



Dell™ NetVault™ Backup Plug-in for VMware® 11.1 Release Notes

August 2016

These release notes provide information about the Dell™ NetVault™ Backup Plug-in for VMware® release.

Topics:

- [About this release](#)
- [New features](#)
- [Enhancements](#)
- [Resolved issues](#)
- [Known issues](#)
- [System requirements](#)
- [Product licensing](#)
- [Upgrade and installation instructions](#)
- [More resources](#)
- [Globalization](#)
- [About Dell](#)

About this release

Dell NetVault Backup Plug-in for VMware (Plug-in for VMware) protects your virtual machines from disaster, media failure, and data corruption. Its intuitive, easy-to-use interface gives you a single, centralized console to configure backup and restore policies for your virtual environments. The Plug-in for VMware is integrated with VMware vStorage APIs for Data Protection (VADP). It allows you to protect your virtual environment without the need for complex scripting or deep understanding of VMware® ESX® or VADP internals. The plug-in minimizes downtime by allowing you to restore complete virtual machine images or individual files quickly and reliably with minimal interaction. Through automatic integration with a wide range of backup devices, your virtualized data can be protected and safely stored off-site to meet your disaster recovery and business continuity goals.

Dell NetVault Backup Plug-in for VMware 11.1 is a minor release, with new features and functionality. See [New features](#) and [Enhancements](#).

- ① **IMPORTANT:** The Plug-in for VMware 11.1 can only be installed on 64-bit operating systems as the 32-bit libraries are no longer supported by the Virtual Disk Development Kit (VDDK). This applies to both Windows® and Linux® systems.

New features

New features in Plug-in for VMware 11.1:

- **Pure 64-bit version of the plug-in for Windows:** A pure 64-bit version of the Plug-in for VMware is now available for 64-bit Windows operating systems. To use this version of the plug-in, you require NetVault Backup 11.1 or later.
- **VMware Job History report:** This report provides information about a virtual machine backup job. You can use the filter options to specify the job ID number and instance number. To run this report, you require NetVault Backup 11.1 or later.

See also:

- [Enhancements](#)
- [Resolved issues](#)

Enhancements

The following is a list of enhancements implemented in Plug-in for VMware 11.1.

Table 1. Enhancements

Enhancement	Issue ID
Added support for ABM (Active Block Mapping) on EXT file systems. You can enable ABM on non-LVM EXT2, EXT3, and EXT4 file systems.	22882
Modified the plug-in to allow restores to an alternate ESXi Server in a vCenter Server setup.	27576
Modified the plug-in to exclude unsupported file systems during file-level indexing.	27633
Added an option to enable VDDK logging from the WebUI.	31266
Added an option to unlock a virtual machine from the WebUI.	31401

Resolved issues

The following is a list of issues addressed in Plug-in for VMware 11.1.

Table 2. Resolved issues: Plug-in for VMware 11.1

Resolved issue	Issue ID
Corrected an issue that prevented the plug-in from successfully restoring a virtual machine to an alternate ESX Server if the virtual machine was configured to use vNetwork Distributed Switch (vDS).	13744
Addressed an issue that caused mount operations to fail if the virtual machines used Extensible Firmware Interface (EFI) firmware.	22771
Corrected an issue that caused the Restore Files from Backup method to restore an invalid ".vmx" file if the virtual machine name contained non-ASCII characters. This issue was resolved in a previous release of the plug-in (version 10.5).	23036 23037
Corrected an issue in which virtual machine restores failed in a cluster setup if the original host was in maintenance mode.	25376
Corrected an issue in which the plug-in did not automatically fall back to NBD mode when restoring Incremental or Differential Backups using SAN mode. This issue was resolved in a previous release of the plug-in (version 10.0.5).	25414

