, and start the recovery.

Field	Description
Review	Review the virtual machine attributes.
RUN PRE-RECOVERY CHECK	Different validations are performed as a part of pre-check, before the actual recovery.

Field	Description
Pre-Recovery Check Results	Displays the pre-recovery status. This helps to fix the errors in advance and ensures the smooth recovery process.
START RECOVERY	Once pre-recovery is clean, you can start the recovery.

Perform Instant Recovery of virtual machines

1 On the **Recovery Wizard > Virtual Machine Selection** dialog, select the virtual machine to restore. See "Virtual Machine Selection screen" on page 58.

2 On the **Recovery Points** tab:

- Select the appropriate date and time range and click **SEARCH RECOVERY POINTS**.

- From the **Recovery Options**, select **Instant virtual machine recovery** and click **Next**.

 Note: Instant virtual machine recovery option is enabled if and only if the recovery point is ready for instant recovery.

 Note: You can restore the virtual machine to its original location or to a different location.

3 From the **Recovery Target** tab, fill the following details:

- **Display Name**: Name of the VM

- **ESXi server or cluster**

- **Resource pool or vApp**

- **Datastore or Datastore cluster**

- Click **NEXT**.

 Note: Click **CHANGE** in front of receptive field to change the default value.

4 On the **Recovery Options** tab, select all the applicable options. See "Instant Recovery: Recovery Options" on page 63.

5 On the **Pre-Recovery Check** tab, review all the parameters. Click **RUN PRE-RECOVERY CHECK**.

6 Once the pre-recovery check is successful, click **START RECOVERY**.

7 Click **OK** for **Recovery Job Initiated** dialog.

Instant Recovery: Virtual Machine Selection screen

Select the virtual machine to restore.

Note: The Recovery Wizard is dismissed when you click on the side navigation or header, and the entries are not saved. Click **Acknowledge** to continue.

Table 7-6   Fields in the Virtual Machine Selection screen

Operations	Description
vCenter Server	Shows the vCenter server where the plug-in is installed.
	Note: Use the drop-down list to select the vCenter server where the VM resided when it was backed up.
SEARCH	Type the name or portion of the name of the virtual machine that you want to restore, and click **SEARCH**.
	Enter an asterisk * to search the complete list.
	Note: This field is case-sensitive.
Search Results	The results of the search appear in this list.
	Select the virtual machine to restore and then click **Next**.
	The NetBackup primary server identifies each VM in the backup policy as a **client**. In the search results, the **NetBackup Client Name** column displays that name.

The results of the search appear under **Search results**. Select the virtual machines and add them to restore and then click **Next**.

Click **Next** to select the backup images for instant recovery.

Instant Recovery: Recovery Options

Click the check boxes to select the networks for the recovered virtual machine.

Table 7-7 Fields in the Instant recovery virtual machine selection screen

Field	Description
Power on after recovery	To overwrite the existing virtual machine.
Remove original network	Removes the existing network settings of all the selected VMs after the recovery.
Remove tag associations	NetBackup does not restore any tag associations from the backup.
Retain original hardware version	NetBackup restores the virtual machine with its original hardware version (such as 4). It retains the original version even if the target ESXi server by default uses a later hardware version (such as 7 or 8).
	If this option is not selected, the restored virtual machine is converted to the default hardware version that the ESXi server uses.

Instant Recovery: Cleaning the recovery environment and releasing the NetBackup resources

Use this screen to complete the instant recovery process by cleaning the recovery setup and releasing the NetBackup resources. The instant recovery workflow is completed only when the recovery is completed and the NetBackup resources are released.

