



NEXSAN RAID Storage

vCenter Plugin Getting Started Guide

Revision F

Contents

| | |
|--|-----------|
| Overview | 3 |
| Prerequisites | 3 |
| Installation Process Overview | 3 |
| Quick Start Installation | 4 |
| Quick Start installation steps | 4 |
| Using the Nexsan RAID Storage Plugin | 5 |
| Home Shortcut | 5 |
| Inventory Shortcut..... | 5 |
| Advanced Installation Options | 6 |
| Installing with multiple vCenter Servers in Linked Mode..... | 6 |
| Using a standalone Java runtime (Windows) | 6 |
| Installing a specific plugin version | 6 |
| Using a private deployment server | 7 |
| Using vCenter as a private deployment server | 7 |
| Upgrading the Nexsan RAID Storage Plugin | 8 |
| Public Deployment Server..... | 8 |
| Private Deployment Server | 8 |
| Uninstalling the Nexsan RAID Storage Plugin | 9 |
| Using the Installation Tool..... | 9 |
| Manual Uninstallation..... | 10 |
| Troubleshooting | 12 |

Overview

The Nexsan RAID Storage vCenter plugin enables the monitoring and management of Nexsan RAID storage systems through the vCenter Client / vCenter Web Client user interfaces. For additional information, including the User Guide and downloadable files, see:

<https://packages.nexsan.com/nexsanraid-vcenter/>

Prerequisites

- 1) VMWare vCenter Server version 6.0 or higher.
- 2) VMWare ESX Server version 6.0 or higher.
- 3) Nexsan RAID Storage with firmware Q011.1203, R011.1203, or S011.1301 or higher.
- 4) HTTPS deployment server (optional, required if vCenter Servers cannot access public deployment website).

Installation Process Overview

Installing the vCenter plugin consists of several steps:

1) Register the plugin with the vCenter Server using the Installation Tool.

The Installation Tool will:

- Locate the latest available plugin version on the public/private deployment server.
- Validate that the plugin package is available, and obtain the SSL server thumbprints required by vCenter to install the plugin.
- Check the current version of the plugin installed on the vCenter Server.
- Register the plugin and deployment server settings with vCenter Server.

2) Download and install the plugin package in the vSphere Client / vSphere Web Client.

This will occur automatically when logging in for the first time after the plugin has been registered.

3) Configure the plugin to connect to the Nexsan RAID storage system(s).

The vSphere Web Client / vSphere Client are used to configure the plugin it has been installed.

Quick Start Installation

Quick Start installation can be used in most typical small-to-medium VMWare environments that meet the following requirements:

- 1) A single vCenter Server / VCSA with Embedded Platform Services Controller.
- 2) The vCenter Server can directly access the “packages.nexsan.com” public deployment server using HTTPS.
- 3) A workstation with Java 1.7 or higher installed (used to run the installation tool).

If your environment does not meet these requirements, see the “[Advanced Installation](#)” section.

Quick Start installation steps

- 1) Download the latest Installation Tool package (“nexsanraid-vcinstall-xxx.zip”) from: <https://packages.nexsan.com/nexsanraid-vcenter/>
- 2) Unzip the Installation Tool package to a directory on your workstation.
- 3) Launch a command prompt / shell and navigate to the Installation Tool directory.
- 4) Run “nexsanraid-vcinstall.bat” (Windows) or “nexsanraid-vcinstall.sh” (Linux/Unix/macOS).
- 5) The Installation Tool will ask for your vCenter Server IP address, username, and password, and then display the available/installed plugin versions. Select “Install” from the menu to register the latest available plugin and public deployment server with vCenter.
- 6) Log in to the vSphere Client / vSphere Web Client. If you are already logged in, you will need to log out and log in again. The Nexsan RAID Storage plugin will be downloaded and installed automatically.
- 7) In the vSphere Client, open the “Menu” drop-down from the top VMWare toolbar and select “Nexsan Storage”. In vSphere Web Client, click the “Home” icon on the top VMWare toolbar and select “Nexsan Storage”.
- 8) Select the “Add Nexsan System” option, and enter the management IP address and ADMIN credentials for the Nexsan RAID system. Repeat to add additional systems.

Using the Nexsan RAID Storage Plugin

See the Nexsan RAID Storage vCenter Plugin User Guide for detailed information on using the plugin. The User Guide can be downloaded from:

<https://packages.nexsan.com/nexsanraid-vcenter/>

The Nexsan RAID Storage plugin allows easy navigation between Nexsan storage (systems and volumes) and VMWare infrastructure (servers and datastores). There are several ways to access the Nexsan RAID Storage plugin:

Home Shortcut

The Nexsan RAID Storage plugin can be accessed by selecting the “Nexsan Storage” item on the left-hand panel of the “Home” page or via the global “Menu” drop-down.

Inventory Shortcut

An overview of all Nexsan RAID systems can be accessed by selecting the “Nexsan Storage” inventory item on the Shortcuts page (vSphere Client) or Home page (vSphere Web Client).

Advanced Installation Options

Advanced installation options are available to support installation in certain environments.

