SnapDrive® 4.2.1 for Windows®
Release Notes

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Contents of the release notes

Topics covered

The following topics are covered in these release notes:

- "Features of this release" on page 2
- "Limitations" on page 3
- "Upgrade and revert information" on page 5
- "SnapDrive requirements" on page 7
- "Bug fixes" on page 12
- "Known issues" on page 14

Features of this release

About this release

The major new and enhanced features of SnapDrive® 4.2.1 for Windows® include support for the following:

- Use with SnapManager 4.0 for Exchange
- Use of QLogic iSCSI HBAs
- Use of QLogic FCP HBAs on x64 and IA64 operating systems

SnapDrive 4.2.1 also includes all the features in SnapDrive 4.2, including:

- Use on the Itanium®-based (IA64) systems running IA64 Windows OS:
  - When using Windows Attach Kit 3.0 for FCP installations
  - When using the Microsoft iSCSI Software Initiator 2.02
- Use of FlexClone technology when connecting to LUN copies
- Separately installed MPIO
- Important bug fixes

For the most up-to-date information about HBAs qualified for use with SnapDrive, see the Compatibility and Configuration Guide for NetApp FCP and iSCSI Products on the NOW NetApp on the Web™ (NOW™) site at the following URL:

http://now.netapp.com/NOW/knowledge/docs/san/fcp_iscsi_config/index.shtml/

Limitations

Features not supported in SnapDrive 4.2.1

The SnapDrive 4.2.1 software does not support the following:

- Use of FCP and iSCSI protocols to connect to different LUNs on the same host
- Management of VLDs and conversion of VLDs to LUNs
- Use of volume mount points for Windows 2000® clusters
- Use of LUN cloning
- Use of SnapDrive to manage dynamic disks or raw disks
- Use of qtree quotas (however, SnapDrive does support the use of qtrees without quotas)
- Automatic triggering of qtree-based asynchronous mirroring (however, SnapDrive does support the use of SnapMirror to replicate volumes)
- Extended partitions in a virtual disk (SnapDrive only supports a single primary partition on a virtual disk)
- Use of QLogic™ iSCSI HBAs for Windows 2000 Microsoft® Cluster Service (MSCS) with or without MPIO
- Volume mount points for use with SnapManager 3.1.1 for Exchange and SnapManager 2.0 for SQL Server or earlier SnapManager versions

Features not supported in SnapDrive 4.2.1 when using Data ONTAP DSM 3.0 for Windows MPIO

SnapDrive 4.2.1 does not support the following features when using Data ONTAP DSM 3.0 for Windows MPIO:

- Use of iSCSI
- Use on Windows 2000 MSCS configurations
- Use of iSCSI and FCP protocols on the same host

Considerations when using the Microsoft iSCSI Software Initiator

When using the Microsoft iSCSI Software Initiator, consider the following:

- In a Microsoft Cluster Service configuration (MSCS) that uses volume mount points, install Microsoft hotfix KB925677 on all cluster nodes if you encounter the issue described in the KB article.
- In a noncluster configuration, the Exchange service and the SQL service must be configured with a dependency on the iSCSI software initiator service.

- Use of the Microsoft iSCSI Software Initiator is not supported with the Windows 2000 Microsoft Cluster Service (MSCS).

Caution

Do not install the Microsoft iSCSI software initiator version 2.02 on a Windows system running the Data ONTAP DSM 3.0 for Windows MPIO. The iSCSI initiator installer overwrites the MPIO components used by the Data ONTAP DSM with an earlier, incompatible version. This can prevent your Windows system from booting. For more information, see bug 217388 at Bugs Online.

Upgrade and revert information

Upgrading to SnapDrive 4.2.1

You can upgrade directly to SnapDrive 4.2.1 from SnapDrive 2.0.1 or later if you are not using VLDs.

If you are running a release earlier than SnapDrive 2.0.1, or you are running the VLD Manager application, you must first upgrade to SnapDrive 2.0.1 or 2.1; upgrade to SnapDrive 3.1.1R1, or 3.2R1 using the upgrade-and-conversion process described in the documentation for the release to which you are upgrading; and then upgrade to SnapDrive 4.2.1.

You can access the documentation for SnapDrive 2.0.1 and 2.1 through their respective Description pages on the NetApp on the Web (NOW) site at http://now.netapp.com/NOW/cgi-bin/software/.

Upgrading from SnapDrive 2.1

If you are upgrading from SnapDrive 2.1, see Bug ID 101404 in "Known issues" on page 14 for an upgrade issue and workaround.