Figure 7-1　　　Instant Recovery Cleanup screen
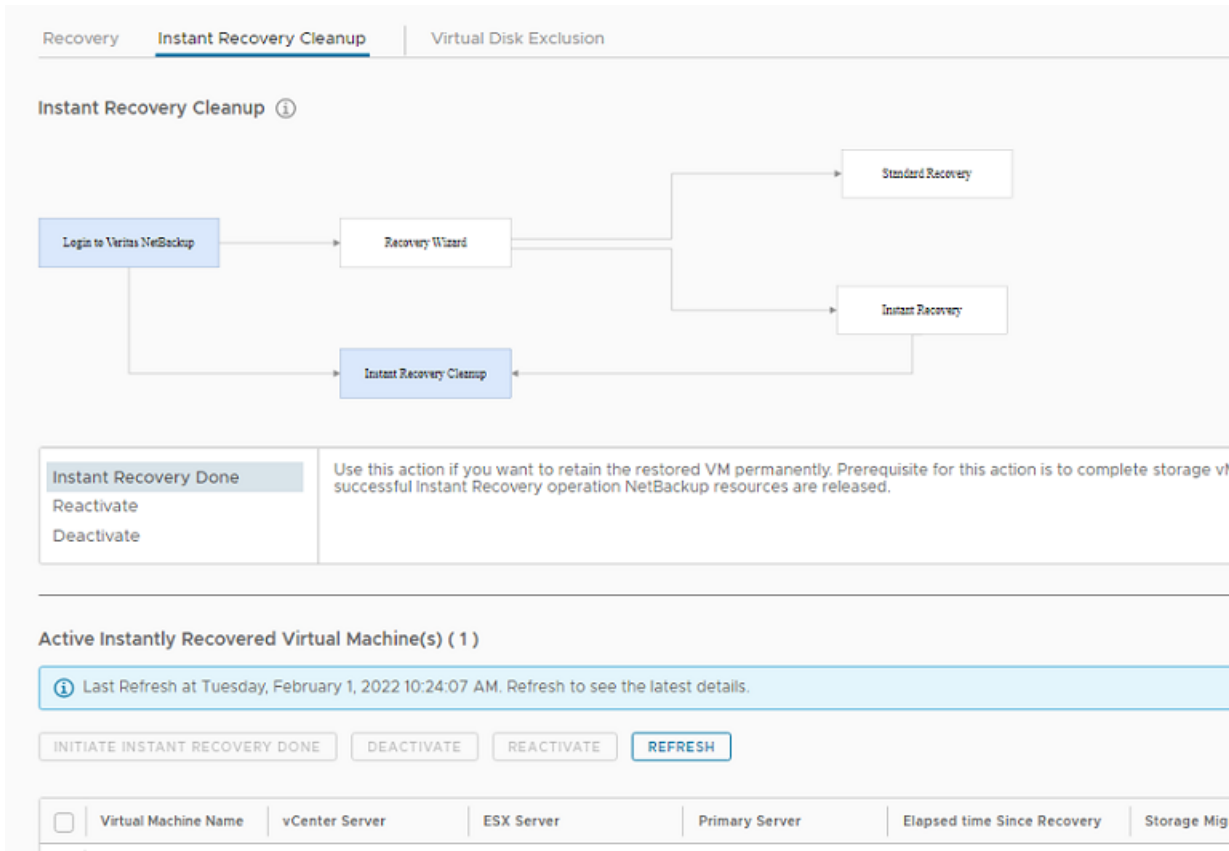
Use the following options to complete the instant recovery.

Table 7-8　　　Fields in the Instant Recovery Cleanup screen

Field	Description
Initiate Instant Recovery Done	Use this option to complete the instant recovery operation after you have performed the Storage vMotion of the virtual machines to a different datastore. This option completes the virtual machine instant recovery operation after the vMotion migration of the virtual machine is completed. When the datastore is removed, its resources are released on the NetBackup media server.
Deactivate	Use this option when you are done with the restore and do not intend to retain the restored virtual machine. This action removes the virtual machine from the ESX host. If no other virtual machine uses the NetBackup datastore, this option removes that datastore and releases its resources on the NetBackup media server.

Table 7-8   Fields in the Instant Recovery Cleanup screen *(continued)*

Field	Description
Reactivate	Use this option when the connection to the virtual machine was interrupted. The interruption may occur due to a network disconnect between the NetBackup media and the ESX server. This option reactivates a restored virtual machine by remounting the NetBackup datastore. It also registers the restored virtual machines on the ESX host.
Refresh	Use this option to update the latest image list.

Troubleshooting

This chapter includes the following topics:

- A NetBackup primary server is not available in the primary server list of the login screen

- The NetBackup plug-in for vSphere Client (HTML5) does not find any backup images in the listed events

- Mismatch in vCenter server name (uppercase vs. lowercase letters) causes the VMware connectivity test to fail

- Instant recovery operation is not complete due to NFS mount limit exceed

- Instant recovery option is disabled for the selected recovery point

- The vCenter server names are not available for search

- Virtual machine display name conflicts are not shown before the pre-recovery check

- Reasons for failure of pre-recovery checks

- Too much time taken to populate the list of NetBackup primary servers

- The NetBackup plug-in is not shown in the vSphere Client (HTML5) interface even after registration

- The NetBackup plug-in is not shown in the vSphere Client (HTML5) interface after vCenter upgrade from older versions to vCenter 7.0 or later

- Unregistering the plug-in may result in total uninstallation of the plug-in

- Recovery wizard errors

- No recovery point found error

A NetBackup primary server is not available in the primary server list of the login screen

On the **Login Screen** of the plug-in, the primary server does not appear in the **NetBackup primary Server** drop-down list.

