HPE Nimble Storage Windows Toolkit 7.0.0 Release Notes

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Support

All documentation and knowledge base articles are available on HPE InfoSight at *https://infosight.hpe.com*. To register for HPE InfoSight, click the *Create Account* link on the main page.

Email: *support@nimblestorage.com*

For all other general support contact information, go to *https://www.nimblestorage.com/customer-support/*.

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NWT 7.0.0

Version:	7.0.0
Revision:	Wednesday September 25, 2019 12:32:05

The release notes describe the major changes, fixes, and known issues for this release of the HPE Nimble Storage Windows Toolkit. They do not include all individual fixes and internal changes.

For technical support, contact HPE Nimble Storage Support at:

mailto:support@nimblestorage.com
877-3-NIMBLE (877-364-6253), option 2.

Special Notes

Note	Description
CRITICAL	HPE Nimble Storage continues to qualify configurations between releases. The Validated Configuration Matrix provides information about validated configurations and is updated frequently. It is a good practice to check your system configuration against this online tool. The Validated Configuration Matrix tool is available on HPE InfoSight: *https://infosight.hpe.com/resources/nimble/validated-configuration-matrix*
CRITICAL	If you are performing either a fresh installation of HPE Nimble Storage Windows Toolkit (NWT) 7.x.x or upgrading an existing version of NWT to a 7.x.x version, you might be prompted to reboot your system if you install the HPE Nimble Storage DSM for MPIO feature. If you are uninstalling a version of NWT 7.x.x that has the HPE Nimble Storage DSM for MPIO feature installed, you must reboot your system when the uninstall operation completes.
CRITICAL	An extended data services outage may occur with MS iSCSI initiator and Intel NICs using the built-in Windows driver e1q60x64.sys (version 11.0.5.21/11.0.5.22). This issue does not occur with the latest driver from the Intel website. Tested version 11.17.27.0/12.7.27.0.
CRITICAL	Windows Server 2008 R2 SP1 hotfixes are REQUIRED before you install or upgrade the HPE Nimble Storage Windows Toolkit. The hotfixes listed below are the minimum requirement. The product installer now checks for required hotfixes. • *KB3125574* - Convenience roll-up update for Windows Server 2008 R2 SP1.

NWT 7.0.0 Special Notes

Note	Description
CRITICAL	Windows Server 2012 hotfixes are REQUIRED before you install or upgrade the HPE Nimble Storage Windows Toolkit. The hotfixes listed below are the minimum requirement. The product installer now checks for required hotfixes. • *KB2928678* - Server 2012 update rollup: March 2014, contains KB2908783. • *KB3102997* - Data is corrupted after iSCSI sessions or paths recover in Windows Server 2012 R2 or Windows Server 2012. • *KB3046101* - Server may freeze during startup when ALUA-capable storage is used in Windows Server 2012 R2 or Windows Server 2012. • *KB2964429* - Storage Optimizer memory use increases when it runs on thin provisioned LUNs. • *KB2996802* - TRIM and UNMAP activities for thin provisioning on one volume block all activities on other volumes.
CRITICAL	Windows Server 2012 R2 hotfixes are REQUIRED before you install or upgrade the HPE Nimble Storage Windows Toolkit. The hotfixes listed below are the minimum requirement. The product installer now checks for required hotfixes. • *KB2964429* - Storage Optimizer memory use increases when it runs on thin provisioned LUNs. • *KB2996802* - TRIM and UNMAP activities for thin provisioning on one volume block all activities on other volumes. • *KB4503276* - June 11, 2019 - KB4503276 Monthly Rollup.
CRITICAL	Windows Server 2016 hotfixes are REQUIRED before you install or upgrade the HPE Nimble Storage Windows Toolkit. The hotfixes listed below are the minimum requirement. The product installer now checks for required hotfixes. • *KB4507460* - July 9, 2019 - KB4507460 (OS Build 14393.3085).
CRITICAL	Windows Server 2019 hotfixes are REQUIRED before you install or upgrade NWT. The hostfixes listed below are the minimum requirement. The product installer now checks for required hotfixes. • *KB4507469* - July 9, 2019 - KB4507469 (OS Build 17763.615).
Important I	If the VSS Services option is selected in NWT 7.0.0, you must enter array credentials for at least one group during installation.
Important	SMI-S is not supported with GST or the multi-protocol feature.
Important	On Windows Servers 2012 and above, the disk optimization process may record the following error in the application event log: `The volume was not optimized because an error was encountered: Neither Slab Consolidation nor Slab Analysis will run if slabs are less than 8 MB. (0x8900002D)` Although Windows records this as an error in the event log, the event can be safely ignored for HPE Nimble Storage volumes. HPE Nimble Storage volumes do not benefit from nor require Slab Consolidation.