Table 2. Resolved issues: Plug-in for VMware 11.1

Resolved issue	Issue ID
Corrected an issue in which renaming during restore failed for a virtual machine if the virtual machine was previously renamed in vCenter Server.	26132
Corrected an issue that caused file-level indexing to fail for virtual machines running CentOS 7 or RHEL 7 operating systems.	27698
Corrected an issue that caused restore jobs to fail if the Rename and Relocate to Alternate Datastore options were used together.	28412
Addressed an issue that caused backup failures during the snapshot removal phase.	30296
Corrected an issue in which the excluded disks were backed up when you selected the folder node.	30632
Corrected an issue that caused a restore job to fail after 15 minutes when restoring large Thick Provisioned Eager Zeroed disks.	30798
Implemented changes to improve the performance of file-level indexing on EXT3 file systems.	30818
Corrected an issue that caused mount operations to fail with the following error: Unable to GetVolumeMountPoints - Error code 20.	30919
Corrected an issue that caused a backup job to fail during file-level indexing if you changed the Tmp directory for NetVault Backup or the Working Directory for the Plug-in for VMware.	31031
Implemented changes to create the symbolic link for libexpat.so.1.5.2 (libexpat.so.0) in the correct location (/usr/lib64).	31473

Known issues

The following is a list of issues, including those attributed to third-party products, known to exist at the time of release.

Table 3. Known issues

Known issue	Issue ID
When restoring data to an alternate datastore, the plug-in does not check if the datastore is available. You must verify that the datastore is valid and has sufficient disk space to accommodate the virtual machine.	1714
Raw Disk Mapping (RDM) disks in virtual compatibility mode are restored to flat ".vmdk" files and not to the original RDM. The alternative is to omit these disks during a restore.	2371
If you select the Auto setting as the primary transport mode, during the backup of a virtual machine that has disks on SAN storage as well as storage accessible only through the network, the NetVault Backup logs may report the transport mode incorrectly as "san" when the disk is opened in a network-based mode (nbd or nbdssl).	2394
The configuration setting [Custom:MountOperationTimeoutSecs], which is stored in the vmware.cfg file, determines how long the plug-in process waits for the mount daemon to respond to a request. The default value is set to 600 seconds during a fresh install and 300 seconds during an upgrade. If the mount daemon is unable to complete a request within the specified interval, the virtual machine is left in a mounted state. If you have a large number of backups running simultaneously or your server is running under heavy load, modify the value for the [Custom:MountOperationTimeoutSecs] setting to avoid running into this situation.	3131
VDDK does not support non-UTF8 locales. On Linux-based clients that use non-UTF8 locales, the plug-in reports the error "Child Process died unexpectedly" and exits abnormally.	3340
When you use the NetVault Backup Plug-in for Consolidation, the image-level backups of virtual machines are displayed on the Create Selection Set page, but you cannot consolidate these savesets.	6598

Table 3. Known issues

Known issue	Issue ID
When you browse a localized virtual machine from an X11 or Motif GUI, the encoding of the name can cause the display to be scrambled or to not appear at all.	13679
You cannot back up virtual machine templates using the Plug-in for VMware. Workaround: The workaround is to convert the template to a virtual machine.	13728
To avoid file fragmentation, the Plug-in for VMware pre-allocates disk space before restoring files to disk. On Linux-based systems, files that are larger than 50MB in size are not pre-allocated full disk space. Such files are handled like sparse files and allocated disk space as needed during restore. If the disk does not have sufficient space to fully restore files that are larger than 50MB in size, the job fails when the disk runs out of space.	21755
The file-level indexing process does not generate indexes for symlinks.	21793
The file-level indexing process does not treat hard links in any special way and generates index entries for them as if they are completely separate entities. When you restore a saveset that includes a hard link, the plug-in crashes.	21794
When a standalone VMware ESX or VMware® ESXi™ Server is added to the plug-in, a backup selection at a Resource Pool level does not back up any virtual machines in the resource pool.	22030
When restoring the virtual machine disk and configuration files from an image-level backup, if you select an Incremental Backup with the Restore Files from Backup method, the plug-in only restores the Full Backup for the selected backup sequence.	22043
Plug-in for VMware 2.6 issues:	24156
<ul style="list-style-type: none"> When you upgrade to NetVault Backup 10.0 Server on a Windows machine running Plug-in for VMware 2.6, the existing version of the SSL DLLs are overwritten. When you remove Plug-in for VMware 2.6, these DLLs are also removed. Therefore, before removing the plug-in, you must take a copy of the libeay32.dll and ssleay32.dll files from the <NetVault Home>\bin directory, and restore them to the same directory after removing the plug-in. Otherwise, the NetVault Backup Service does not start. If you install Plug-in for VMware 2.6 on a Windows-based NetVault Backup 10.0 Server, the NetVault Backup Service does not start. 	
When using the NBD transport mode, a large Read Block Size may prevent multiple backup processes from running at the same time. Workaround: Use SAN or SCSI Hot-Add transport modes or decrease Read Block Size .	28815
When restoring NTFS sparse files, if the actual allocated size of a data run is smaller than the total size of the data run, the restored file might be corrupted.	29043
If the Diagnose Virtual Machine method is unable to return any result within the timeout interval (five minutes), the Web Service process displays the following message: "Error: The remote machine: <Name of the NetVault Backup Server> is unavailable" You can close this dialog box to continue the current operation. In the background, the Diagnose Virtual Machine method runs the cleanup process to remove any snapshot that it has created.	29795