Ensure the following are configured::

- The required NetBackup primary server is registered with the plug-in.

- Multiple NetBackup primary servers are available for selection only vCenter version 7.0. and later.

The NetBackup plug-in for vSphere Client (HTML5) does not find any backup images in the listed events

To allow the plug-in to monitor backups, the NetBackup primary server's **VMware** policies must have **Post events to vCenter** set to **All Events**.

The **Post events to vCenter** option is available from the **Advanced** option of the NetBackup policy's **VMware** tab.

See "Requirements for the NetBackup plug-in for vSphere Client (HTML5)" on page 11.

Mismatch in vCenter server name (uppercase vs. lowercase letters) causes the VMware connectivity test to fail

The Pre-Recovery Check screen of the NetBackup Recovery Wizards runs a number of checks on the vSphere environment that you selected for the restore. The VMware connectivity test fails if the case of the vCenter name in NetBackup credentials differs from the case of the vCenter name in vSphere. For example: the name that was entered for NetBackup credentials is uppercase, but the name in vSphere is lowercase

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Note: When the VMware connectivity test fails because of a vCenter name mismatch regarding its case, the failure can be ignored. Click **Finish** and the VM recovery should succeed.

To prevent the VMware connectivity test from failing, delete the NetBackup credential for the vCenter and re-enter the credential with the correct case. For instructions on how to add credentials, see "Adding NetBackup credentials for VMware" in the *NetBackup for VMware Administrator's Guide*. Alternatively, you can edit the name of the vCenter server in vSphere Client to match the credentials that were entered in the NetBackup primary server.

Instant recovery operation is not complete due to NFS mount limit exceed

An instant recovery (IR) operation creates at least one NFS mount. If the number of NFS mounts exceeds the default limit, the next IR operation cannot succeed.

Instant recovery option is disabled for the selected recovery point

The Instant recovery option is disabled for the selected recovery point if it is not instant recover- ready

Note the following about instant recovery of VMware virtual machines:

- Supports the following storage unit types (disk only):
  BasicDisk, AdvancedDisk, Media Server Deduplication Pool (MSDP).

  Note: Snapshot-only backups are not supported.

- Does not support a virtual machine that had disks that were excluded from the backup. The policy **Virtual disk selection** option must be set to include all disks.

- Does not support a virtual machine that has a disk in raw device mapping mode (RDM) or that has a disk in Persistent mode.

- Supports the following policy schedule types: Full backups, and the incremental backups that include the **Use Accelerator** option with a disk-based storage unit. Incremental backups without the **Use Accelerator** policy option are not supported.

- Does not support virtual machine templates.

Contact a NetBackup administrator to check the backup details.

The vCenter server names are not available for search

On the **Virtual Machine Selection** screen of the plug-in's recovery wizards, the server drop-down lists may not contain any vCenter servers.

Make sure that the following are configured:

- The vCenter server is added in the NetBackup primary server.

- The NetBackup Web Services are enabled in the NetBackup primary server. Web services are automatically enabled when the NetBackup Primary server 8.0 or later is installed. See the tech note for the web server tasks that are required before installation of the Primary server.

- The following services are up in the NetBackup primary server:
  - NetBackup Service Layer
  - NetBackup Web Management Console

- The vCenter server is registered with the NetBackup primary server.

Virtual machine display name conflicts are not shown before the pre-recovery check

During instant recovery operation, the conflicts in the virtual machine display name are not shown in the wizard screen. These conflicts are later populated in the pre-recovery check display. The conflict in the display name is shown only when it is present in the same VM folder. The conflict across the ESX server is only captured during the pre-recovery check.

Reasons for failure of pre-recovery checks

The following are the reasons for failures in the pre-recovery checks during an instant recovery operation

- vSphere server credentials changed.

- Incorrect data center path or folder path.

- Non-ASCII characters are used in the specified parameters.
  See "NetBackup character restrictions for the Primary VM identifier" in the *NetBackup for VMware Administrator's Guide* available through the following URL:
  http://www.veritas.com/docs/DOC5332

- A virtual machine display name conflict.
  The virtual machine name already exists on the ESX server.

- Connectivity and space availability problems.
  Indicates issues that are related to connectivity to various recovery artifacts and the available storage space for recovery.

- A VMware connectivity-related issue.

- The NFS volume eight-mount limit was exceeded on the ESXi host.

- Backup image not available.
  The selected backup image is not available for recovery.

The pre-recovery check is a one-time action for the instant recovery wizard operation. Even after failure checks are displayed in the pre-recovery check list, you can perform IR operations.