Note	Description
Important	Installing or upgrading HPE Nimble Storage Windows Toolkit (NWT) on Windows 2008 R2 requires security update *KB3033929*.
Important	Beginning with 2.2.x, HPE Nimble Storage Windows Toolkit is only available for 64bit version of Windows 2008 R2 and above.
Important	NCM for iSCSI provides resilient, automated multi-pathing and connection management for Windows iSCSI environments, even for single array groups.
Important	HPE Nimble Storage recommends the following Microsoft articles: • *KB2964768* – Event ID 150 is logged on a Windows Server 2012 or Windows Server 2012 R2 Hyper-V host.
Important	The NimbleDSM driver for Windows Server 2008R2/2012/2012 R2, 2016, and 2019 contained within the installation package is certified and signed by Microsoft.
Important	HPE Nimble Storage recommends that you limit the number of snapshot collection clones created using the PowerShell cmdlets **Get-NimDatabaseSnapshot** or **Invoke-NimDatabaseSnapshot** to no more than three at one time. Otherwise the operation might take a long time. The cmdlet, before it precedes, displays the warning: `This operation will Clone All the Database Present in this Snapshot Collection. This May take a longer time.` For example, the following command would require a long time to complete: **Get-NimDatabaseSnapshot -DBName db1 –MaxObjects 10 –NoReplica | Invoke-NimDatabaseSnapshot** If you entered the same command, but with a smaller value for **-MaxObjects**, the operation would complete sooner. For example, the following command with **-MaxObjects 2** takes significantly less time than the previous one, which specified 10 objects. **Get-NimDatabaseSnapshot -DBName db1 –MaxObjects 2 –NoReplica | Invoke-NimDatabaseSnapshot**
Important	The **Invoke-NimDatabaseSnapshot** cmdlet successfully completes when you include **-ReplicateSnapshot** option without a value specified and the array is configure for async replication. However, if you run the **Get-DatabaseSnapshot** cmdlet with **–OnlyReplica** or without any options, it will not show the downstream snapshot collection immediately. It could stake several seconds up to a few minutes for the snapshot collection to appear.

New Features in NWT 7.0.0

This release of the HPE Nimble Storage Windows Toolkit (NWT) provides support for the following new features:.

New PowerShell Cmdlets

NWT 7.0.0 adds several PowerShell cmdlets that expand the tasks you can perform, including:

- Application-aware cmdlets that support SQL databases
- Cmdlets that allow you to create and remove snapshots from volumes and volume collections

The NWT 7.0.0 cmdlets are

- **Get-NimDatabase**
- **Get-NimDatabaseSnapshot**
- **Invoke-NimDatabaseClone**
- **Invoke-NimDatabaseSnapshot**
- **Invoke-NimSnapVolume**
- **Invoke-NimShapVolumeCollection**
- **Remove-NimSnapshot**

For information about using these cmdlets, see the *Windows Integration Guide* or the help information for the cmdlets (use the **Get-Help** cmdlet to display help information). A summary of the the cmdlets is provided in the section *NWT PowerShell Cmdlet Summary* of the *Windows Integration Guide*.

SQL 2017 support

NWT 7.0.0 adds support for SQL 2017.