Upgrading the iSCSI software initiator

To upgrade your Microsoft iSCSI software initiator for stand-alone and clustered configurations, see the *SnapDrive 4.2 Installation and Administration Guide*. The guide is available on the NOW site at http://now.netapp.com/. From the NOW site, navigate to the documentation section.

Note

Use of the MPIO MS iSCSIDSM included with Microsoft iSCSI Software Initiator 2.02 is supported with SnapDrive 4.2.1 for Windows.

Upgrading from SnapDrive 4.1 and NTAPDSM using iSCSI to SnapDrive 4.2.1

If you are currently using SnapDrive 4.1 for Windows with iSCSI and NTAPDSM and you want to upgrade to SnapDrive 4.2.1 and continue using iSCSI, complete the following steps.

Step	Action
1	Single path all LUNs connected to the host.

Step	Action
2	Uninstall SnapDrive and MPIO by launching the SnapDrive 4.1 executable and choosing Remove.
3	Reboot.
4	Install Microsoft iSCSI Software Initiator 2.02, including Microsoft MPIO Multipathing Support for iSCSI, allowing Microsoft MPIO to claim LUNs.
5	Reboot.
6	Install SnapDrive 4.2.1. **Note** MPIO path management is performed in the Microsoft iSCSI control panel.

Reinstalling or reverting to SnapDrive 4.1 and earlier after installing Data ONTAP DSM for Windows MPIO

Problem: The MPIO components installed by the Data ONTAP DSM 3.0 for Windows MPIO are not compatible with SnapDrive 4.1 and earlier. These MPIO components are not normally removed when you uninstall the DSM.

What to do: If you want to revert to or reinstall SnapDrive 4.1 or earlier, you must force the removal of all MPIO components installed by the Data ONTAP DSM. See “Uninstalling the Data ONTAP DSM” in the Data ONTAP DSM for Windows MPIO Installation and Administration Guide for complete instructions.

SnapDrive requirements

System requirements

The following table shows the system requirements for SnapDrive 4.2.1.

Component	Requirement
Operating system on the filer	Data ONTAP software version 7.0.2 or later. Use with Data ONTAP DSM 3.0 for Windows MPIO requires Data ONTAP software versions 7.0.5 or later. Rapid LUN restore and fractional spacing reservation monitoring for LUNs having less than 100% space reservation require Data ONTAP version 7.1 or later. **Note** For the most current list of supported Data ONTAP software versions, see the SnapManager and SnapDrive Compatibility Matrix on the NOW site at http://now.netapp.com/.
Licenses enabled on the filer	◆ iSCSI, if you plan to use iSCSI-accessed virtual disks ◆ FCP, if you plan to use FCP-accessed virtual disks ◆ SnapRestore® software, which is required only for restoring virtual disks from Snapshot™ copies ◆ SnapMirror software, if you plan to use the SnapMirror option ◆ FlexClone, which is required to enable volume clone functionality **Note** The iSCSI and FCP licenses supplied with SnapDrive enable all the CIFS functionality necessary for using SnapDrive. If you also want *full-featured, direct CIFS access* to a particular filer, you must install a separate CIFS license on that filer.
NetApp Host Agent	If you are currently running NetApp Host Agent (to manage SnapDrive host with DataFabric® Manager), you must upgrade to NetApp Host Agent 2.3.2 or later before upgrading to SnapDrive 4.2.1 on 32-bit systems. For more information, go to the “SnapDrive 4.2.1 for Windows Description Page” on the NOW site at http://now.netapp.com/NOW/cgi-bin/software/.