Too much time taken to populate the list of NetBackup primary servers

If it takes too long to display the NetBackup primary server list, validate the primary server using the **Register Primary Servers** option on the plug-in's **Veritas NetBackup** page. If the validation reveals an error, contact the NetBackup administrator and check the vSphere Client Virgo logs at the following location:

- **Linux**: `/storage/log/vmware/vsphere-ui/logs/vsphere_client_virgo.log`

- **Windows**:
  `C:\ProgramData\VMware\vCenterServer\logs\vsphere-ui\logs\vsphere_client_virgo`

The NetBackup plug-in is not shown in the vSphere Client (HTML5) interface even after registration

This issue may occur for any of the following reasons:

Table 8-1   Reasons for the NetBackup plug-in not appearing in the vSphere Client

Reason	Description and recommended action
The NetBackup plug-in does not support the vCenter version.	Messages similar to the following may appear in the `vsphere_client_virgo.log` file: `javax.net.ssl.SSLHandshakeException: Received fatal alert: handshake_failure` For a list of supported vCenter versions for the plug-in, see the following document: *Support for NetBackup 7.x and 8.x in virtual environments*: http://www.veritas.com/docs/000006177

You have not used the default URL for the plug-in ZIP-file download (securely hosted by the NetBackup primary server).
 	
Instead, your plug-in download URL uses the HTTP protocol (http://) rather than the secure HTTPS protocol (https://).
	In this case, the default vCenter configuration does not allow the plug-in to be downloaded and deployed. Messages similar to the following may appear in the VMware `vsphere_client_virgo.log` file:
	
	`The plugin package download was blocked because the URL`
	`is not secure. To allow http URLs add allowHttp=true to`
	`webclient.properties`
	
	See the procedure To allow installation of the plug-in over an HTTP URL.

Table 8-1	Reasons for the NetBackup plug-in not appearing in the vSphere Client *(continued)*

Reason	Description and recommended action

A previous instance of the NetBackup plug-in did not properly clean up after uninstallation.	Do the following:
	
	1 On the vCenter server, stop the vSphere Client services.
	
	The services are `vsphere-ui` and `vsphere-client`.
	
	For assistance with the command line or vSphere Client, see the VMware article "How to stop, start, or restart vCenter Server 6.x services (2109881)":
	
	https://kb.vmware.com/kb/2109881
	
	2 Remove references to the plug-in, as follows:
	
	a. On a vCenter appliance, remove the directories or files that the following `find` command returns:
	
	`# find / -iname "*netbackup*"`
	
	b. On a Windows vCenter, remove the directories or files that the following `dir` commands return:
	
	`dir "%programdata%\*netbackup*" /s /a /b`
	
	`dir "%programfiles%\*netbackup*" /s /a /b`
	
	Note: For a VMware Platform Services Controller (PSC) environment with multiple vCenters, you need only uninstall the plug-in on the vCenter where the plug-in was installed. However, you should remove references to the plug-in from all of the vCenters that are managed by the PSC.
	
	3 On the vCenter server, start the vSphere Client services.
	
	The services are `vsphere-ui` and `vsphere-client`.

To allow installation of the plug-in over an HTTP URL

1   Add the following directive to the vCenter's `webclient.properties` file:

    `allowHttp=true`

    The `webclient.properties` file may be located in the following directory:

    Windows: `C:\ProgramData\VMware\vCenterServer\cfg\vsphere-ui\`

    Linux: `/etc/vmware/vsphere-ui/`

2   Restart the vSphere Client service.

    The following VMware article contains further information on starting the vSphere Client service:

    https://kb.vmware.com/kb/2109887

3   Log on again to the vSphere Client.

    When you log on, the plug-in is then installed.

    See "Installing the NetBackup plug-in for vSphere Client (HTML5)" on page 16.

The NetBackup plug-in is not shown in the vSphere Client (HTML5) interface after vCenter upgrade from older versions to vCenter 7.0 or later

This issue occurs because older versions of vCenter try to re-deploy the plug-in installation media zip file already downloaded by the vCenter from previous registration, which is not compatible with vCenters of versions 7.0 or later.

To solve this issue, you must install the NetBackup plugin provided for newer versions of vCenter. This plugin package is available at this URL on primary server:

`https://primary_server_host_name:8443/nbwebservice/plugins/netbackup-vwc-plugin-html5ui.zip`

Note: This example uses a port number of 8443. The port number on the primary server however may be different.

See "Installing the NetBackup plug-in for vSphere Client (HTML5)" on page 16.

Unregistering the plug-in may result in total uninstallation of the plug-in

If you unregister NetBackup server from an existing Plug-in, the plug-in may uninstall completely, and also all the NetBackup servers that are unregistered.