Table 4. Third-party known issues

Known issue	Issue ID
When backing up a powered on virtual machine through a VMware® vCenter™ Server, the plug-in may fail to back up the ".nvram", ".vmx" and ".log" files. For more information, see http://kb.vmware.com/kb/1019286 .	
When a snapshot is created on a virtual machine that uses thin-provisioned disks, VMware vSphere® (the client and the underlying disk library) identifies the disk as thick. For more information, see http://kb.vmware.com/kb/1020137 .	
At the time of enabling CBT for a virtual machine, no snapshots must exist on it. For more information, see http://kb.vmware.com/kb/1033816 .	

Table 4. Third-party known issues

Known issue	Issue ID
<p>If an ESXi 5.x host is managed by a vCenter Server, the virtual machines should not be restored when connected directly to the ESXi host. This restriction is due to a feature introduced in vSphere 5. For more information, see http://www.vmware.com/support/developer/vddk/VDDK-500-ReleaseNotes.html#knownissues.</p>	
<p>To prevent the migration of a virtual machine while its disks are being accessed for a backup or restore, the plug-in uses VDDK APIs to lock and unlock a virtual machine. This functionality is disabled by default. To enable it, see the user's guide for the plug-in. Currently, the locking functionality has the following known issues:</p> <ul style="list-style-type: none"> • Locking a virtual machine may not always succeed even though API indicates success. This issue is under review with VMware. This failure can be ignored in most cases. • Unlocking is known to fail occasionally. This issue has been documented in the VDDK 5 release notes. For details, review the “EndAccess sometimes does not reenables migration after PrepareForAccess” section in the VDDK 5.0 Release Notes. • If the plug-in exits unexpectedly after locking a virtual machine, the virtual machine may be left in a locked state so that it is disabled for migration. <p>For information about removing the lock and enabling migration for the virtual machine, see http://kb.vmware.com/kb/2008957.</p>	
<p>VDDK 5 issues:</p> <ul style="list-style-type: none"> • Backup fails on a Linux-based client if any other virtual machine is in a powered on state on the same datastore. • Backup fails on a Linux-based client if parallel backup jobs (performed from different clients) access the same datastore. 	
<p>When you restore a virtual machine that was previously renamed on a vCenter Server, the plug-in creates both the old and new virtual machines on the server.</p> <p>Workaround: After restoring the backup, rename the virtual machine, and then, move the virtual machine to another datastore. This merges the two folders created during the restore into a single folder.</p>	
<p>ESX/ESXi Servers do not support non-ASCII characters; this causes the restore jobs to fail if the virtual machine name uses multibyte characters. For more information, see http://kb.vmware.com/kb/1003866.</p>	
<p>On a Windows 2012 virtual machine, data corruption may occur during or after a network copy operation. For more information, see http://kb.vmware.com/kb/2058692.</p>	
<p>If the size of a virtual disk is 2TB or a multiple of 2TB, the disk is always opened in NBD mode instead of SAN. This issue only affects virtual machines that use hardware version 10 (vmx-10).</p> <p>Workaround: Increase or decrease the size of the virtual disk (for example, to 2.01 TB, 3.99 TB).</p>	27742
<p>When a virtual machine is cloned outside the vCenter Server, it may have the same UUID as the original virtual machine. If this cloned virtual machine is selected for a backup, the plug-in may back up the original virtual machine instead of the clone. To correct this issue, you must change the UUID of the cloned virtual machine. For more information about changing the UUID of a virtual machine, see http://kb.vmware.com/kb/1002403.</p>	28921

System requirements

Before installing the Plug-in for VMware 11.1, ensure that your system meets the following requirements.