Component	Requirement
Hardware on the Windows host machine	◆ For 32-bit: 2.8 GHz Pentium® 4 or compatible ◆ For 64-bit: Intel® Xeon®, AMD Opteron™, or Intel Itanium ◆ 1 GB system RAM ◆ Emulex® LP9002L-F2 or LP10000 HBAs for FCP (on 32-bit systems), supplied by NetApp **HBAs and NICs** To determine the number and type of HBAs and NICs required by each host in your SnapDrive configuration, see the section on selecting a SnapDrive configuration in the *SnapDrive 4.2 Installation and Administration Guide*. The guide is available on the NOW site at http://now.netapp.com/. From this gateway, navigate to the documentation section. To ensure high network bandwidth and ease of configuration, obtain the latest firmware and drivers for the HBAs and network interface cards (NICs) you are using, by following these guidelines: ❖ The NIC you use to facilitate data transfer for the Microsoft iSCSI initiator can come from any vendor, but it must have the appropriate LOGO certification: “Designed for Windows Server 2003” or “Designed for Windows 2000.” ❖ See the FCP Host Utilities (Attach Kits) for Windows on the NOW site at http://now.netapp.com/NOW/cgi-bin/software/ for the latest supported Emulex FCP HBAs and drivers. From this gateway, navigate to the FCP Host Utilities (Attach Kits) for Windows download page. ❖ The Microsoft iSCSI initiator must be downloaded from the Microsoft site. For directions and links, go to the NOW site at http://now.netapp.com/NOW/cgi-bin/software/, scroll to the iSCSI Host Support Kit item, select the appropriate platform, and then click Go. ❖ If you are using QLogic HBAs, see the NetApp iSCSI Host Compatibility Matrix for information about the correct version to run. You can access the support matrix on the NetApp on the Web (NOW) site at http://now.netapp.com/.

Component	Requirement	
Operating system on the Windows host machine	For Windows 2000 Server, one of the following operating systems: ◆ Windows 2000 Server with Service Pack 4 (SP4) ◆ Windows 2000 Advanced Server with SP4 (for Windows-cluster configurations)	For Windows Server 2003, one of the following operating systems: ◆ Windows Server 2003 Standard or Enterprise Edition with SP1 (x86) ◆ Windows Server 2003 R2 Standard or Enterprise Edition (x86) ◆ Windows Server 2003 Standard or Enterprise Edition with SP1 (x64) ◆ Windows Server 2003 R2 Standard or Enterprise Edition (x64) ◆ Windows Server 2003 Standard or Enterprise Edition with SP1 (IA64) ◆ Windows Server 2003 R2 Standard or Enterprise Edition (IA64)
Microsoft Windows hotfixes	Before you can install SnapDrive, your host machine must have the appropriate Microsoft hotfixes installed. **Note** The Microsoft hotfixes 293778, 815198, 867818, 885294, 898790, 902837, 908249, 912063, 913648, 922772, 923424, and 923801 must be requested directly from Microsoft Product Support Services at http://support.microsoft.com/. **Note** The Microsoft hotfix 822831 can be downloaded from the NOW software download site at http://now.netapp.com/NOW/cgi-bin/software/. From this software page, navigate to the SnapDrive 4.2.1 download page.	

Component	Requirement	
Microsoft Windows hotfixes	**For Windows 2000 Server** If your host is running Windows 2000 Server or Advanced Server with SP4, you must install the following hotfixes: ◆ 293778 ◆ 815198 ◆ 867818 ◆ 885294 **Note** Before installing hotfix 293778, see Bug ID 113541 in "Known issues" on page 14 for more information. **Note** If you encounter the problem described in the Microsoft Knowledge Base article 822831, you must install hotfix 822831. **Note** Although SP4 includes hotfix 815198, sometimes this hotfix does not update correctly and you are prompted that this hotfix is required. If prompted, install the individual hotfix or re-apply SP4.	**For Windows Server 2003** If your host is running Windows Server 2003 with SP1 or Windows 2003 R2, you must install the following hotfixes: ◆ 898790 ◆ 902837 ◆ 908249 ◆ 912063 ◆ 913648 ◆ 922772 ◆ 923424 ◆ 923801 **Note** At this time, SnapDrive 4.2.1 requires hotfix 908249 for both Standard and Enterprise Editions of Windows Server 2003.

Preparing the SnapDrive service account

Before installing SnapDrive, you must establish a SnapDrive service account. The service account must be created using US-ASCII characters only, even when you use non-ASCII operating systems. You must log in to this account whenever you need to perform SnapDrive-related functions on either a host or a filer. You must establish the following types of access for this service account.

Note

This document assumes that you possess general familiarity with Windows 2000 or Windows 2003 system administration and NetApp storage system administration. To help you enable the various types of access required for the SnapDrive service account, this section provides intentionally cursory guidance for each task mentioned. For detailed procedures, see your Windows and Data ONTAP documentation.

- You must be able to log in to the host using the service account.

  If at any time you change the password for this account (for example, from the Windows login dialog panel), remember that you must make the same change to the password the SnapDrive service uses to log in. You can do this from the Start Menu: click Settings > Control Panel > Administrative Tools > Services > SnapDrive > Log On.
- The service account must have administrator privileges on both the storage system and host.
- If you do not have pass-through authentication configured, the service account must be a domain account.
- If you do not have pass-through authentication configured, the host and storage system must belong to the same domain as the service account, or they must belong to domains that have direct or indirect trust relationships with the domain to which the service account belongs.
- The service account must have administrator access to the storage system. It must belong to the BUILTIN\Administrators group on the storage system.