Reasons:

- Connectivity issues during the un-registration of the NetBackup server from the plug-in

- The NetBackup servers' services are down.

Fix:

- Manually install the plug-in and register all the NetBackup servers again.

Recovery wizard errors

When user is at Vcenter /DataCener/ESX level, goes to monitoring page and tries to recover a VM with a display name containing few special characters, user gets errors on **Recovery Wizard**.

Table 8-2   Recovery wizard errors

Sr no	Special character in VM Display name	Error message	Workaround
1	%	Backup information on virtual machine `VM display name with % character` is not available.	Perform the recovery from VM level or via Standard Recovery wizard.

Table 8-2 Recovery wizard errors *(continued)*

Sr no	Special character in VM Display name	Error message	Workaround
2	+	Backup information on virtual machine `VM display name with + character` is not available.	■ 1. Take the backup using instance UUID or WebUI based Protection Plan and then try to recover from the Remote Plugin Landing Page. ■ perform the recovery using NetBackup Web UI

No recovery point found error

When the user tries to recover a VM , and no recovery point is found due to permission issues. User must get required permissions. See " NetBackup permissions for the plug-in" on page 31.

Limitations

This chapter includes the following topics:

■ Limitations

Limitations

■ Recovery and discovery of VMs created by VMware templates is not supported by the remote plug-in.

■ The vwcp_manage utility only supports NetBackup primary servers and does not support the media server. If you try to register the media server with the `vwcp_manage` utility either in UI mode or in CLI mode, then you may get console or UI error pop-up as Null.

■ Currently the application can provide monitoring details for up to 500 VMs and up to 200 thousand events data records. Beyond this, any increase in #VM and/or #events data records, would make the application unstable.
The following table provides the time taken by the monitoring page to fetch data, when the user has clicked on the mentioned level in the tree (root/ESX/resource pool etc.)

Table 9-1

Number of VMs	Root level in minutes	ESX/Host level in minutes	Resource pool level in minutes
99	6.4	4.6	4.6
500	24.5	18.1	22.5
1000	59	~66	42.9

Instant recovery events and best practices

This appendix includes the following topics:

■ Instant recovery events for non-available virtual machines

■ Best practices for instant recovery operations

Instant recovery events for non-available virtual machines

For instant recovery operations (activate, deactivate, reactivate), NetBackup posts success or failure events to the vCenter server. These events are posted for the virtual machine during its restore.

For the activate and reactivate operations, the virtual machine already exists in vCenter. Therefore, when you select that virtual machine and navigate to the **Monitor > Events** tab, you see the NetBackup events for these operations.

For the deactivate operation, the virtual machine is unregistered and deleted from vCenter server. That virtual machine is no longer visible in vSphere Client. To see its NetBackup events, select the ESX server or top-level vCenter object in vSphere Client and navigate to **Monitor > Events**. Usually only the event description appears in the **Events** tab. In rare cases, the event ID may appear instead of the event description.

The following are the instant recovery event IDs and descriptions.

Event ID	Description
IR Activate Operation Events	

com.symantec.netbackup.instantrecovery.activate.success	NetBackup instant recovery **Activate** operation is successful.
com.symantec.netbackup.instantrecovery.activate.failure	NetBackup instant recovery **Activate** operation failed.
IR Deactivate Operation Events	
com.symantec.netbackup.instantrecovery.deactivate.success	NetBackup instant recovery **Deactivate** operation is successful.
com.symantec.netbackup.instantrecovery.deactivate.failure	NetBackup instant recovery **Deactivate** operation failed.
IR Reactivate Operation Events	
com.symantec.netbackup.instantrecovery.reactivate.success	NetBackup instant recovery **Reactivate** operation is successful.
com.symantec.netbackup.instantrecovery.reactivate.failure	NetBackup instant recovery **Reactivate** operation failed.

Best practices for instant recovery operations

The following best practices are advised during the Instant Recovery Wizard (IR) operations.

- Instant recovery can be simultaneously performed for about ten virtual machines for a single NetBackup primary server. For performance reasons, it may be better to limit the operation to 2 to 3 virtual machines if the NetBackup storage type is PureDisk. Consult your backup administrator for more details.

- If an Instant Recovery operation (activate/reactivate/deactivate/done) fails, check the NetBackup event logs using the vSphere Client interface: **Monitor** tab > **Veritas NetBackup > Events**.

- Remove from the plug-in any NetBackup primary servers in an unused, unreachable, or shutdown state.

- On the Instant Recovery Wizard screens, wait for the ongoing IR operation to complete. While the cursor indicates a busy state, do not click on other options.