Recent Release Features

Support for the following new features was added in 6.x.x versions of the HPE Nimble Storage Windows Toolkit (NWT):

Synchronous Replication and Peer Persistence

This feature provides the ability to synchronously replicate data between two arrays located in separate datacenters. It provides automatic protection against array or site failure.

Note Synchronous Replication and Peer Persistence are not supported with Windows 2008R2.

Group Scoped Targets

This feature allows multiple LUNs to be accessed through a single iSCSI target, which reduces the number of connections required when configuring a large number of LUNs.

Note SMI-S does not support GST.

Documentation

These Release Notes, the *Windows Integration Guide*, and other HPE Nimble Storage user documentation are available on HPE InfoSight:

https://infosight.hpe.com/resources/nimble/docs

You can manually reach the documentation page by logging onto HPE InfoSight and selecting **Resources** > **Nimble Documentation**.

Document Search Interface

There are several methods you can use to locate the documents you need.

The **Documentation** page provides a search interface that allows you to search for information across all documentation, including support and knowledge base articles, best practice, solution and integration guides, product documentation, and configuration matrices.

To go directly to a document, use the navigation pane on the left side of the **Documentation** page. The navigation pane organizes documents into categories, including:

- Document Type
- Nimble Software and Solutions
- NimbleOS Version
- Integration
- Platform

Use the page scroll bar to move up and down the navigation pane.

Third-Party Software Notices

All third-party software notices can found in the Documentation Portal on HPE InfoSight.

Here are the steps to manually access the third-party software notices:

1 Log in to HPE Infosight (https://infosight.hpe.com/resources/nimble/docs) .

2 From the menu, select the Resources Nimble Documentation .

3 In the navigation pane on the left of the Documentation Portal, scroll through the Document Type sections and select Support Policy.

4 In the page that appears, select General Terms and Conditions. This document opens in a browser.

Verified Update Paths

The following upgrade paths for HPE Nimble Storage Windows Toolkit (NWT) have been tested and verified.

Verified Update Paths for NWT 7.0.0	
From Version	**To Version**
NWT 6.0.1	NWT 7.0.0
NWT 6.0.0	NWT 7.0.0
NWT 5.0.0	NWT 7.0.0

Known Critical Issues

There are no critical known issues in HPE Nimble Storage Windows Toolkit (NWT) version 7.0.0.

Resolved Critical Issues

There are no critical issues that were resolved in HPE Nimble Storage Windows Toolkit (NWT) version 7.0.0.

Resolved Issues

There are no non-critical issues that were resolved in HPE Nimble Storage Windows Toolkit (NWT) version 7.0.0.

Known Issues

HPE Nimble Storage Windows Toolkit (NWT) 7.0.0 has the following known issues.

Known Issues in NWT version 7.0.0				
ID	Component	Title	Description	Workaround
NWT-3726	nwt.cmdlets	Failures seen with Invoke-Nim-DatabaseClone	The cmdlets Invoke-Nim-DatabaseClone and Get-NimDatabase sometimes fail with a WMI error when run against an SQL 2017 application installed in a Windows failover cluster setup.	Re-run the cmdlet.
NWT-3709	nwt.installer	Group Management Registration fails during install/upgrade when the PS version is less than 3.0	Registering the array Group Management Credentials sometimes fails during an installation or upgrade operation if the Powershell version is less than 3.0. This typically happens on Windows 2008 R2 servers. It blocks you from completing the installation.	Update to a PowerShell version greater than 3.0 before starting the installation or upgrade.
NWT-3689	nwt.cmdlets	Number of snapshots are different in the snapshot collection for replication partners	The number of snapshots in a Snapshot Collection invoked using Invoke-Nim-DataSnapshot differs between replication partners with periodic synchronization. This happens when an SQL database is configured on fewer volumes than the number of volumes that were configured in a given Volume Collection.	You must be aware of the snapshot details where the database is residing. The number of volumes must match.