  You can accomplish this in several ways, including connecting a Remote Administration session to the storage system from the host. For instance, right-click the Local Machine icon in the Computer Management window, select Connect to Another Computer from the drop-down menu, and then select the storage system from the list of machines.

  Next, add the service account to the Administrators group. (One way to do this is by clicking My Computer, right-clicking Manage on the drop-down menu, and then navigating to System Tools > Local Users and Groups > Groups > Administrators.)
- The host must have access to the storage system volumes on which virtual disks are stored.

  You enable such access by creating a share on the storage system for each volume or qtree you want the host to access. This can be done only after you create the volumes or qtrees. The procedure is covered in the section on creating a CIFS share of the *SnapDrive 4.2 Installation and Administration Guide*.

Bug fixes

About this section

The following table lists bugs that were fixed in SnapDrive 4.2.1. For a complete list of bug fixes, launch your Web browser, navigate to the following URL, type the Bug ID into the “Enter Bug IDs” field, and then click Go:

http://now.netapp.com/NOW/cgi-bin/bol/

Bug ID	Description
220137	SnapDrive 4.2.1 has made disk enumeration performance improvements on the passive node of a Windows 2003 MSCS configuration when using the Microsoft HBAAPI.dll.
210248	SnapDrive 4.2.1 now supports QLogic FCP HBAs on Microsoft Windows 64-bit OS, by using the Microsoft HBAAPI.dll.
208270	SnapDrive 4.2.1 and later will use the Microsoft HBAAPI.dll for 32-bit and 64-bit operating systems to alleviate the memory leak seen with some older versions of the QLogic drivers.

The following table lists bugs that were fixed in SnapDrive 4.2:

Bug ID	Description
178420	To be consistent with previous SnapDrive releases and to simplify LUN management, SnapDrive creates new LUNs with the .lun extension instead of the extension specified by the user. Also, SnapDrive MMC expects .lun extension for disks connection. In SnapDrive 4.2.1, .lun extension is no longer required.
188393	A timeout of 600 sec has elapsed while waiting for volume arrival notification. Instead of waiting for volume arrival for up to 10 minutes, we now look for a disk arrival event, which will timeout after 2 minutes if unsuccessful.
194921	A new storport hotfix has been release from Microsoft. SnapDrive 4.2 will now check for and require installation of hotfix 916048, if not already installed.

Bug ID	Description
199180	During SnapManager for Exchange remote verification process in an MSCS configuration, system event logs will sometimes incorrectly report a repeated warning event 310, invalid lun path.
200386	SnapDrive fails to Connect to SnapMirror LUNs for Exchange DR site when hostnames are in upper case.
201321	SnapMirror rolling updates fail if the SnapMirror configuration information on the source and destination filers are different.
202698	SnapDrive must recognize and work with SnapMirror relationship created using DNS name and/or a specified network interface name.
203682	SnapDrive 4.1D2 now requires MS Hotfix 922772, hbaapi.dll on W2K3 systems. See http://support.microsoft.com/?id=922772.
205937	SnapDrive 4.1D2 now requires MS Hotfix 913647, vss rollup on W2K3 systems. See http://support.microsoft.com/?id=913648.
206429	Allow any LUN extension usage in SDW.
208533	During upgrade of SDW4.1Dx, if a Qlogic FCP HBA is detected, the vendor specific ql2xhai2.dll (2.0.0.14) will be installed. This dll addresses the memory leak reported in public burt 208720.
208705	SnapDrive Space Reservation monitoring should generate xml entries for "FractionalReserved" tag if the filer version is prior to 7.1. This fix addresses the SME 3.2 and Data ONTAP 7.0.*x* or earlier deficiency reported in public burt 206692.
212397	Optimize SnapDrive queuing of multiple commands by increasing queue wait time to default of 30 seconds.
94095	SCSI Pass-Thru command directed to a non-Netapp disk may fail on some types of hardware, resulting in false warnings in event log (event 156).