A list of all available options for the Installation Tool can be seen by running “nexsanraid-vcinstall.bat --help” (Windows) or “nexsanraid-vcinstall.sh --help” (Linux/Unix/macOS).

Installing with multiple vCenter Servers in Linked Mode

When using multiple vCenter Servers in Linked Mode, it is recommended that the same Nexsan RAID Storage plugin version is installed on all linked vCenter instances from the same deployment server.

Once the plugin has been installed on one server, it can be installed on the linked vCenter servers by logging in to the first server and using the “Check for Updates” option in the plugin. See the “Upgrading the Nexsan RAID Storage Plugin” section for details.

Using a standalone Java runtime (Windows)

If you do not have Java 1.7 or higher installed and are unable to install it, you can use a standalone Java runtime for the Installation Tool. A standalone Java runtime package can be downloaded from the Nexsan vCenter plugin website.

If the Java runtime package “jre” directory is in the same location as the Installation Tool, it will be detected and used automatically if Java is not installed.

To use a standalone Java runtime in a different location, run the following command before starting the Installation Tool:

```
set NEXSAN_JAVA_HOME=<path-to-jre-directory>
```

Installing a specific plugin version

By default, the Installation Tool will detect the latest available plugin version. To install a specific version, you can add the “--deploy-version <version>” parameter to the command line.

If you have a key to install a beta / pre-release version, add “--beta <key>” to the command to install the latest available build. This can be combined with the option above to install a specific beta / pre-release version.

Using a private deployment server

vCenter Server fetches the client plugin package on-demand from an external server. For maximum security, the plugin package should be hosted on a private HTTPS server on the local network. To use a private server, the plugin package XML and ZIP must be placed in a directory on the private server, and the URL provided during installation.

If the workstation used to run the Installation Tool cannot access the public deployment server, you must specify the location using the “--deploy-url <url>” parameter.

Using vCenter as a private deployment server

Using a standalone private deployment server is recommended. However, if a standalone HTTPS server is not available, the default HTTPS server on the vCenter can be used to host the deployment files.

IMPORTANT: Serious problems might occur if you modify files on the vCenter Server incorrectly. It is recommended that you back up your vCenter Server before proceeding.

- 1) Ensure that you can transfer files to the vCenter Server. If using a VCSA, you may need to enable SCP support – see the guidance at:

<https://vnugget.com/vmware/uploading-files-to-vcenter-server-appliance-using-winscp-sftpscp/>

- 2) On the vCenter Server, create a directory “nexsanraid” in the “docRoot” directory of the default HTTPS server:

Windows: C:\ProgramData\VMware\vCenterServer\cfg\
vmware-vpx\docRoot

VCSA: /etc/vmware-vpx/docRoot

- 3) Copy the plugin package XML and ZIP files to the “nexsanraid” directory created above.
- 4) Run the Installation Tool specifying the vCenter Server and deployment URL:

```
nexsanraid-vcinstall --server <vcaddr>  
--deploy-url https://<vcaddr>/nexsanraid
```

Upgrading the Nexsan RAID Storage Plugin

Once installed, the Nexsan RAID Storage Plugin can normally be upgraded without using the Installation Tool.

The plugin will check for updates available on the public or private deployment server used during the original installation.

If the vCenter Server cannot contact the deployment server, or if the deployment server URL or certificate has changed, the plugin will not be able to update automatically and will return an error “Unable to check for updates”. Use the latest Installation Tool to upgrade the plugin.

To check for updates:

- 1) Go to “Nexsan RAID Storage” in vCenter, and click the “Options” button.
- 2) Click “Check for Updates”. If a different version of the plugin is available on the deployment server, information about the new version will be displayed. Click the “Install Update” button to register the updated plugin. Any linked vCenter servers will be updated using the same deployment server.
- 3) Log out of the vSphere Client / vSphere Web Client, and then log in again. The updated Nexsan RAID Storage plugin will be downloaded and installed automatically.

Public Deployment Server

If the plugin was installed using the Nexsan public deployment server, plugin updates will be available to install immediately after they are released.

Private Deployment Server

To upgrade the plugin, download the updated plugin package XML and ZIP files, and copy them to the same directory as the existing plugin on the private server, overwriting the existing XML file. Then use the “Check for Updates” button in the plugin to perform the upgrade.

Uninstalling the Nexsan RAID Storage Plugin

The Nexsan RAID Storage plugin can be uninstalled in the following ways:

Using the Installation Tool

To uninstall the plugin using the Installation Tool:

- 1) Launch a command prompt / shell and navigate to the Installation Tool directory.
- 2) Run “nexsanraid-vcinstall.bat -uninstall” (Windows) or “nexsanraid-vcinstall.sh -uninstall” (Linux/Unix/macOS).
- 3) The Installation Tool will ask for your vCenter Server IP address, username, and password, and then display the currently installed plugin version. Select “Uninstall” from the menu to remove the plugin.
- 4) If you are currently logged in to the vSphere Client / vSphere Web Client, log off and log in again to finish uninstalling the plugin.