Known Issues in NWT version 7.0.0				
ID	**Component**	**Title**	**Description**	**Workaround**
NWT-3738	nwt.cmdlets/Nimble VSS Services	Metadata on a Volume Collection Does Not Get Deleted When the SQL DB Is Deleted on the Volumes	When you delete an SQL database that had been hosted on HPE Nimble Storage volumes, the metadata on the volume collection persists.	You should always remove and re-create the volume collection each time you remove and recreate an SQL database on an HPE Nimble Storage volume.
NWT-1197	Nimble Connection Service	Disabling Host NICs might cause the "Favorite" login session definitions to change	Disabling host NICs used in "Favorite" login definitions sometimes causes the 'Favorite' login definition to change. On reboot, these iSCSI sessions might not be able to be reestablished.	Care should be taken to validate that the "Favorite" login definitions are correct after adding or removing host NICs, or enabling or disabling host NICs.
NWT-1198	Nimble Connection Service	Nimble Connection Service cannot close some "reconnecting" iSCSI sessions	Occasionally, the Nimble Connection Service (NCS) hangs while attempting to close a "Reconnecting" iSCSI session if the session is the result of a "Favorite" login definition. If you try to disconnect one of these reconnecting sessions, the iSCSI Initiator occasionally turns grey and shows a "Not Responding" message. If you close the iSCSI Initiator (Task Manager) and re-open the iSCSI Initiator, the connection is lost.	Be careful about disabling host NICs that are used in "Favorite" login definitions and rebooting your system. If you must remove host NICs involved in "Favorite" login definitions, remove the affected favorites and reestablish the appropriate "Favorite" connections with connections from appropriate host NICs to target portals in the same subnet before reboot.
NWT-1578	Nimble Connection Service	Nimble Connection Manager "Refresh" can take several minutes	Clicking the "Refresh" button on the Nimble Volumes tab might take several minutes. The time is dependent on the total number of connections as well as the other work the system is doing. For an idle system, we have observed three minutes to complete when there are 40 connected volumes and 250 connections.	Not applicable.
NWT-1579	Nimble Connection Service	Nimble Connection Manager (NCM) GUI is not sizable	The NCM GUI is not sizable. Consequently, on lower resolution screens, parts of the NCS window may not be visible on the screen.	Use a larger monitor or set the screen resolution to higher value.

Known Issues in NWT version 7.0.0				
ID	Component	Title	Description	Workaround
NWT-1749	Nimble DSM	Windows does not boot from SAN when a boot volume exposes only the Standby path from the FC array	In a Windows boot from SAN environment: if the array active controller is offline, Windows does not boot. See MS *KB2997378* article: Windows Server freezes during startup or shutdown when ALUA-capable storage is used.	Not applicable.
NWT-1580	Nimble VSS Services	VSS synchronized snapshots cannot use CHAP authentication	CHAP authentication cannot be used for VSS synchronized snapshots.	Until this issue is fixed in an upcoming release, the only authentication mechanism that can be used with VSS synchronized snapshots is initiator groups.
NWT-3278	NWT VSS Services	Exchange Snapshot fails when one Complete and second Partial Exchange DB in VolColl	The snapshot fails with error "Protection set does not contain all the volumes required to take application consistent snapshot. Check the protection set configuration."	Exclude volumes which are hosting incomplete components from volume collection and then rerun the snapshot. Example: For two mailboxes, MB1 and MB2, and an empty volume H:(V5): - MB1 hosts on D:(V1) and E:\ (V2) - MB2 hosts on F:(V3) and G:(V4) Valid scenario for snapshots: Volume collection of V1, V2, V5 or V3, V4, V5 Failure scenario: Volume collection of V1, V2, V3 or V1,V2,V4
NWT-1689	Nimble VSS Services	VSS snapshots may fail after renaming volume	VSS snapshots may fail with VSS_E_PROVIDER_VETO error after renaming one or more volumes in a volume collection.	Restart Nimble VSS hardware provider service on the Windows host.