Table 5. System requirements

Requirement	Details
Operating systems	For a list of supported OS distributions and versions, see the VDDK 6.0.2 Release Notes available at https://www.vmware.com/support/developer/vddk/vddk-602-releasenotes.html .
NetVault Backup versions	The Plug-in for VMware 11.1 requires NetVault Backup 11.1 or later. For complete supported-platform information, see the <i>NetVault Backup Plug-in Compatibility Guide</i> available at https://support.software.dell.com/ .

- ⓘ | **NOTE:** To use the Virtual Disk Development Kit (VDDK) with OEM ESXi, you require VMware ESX Foundation, Standard, or Enterprise license. This license can be obtained from OEM or VMware directly.

Upgrade and compatibility

- **Cannot browse mounted virtual machines after upgrading NetVault Backup:** After installing the plug-in, if you upgrade the NetVault Backup software, you must re-install the plug-in on that machine. Otherwise, you will be unable to open the Drives node of a mounted virtual machine for any new file-level backups.
- **Restart the NetVault Backup Service if “nvvmwmount.exe” was running during upgrade:** If the mount process “nvvmwmount.exe” was running during an upgrade from 2.x, restart the NetVault Backup Service on the client.
- **Select the correct installation package on Linux and Windows:** NetVault Backup offers separate client-only and server-only installation packages for Linux- and Windows-based systems. Both the server and the client packages are available in hybrid and pure 64-bit versions:
 - **Hybrid server and client packages:** The hybrid packages are intended for users who do not have a pure 64-bit-only requirement. These packages let you upgrade from pure 32-bit as well as hybrid installations of NetVault Backup. The hybrid packages retain binary compatibility with all previous versions of 32-bit and 64-bit plug-ins. These packages also work on 32-bit systems that do not have 64-bit capability.
 - **Pure 64-bit server and client packages:** The pure 64-bit packages are intended for pure 64-bit operating systems. If you have a specific reason that you cannot use any 32-bit components (for example, you are using a Linux distribution that does not run 32-bit code), use these packages. The pure 64-bit packages cannot be used to upgrade existing pure 32-bit or hybrid NetVault Backup installations. You must remove the existing pure 32-bit or hybrid version and install the pure 64-bit version separately. To reduce confusion, warning messages have been added to both the upgrade and installation packages to ensure that you understand that they are incompatible.

Depending on your OS type, make sure that you select the correct installation package to install the NetVault Backup Server software:

- `netvault-<RYYYYMMDD>-vx.x.x.x-Server-{LinuxX86Hybrid|WindowsX86Hybrid}`: Use this package to install or upgrade NetVault Backup Server on 32-bit or 64-bit systems.
- `netvault-<RYYYYMMDD>-vx.x.x.x-Server-{LinuxX86Pure64|WindowsX86Pure64}`: Use this package to install or upgrade NetVault Backup Server on pure 64-bit systems.

For client installations, make sure that you select the appropriate package based on your system.

Table 6. Pure64 builds

OS	Core Build	Plug-in				
		32-bit	64-bit	Hybrid	Itanium	Pure64
32-bit	32-bit					
	Hybrid					
64-bit	Itanium	N/A	N/A	N/A	N/A	N/A
	64-bit	N/A	N/A	N/A	N/A	N/A
	Hybrid			X		
	Pure64					X

NOTE: X = Compatible

Product licensing

To obtain the license key for your NetVault Backup Server environment, you must first provide the NetVault Machine ID of your main NetVault Backup Server along with the machine IDs of clients running any licensed plug-in.

You can use the NetVault Configuration Wizard to install the product license keys. Alternatively, you can install the license keys from the **Manage Clients** page.