Known issues

About this section

The following table lists issues known to exist in SnapDrive 4.2.1. For the latest information about workarounds, launch your Web browser, navigate to the following URL, type the Bug ID into the “Enter Bug IDs” field, and then click Go:

http://now.netapp.com/NOW/cgi-bin/bol/

Bug ID	Description and workaround
178198	SnapDrive Space Reservation Monitor requires that Msxml13.dll be installed on the host machine. If this dll is not present, Space Reservation Monitor displays an error stating that SnapDrive Space Reservation Monitor is unavailable to verify the space reservation conditions for all virtual disks. For most host machines with Windows 2000/SP4 and IE 5.0, Msxm12.dll is not installed and SnapDrive gives the following error message in the event log: Failed to create the instance of ‘MXXMLWriter’ class, Reason: “Microsoft XML parser 3.0 is not installed.’ **Workaround:** To find out how you can obtain the Msxm13.dll file, go to the following link: http://support.microsoft.com/default.aspx?scid=kb;en-us;269238 Since Internet Explorer 6.0 or the MDAC 2.7 SP1 package installs Msxm13.dll, for a Windows 2000/SP4 machine, either upgrade the Internet Explorer 5.0 to Internet Explorer 6.0 or install the MDAC 2.7 SP1 package to solve this problem.
182220	If a LUN connected to a Windows 2000 server is taken offline using FilerView instead of SnapDrive, the SnapDrive MMC and Explorer might hang indefinitely and your system might also become unresponsive. A reboot will help recover your system. This problem affects Windows 2000 Server with Service Pack 4. **Workaround:** There is no workaround.

Bug ID	Description and workaround
185003	During disk enumeration, SnapDrive tries to obtain Windows volume information. If the disk is not formatted, Windows volume does not exist and SnapDrive is unable to find the disk's corresponding Windows volume. In the case of the delete or disconnect operation, SnapDrive dismounts the Windows volume before removing the disk object, so if SnapDrive tries to enumerate disks during this time, the Windows volume is not found for a disk that is still connected. When SnapDrive restores disks, it also dismounts the Windows volume and the same problem with disk enumeration occurs. In the case of Microsoft Cluster configurations, on the passive nodes, SnapDrive tries to get Windows volume information from the active node and from the cluster API. If cluster service on a passive node is not started, SnapDrive cannot initiate cluster API calls and as a result cannot get Windows volume information, which creates a disk enumeration problem. **Workaround:** Verify system configuration and reinitiate disk enumeration.
210457	MMC GUI may crash on some x64 systems after doing some LUN operations. When we continuously do LUN operations like Create, Connect MMC GUI may crash on some x64 based systems. This does not affect any of the snapdrive operations, MMC can be reopened and operations can be continued. Pageheap settings should never be turned on for MMC.exe. This will cause MMC to crash on x64 systems. **Workaround:** There is currently no workaround for this bug.
215660	When rebooting a a Windows 2003 MSCS node or bringing up a second node, SnapDrive comes up with application event ID 304, 'The RPC server is unavailable.' The error occurs because the SnapDrive service starts before Cluster Service is started. **Workaround:** SnapDrive successfully enumerates disks after restarting Cluster Service; however, disks on some configurations may take longer to enumerate.

Bug ID	Description and workaround
222232	When creating or connecting a virtual disk on Windows 2000 or Windows 2003 hosts, you may encounter a "failed to mount volume, directory not empty" error. The error happens in the following conditions: 1. OS automount feature is enabled (Windows 2000 is always enabled; Windows 2003 is disabled by default) 2. Volume arrival Windows event does not arrive 3. Volume is actually detected by SWSvc In the case of a virtual disk connection, if OS auto-assigned drive letter is the desired drive letter, the error can be ignored and no recovery action is needed; otherwise, manually edit the drive letter to the desired drive letter or mount point to recover. In virtual disk creation case, the volume is automounted, but not formatted with NTFS. Error recovery would be to disconnect/delete the virtual disk and retry virtual disk creation. **Workaround:** Windows 2000: None. Windows 2003: Do not enable automount.
223146	There are two issues associated with unattended installation when QLOGIC HBAs are installed. The first issues is the HBAAPI.dll is not getting installed in SD directory. **Workaround:** Add INSTALL_HBAAPI_LIB=1 switch with your silent installation. This switch (INSTALL_HBAAPI_LIB=1) will fix the issue of not copying HBAAPI.dll in SnapDrive installation directory. The second issue is the ql2xhai2.dll is not getting extracted after SD silent installation fresh/upgrade. This problem occurs due to StreamFileFromBinary Installshield API failure which does not work as documented when used in unattended install mode. **Workaround:** Do not use unattended installation method when installing SnapDrive on systems with QLogic HBAs.