Known Issues in NWT version 7.0.0				
ID	**Component**	**Title**	**Description**	**Workaround**
NWT-1539	Nimble Windows Toolkit	NWT installer cannot detect the presence of MPIO and fails upgrade.	When upgrading from one NWT version to another, the installer might fail to detect the presence of MPIO and fail the upgrade. A possible reason for this failure is WMI initialization or out-of-memory errors.	Restart the WMI service.
NWT-2067	Nimble Windows Toolkit	A copy operation on VM used regular copy instead of ODX for a SCSI pass-through disk (MS KB3011079)	When an ODX copy is attempted from a Windows VM on NTFS volumes that are backed by SCSI pass-thru disks from Hyper-V, Windows might switch to regular copy. This is due to a known Windows limitation related to MPIO for pass-thru disks. See Microsoft KB article *KB3011079* for details.	Do not use pass-thru disks for ODX copy operations. Use direct attached volumes from the Windows VM (iSCSI or FC).
NWT-2145	Nimble Windows Toolkit	MSiSCSI Initiator or NCM may show targets without LUNs when connected to Nimble array with VMware VVols feature	Nimble Storage arrays with the VMware VVol feature enabled expose group-scoped targets without any LUNs. These targets will not be listed as volumes on Nimble Storage array GUI. However, if Microsoft Windows initiators are connected to the same array, this group scope target will show as a target in iScsiCpl and as a volume (e.g., target iqn format) in Nimble Connection Manager (NCM). No LUNs would appear under these group-scoped targets. If Nimble Connection Service (NCS) is installed, it may also log events or log entries about waiting for disks.	Understand that when making iSCSI connections using iSCSI Initiator or NCM to Nimble group targets on VVols feature enabled Nimble arrays, that iScsiCpl and NCM may show the group-scoped target as a target or volume, respectively (for example., iqn.2007-11.com.nimblestorage.com:xyz).

Known Issues in NWT version 7.0.0				
ID	Component	Title	Description	Workaround
NWT-2950	NWT Installer	Recommended Nimble Storage I/O timeout settings may not be set if "Nimble DSM for MPIO" feature is not installed.	When installing the Nimble Windows Toolkit, if you do not install the "Nimble DSM for MPIO" feature, your host may not be configured with Nimble's recommended timeout settings. To check and/or update your settings, please review KB-000052 article which can be found on InfoSight here: *https://infosight.nimblestorage.com/InfoSight/media/kb/active/htr1455131698674.pdf*	Not applicable.
NWT-2993	NWT Installer	Managing NWT silent installation failure due to missing hotfixes on the host	If the silent installation of NWT 5.0.0 fails due to missing Hotfixes on the host, refer the NWT install logs to check the missing Hotfixes and use the below command to proceed with the installation: **Setup-NimbleNWT-x64.0.0.0.XXX.exe EULAACCEPTED=Yes HOTFIXPASS=Yes RebootYesNo=Yes NIMBLEVSSPORT=Yes /silent**	Install the recommended hotfixes, which are listed in either this document or the NWT install logs.

Known Issues in NWT version 7.0.0				
ID	Component	Title	Description	Workaround
NWT-2656	NWT Installer	Do not cancel the NWT installation once it is started.	Action: The NWT Installer doesn't support rollback option. Because of this, there is no cancel button. However, the "X" (close window) button is enabled and it allows you to cancel the installation. Problem: Since the Installer allows cancelation of the operation, it was expected that the system would revert to its original state. That does not happen. Impacts : Case 1. Cancel while major upgrade ====================== 1) Old NWT (Installed one) was removed from system 2) Missed to install new NWT and reboot not happening 3) If you try to install again, you will see an unwanted popup Case 2. Cancel while uninstalling ====================== 1) Installer contains 2 MSI packages and while cancel uninstallation process. One of them may be removed but the other is not. 2) System doesn't restore to its original state.	Cancellation of NWT installation, once started, is not supported. If you cancel the installation, changes made by the installer may not be cleanly rolled back.