To obtain the machine ID for a NetVault Backup machine

- 1 Start the NetVault WebUI, and in the Navigation pane, click **Manage Clients**.
- 2 In the **NetVault Backup Clients** table, select the client, and click **Manage**.
- 3 On the **View Clients** page, note the machine ID exactly as it appears in the **Client Summary** table.

To install the license keys using the NetVault Configuration Wizard

- 1 In the Navigation pane, click **Guided Configuration**, and then on the **NetVault Configuration Wizard** page, click **Install Licenses**.
- 2 In the **NetVault Backup Clients** table, select the client on which you want to install the license key, and click **Next**.
- 3 In the **Enter the license key string** box, type or copy and paste the license key, and click **Apply**.
After the key is applied successfully, a message is displayed.

To install the license keys from the Manage Clients page

- 1 In the Navigation pane, click **Manage Clients**.
- 2 In the **NetVault Backup Clients** table, select the client on which you want to install the license key, and click **Manage**.
- 3 On the **View Clients** page, click **Install License**.
- 4 In the **Install License** dialog box, type or copy and paste the license key, and click **Apply**.
After the key is installed successfully, a message is displayed. Click the **Close** button to close the dialog box.

Upgrade and installation instructions

The standard method for upgrading the plug-in is to install the latest version over the previous version of the plug-in.

To use the plug-in for file-level backup operations, complete the following tasks in the given order:

① | **NOTE:** These steps are only required when upgrading the hybrid version of the plug-in on Windows.

- 1 Verify that no virtual machine is mounted for a file-level browse or backup operation. If any virtual is mounted in a browse session, unmount it, or if it is mounted for a backup, wait until the backup completes.
- 2 From the NetVault Backup Process Viewer, check if any instance of “NetVault VM mount daemon” or “NetVault VM mount CLI” is running on the client. Alternatively, use the Windows Task Manager to see if any instance of `nvvmwmount.exe` is running. If yes, restart the NetVault Backup Service.
- 3 Verify that the Working Directory configured for the plug-in does not contain any subfolders named after the display names of virtual machines. If the directory includes any mount folder, manually remove the folder. For more information, see the user’s guide. If you fail to complete the cleanup routine, a subsequent mount operation fails with the error “A stale mount was found.”
- 4 VDDK uses a kernel-mode driver for mounting a virtual machine during file-level backup and browse operations. The Plug-in for VMware automatically starts a service for the driver when you install the plug-in, but it does not check if the service is running when you perform an upgrade or a reinstallation.

If this service is not running on the client, the plug-in fails to complete the mount request and reports the error “Driver not found.”

To make sure that this error does not occur, follow the steps outlined in the [Upgrade procedure](#) section.

Upgrade procedure

To upgrade the hybrid version of the plug-in on Windows

- 1 Open a command prompt window.
- 2 Stop the service, if it is running:

```
sc stop vstor2-mntapi20-shared
```
- 3 Delete the service:

```
sc delete vstor2-mntapi20-shared
```
- 4 Verify that the service has been deleted:

```
sc query vstor2-mntapi20-shared
```

If the service is stuck in a “stopping” state, restart the machine.
- 5 Install the plug-in.

For information about installing the plug-in, see the *Dell NetVault Backup Plug-in for VMware User’s Guide*.

More resources

Additional information is available from the following:

- [Online product documentation](#)
- [NetVault community](#)

Globalization

This section contains information about installing and operating this product in non-English configurations, such as those needed by customers outside of North America. This section does not replace the materials about supported platforms and configurations found elsewhere in the product documentation.

This release supports any single-byte or multi-byte character set. It supports simultaneous operation with multilingual data. This release is targeted to support operations in the following regions: North America, Western Europe and Latin America, Central and Eastern Europe, Far-East Asia, and Japan.

The release is localized to the following languages: Chinese (Simplified), French, German, Japanese, and Korean.

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- Engage in community discussions
- Chat with a support engineer

Third-party contributions

This product contains the third-party components listed below. For third-party license information, go to <http://software.dell.com/legal/license-agreements.aspx>. Source code for components marked with an asterisk (*) is available at <http://opensource.dell.com>.

Table 7. List of third-party contributions

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Table 7. List of third-party contributions

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Table 7. List of third-party contributions

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