Manual Uninstallation

In the event that you are unable to uninstall the plugin using the Installation Tool, you can remove the plugin manually:

- 1) Go to the vCenter Server URL and select “Browse objects managed by vSphere” from the right-hand menu (or go to “https://<vcenter-url>/mob” directly).
- 2) Select “content” in the Properties section, and then “ExtensionManager”. Click the “(more...) value to show all installed extensions.
- 3) For each extension key beginning “com.nexsan.nexsanraid”, click the “UnregisterExtension” method, paste the extension key into the “Value” field (without quotes), and click “Invoke Method”. Return to the “ExtensionManager” page and confirm that the extension is no longer listed.
- 4) Restart the vSphere Client and vSphere Web Client services. On Windows, log in to the vCenter Server desktop, start an Administrative command prompt, navigate to “C:\Program Files\VMWare\vCenter Server\bin”, and run:

```
service-control --stop vsphere-ui
service-control --stop vsphere-client
service-control --start vsphere-ui
service-control --start vsphere-client
```

For a VCSA, see the following link for instructions:

https://kb.vmware.com/selfservice/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=2109887

- 5) To remove the downloaded plugin packages, delete directories beginning with “com.nexsan.nexsanraid” in the following locations on the vCenter Server:

Windows: C:\ProgramData\VMware\vCenterServer\cfg\
 vsphere-client\vc-packages\vsphere-client-serenity
 vsphere-ui\vc-packages\vsphere-client-serenity

VCSA: /etc/vmware/vsphere-client/vc-packages/vsphere-client-serenity
 /etc/vmware/vsphere-ui/vc-packages/vsphere-client-serenity

- 6) To remove any Nexsan credentials and cached data, delete the “nexsanraid” directory in the following locations on the vCenter Server:

Windows: C:\ProgramData\VMware\vCenterServer\data\
vsphere-client
vsphere-ui

VCSA: /storage/vsphere-client
/storage/vsphere-ui

Troubleshooting

This section provides troubleshooting steps for some potential problems installing or using the plugin. If these do not resolve your issue, contact Nexsan Support for additional assistance.

For installation issues, the Installation Tool creates a “nexsanraid-vcinstall.log” file that contains additional information about the installation process and any errors encountered.

The Installation Tool fails with “Failed to find Java executable. Please install Java or copy a JRE to the current directory.”

The Installation Tool requires the Java runtime version 1.7 or higher. If you do not have the Java runtime installed, either install the latest available version, or see “Using a standalone Java runtime” under “Advanced Installation”.

The Installation Tool fails with “Failed to get deployment server thumbprint”.

If you are using the public deployment server, ensure that “packages.nexsan.com” can be reached from the workstation running the Installation Tool. If you are using a private deployment server, ensure that it is reachable, has a valid SSL certificate, and does not require Server Name Identification (SNI). SNI is not currently supported by vCenter Server for plugin deployments.

The Installation Tool fails with “Unable to open <url>”.

Check whether the URL is accessible through a web browser. If you are using a beta / pre-release version, check that the “--beta <key>” parameter was specified and that the key is correct.

The Installation Tool reports that an unexpected plugin version is available.

By default, the Installation Tool will detect the latest available version.

- If you are using a private deployment server, check that the correct XML and ZIP file are present on the deployment server and that the URL is correct.
- To specify a specific version, use the “--deploy-version <version>” parameter.
- If you are using a beta / pre-release version, check that the “--beta <key>” parameter was specified and that the key is correct.

The Installation Tool fails with “ERROR: vCenter validation failed.”

Check that the IP address or FQDN is correct. If you are not using an Embedded Platform Services Controller, you must specify the address of the vCenter Server used to access the vSphere Client / vSphere Web Client rather than the vCenter PSC.

Check that the username and password are correct.

The Installation Tool completed successfully, but the “Nexsan RAID Storage” plugin does not appear in vSphere Client / vSphere Web Client.

Log out of the vSphere Client / vSphere Web Client and log in again. The plugin is installed automatically during the login process. Note that after registering the plugin, it may take several minutes for the plugin to become available.

Check that the vCenter Server can access the deployment server, and that the thumbprint is correct. To review the server settings, run the Installation Tool and check the “Installed plugin” values match the expected server. To check the vCenter Server can access the expected server, SSH into the vCenter Server, type “shell”, then “ping <servername>”.

Download the vCenter Server “vsphere-client-virgo.log” file and check for any errors with the plugin download by searching for “nexsanraid”.

Windows:

C:\ProgramData\VMware\vCenterServer\logs\vsphere-ui\logs (vSphere Client)

C:\ProgramData\VMware\vCenterServer\logs\vsphere-client\logs (vSphere Web Client)

VCSA:

/var/log/vmware/vsphere-ui/logs (vSphere Client)

/var/log/vmware/vsphere-client/logs (vSphere Web Client)

The “Nexsan Storage” option appears in vSphere Client, but only a blank page is displayed.

On vCenter Server 6.5 prior to 6.5U1d, the vSphere Client does not fully load the plugin immediately after installation or upgrade. To resolve this, restart the vSphere Client service (“vsphere-ui”) or reboot the vCenter Server.

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