

SnapDrive™ 3.1.1 for Windows®

Release Notes

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Contents of the release notes

Topics covered

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Features of this release

About this release

SnapDrive™ 3.1.1 contains all the features of SnapDrive 3.1, plus several bug fixes. The major new and enhanced features of SnapDrive 3.1 include support for the following:

- ◆ Separately licensable modules for Multipath I/O (MPIO) and SnapDrive
- ◆ Distinguishing between a bootable Logical Unit Number (LUN) and a standard LUN
- ◆ Fibre Channel Protocol (FCP) and Internet SCSI (iSCSI) supported on the same Windows host (each LUN supports only one protocol)
- ◆ Integration of NetApp® Volume Shadow Copy Service (VSS) Hardware Provider
- ◆ Microsoft Windows Hardware Quality Lab (WHQL) certified iSCSI host bus adapters (HBAs)
- ◆ Internationalization for the Japanese language

Limitations

Features not supported in SnapDrive 3.1

The SnapDrive 3.1.1 software does not support the following:

- ◆ Management of virtual local disk-types (VLDs)
- ◆ Use of MPIO on iSCSI
- ◆ Use of 64-bit Windows
- ◆ Use of LUN cloning
- ◆ Use of virtual disks managed by SnapDrive, as in
 - ❖ Dynamic disk
 - ❖ Raw disk
- ◆ Use of qtree quotas (However, SnapDrive does support the use of qtrees without quotas.)
- ◆ Use of SnapMirror® functionality to replicate individual qtrees (However, SnapDrive does support the use of SnapMirror to replicate volumes.)
- ◆ Connection to Data ONTAP MultiStore™ virtual filer partitions (However, SnapDrive can connect directly to the physical “hosting” filer [vfiler0] in a MultiStore installation.)
- ◆ A virtual disk as an extended partition. SnapDrive only supports a single, primary partition on a virtual disk.

Limitations of the Microsoft iSCSI software initiator

- ◆ In a noncluster configuration, the Exchange service and the SQL service must be configured with a dependency on the iSCSI software initiator service.
- ◆ SnapDrive 3.1.1 currently supports the use of the Microsoft iSCSI software initiator version 1.06.

Upgrade information

Upgrading to SnapDrive 3.1.1

You can upgrade to SnapDrive 3.1.1 from SnapDrive 3.0R2, 3.0R1, 3.0, 2.1, or 2.0.1.

If you are running a release earlier than 2.0.1, or if you are running the VLD Manager application, you must first upgrade to 2.0.1 or 2.1, and then upgrade to 3.1. For upgrade information, read the documentation specific to the release you are upgrading to.

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, there is an upgrade issue and workaround that you need to be aware of. See Bug ID 101404 in “[Known issues](#)” on page 19.

Upgrading the iSCSI software initiator for stand-alone configurations

To upgrade your Microsoft iSCSI software initiator to version 1.06 for stand-alone configurations complete the following steps.

Step	Action
1	Stop all application server services that are using the iSCSI LUNs.
2	Using SnapDrive, open each iSCSI Connections item and note the filer name or IP address.
3	From the Microsoft Management Console (MMC), in the Services items list, stop the SnapDrive service and the Microsoft iSCSI Initiator service. Note _____ The Stop Other Services dialog box appears, showing the dependent services. Note all services that depend on the Microsoft iSCSI Initiator and click Yes to stop the other services. _____

Step	Action
4	Use the Add or Remove Programs utility on the Control Panel to uninstall the iSCSI initiator. Note _____ If you do not uninstall the iSCSI initiator before installing the new version, the install fails. _____
5	Download and install the iSCSI software initiator. Note _____ Go to the NOW site at http://now.netapp.com/NOW/cgi-bin/software/ and navigate to the iSCSI Microsoft Windows Initiator Support Kit 1.0 Description Page for directions and links for downloading the iSCSI software initiator. Use the x86fre-1.06.msi installation file. _____
6	From the MMC, in the “Services items” list, start the SnapDrive service and the Microsoft iSCSI Initiator service.
7	Start each dependent service you stopped in Step 3 .
8	Under SnapDrive, right-click iSCSI Connections and select Establish New Connection to create connections for each connection you noted in Step 2. Note _____ When prompted, enter the file name or IP address for each item you noted in Step 2. _____
9	Reboot your system if prompted.
10	Start the application server services that you stopped in Step 1 .

Upgrading the iSCSI software initiator for clustered configurations

To upgrade your Microsoft iSCSI software initiator to version 1.06 for clustered configurations, complete the following steps:

Step	Action
1	Move all cluster groups so that they are owned by node 1. Note _____ Node 1 should be the node the LUNs are on, so you do not need to stop the cluster service.
2	Perform Step 3 through Step 10 on node 2.
3	Stop all application server services that are using the iSCSI LUNs.
4	Using SnapDrive, open each iSCSI Connections item and note the filer name or IP address.
5	From the MMC, in the Services items list, stop the SnapDrive service and the Microsoft iSCSI Initiator service. Note _____ The Stop Other Services dialog box appears, showing the dependent services. Note all services that depend on the Microsoft iSCSI Initiator and click Yes to stop the other services.
6	Use the Add or Remove Programs utility on the Control Panel to uninstall the iSCSI initiator. Note _____ If you do not uninstall the iSCSI initiator before installing the new version, the install fails.

Step	Action
7	Download and install the iSCSI software initiator. Note _____ Go to the NOW site at http://now.netapp.com/NOW/cgi-bin/software/ and navigate to the iSCSI Microsoft Windows Initiator Support Kit 1.0 Description Page for directions and links for downloading the iSCSI software initiator. Use the x86fre-1.06.msi installation file.
8	From the MMC, in the “Services items” list, start the SnapDrive service and the Microsoft iSCSI Initiator service.
9	Start each dependent service you stopped in Step 5 .
10	Under SnapDrive, right-click iSCSI Connections and select Establish New Connection to create connections for each connection you noted in Step 4. Note _____ When prompted, enter the file name or IP address for each item you noted in Step 4.
11	Reboot your system if prompted.
12	Start the application server services that you stopped in Step 3 .
13	Move all cluster groups so that they are owned by node 2.
14	Repeat Step 3 through Step 12 for each remaining node, making sure that the node does not own any cluster resources before you upgrade it.

SnapDrive requirements

System requirements

The following table shows the system requirements for SnapDrive 3.1.1.

Component	Requirement
Operating system on the filer	Data ONTAP 6.4.4 or 6.5.1 Note_____ For the most current list of supported Data ONTAP software versions, see the SnapManager & SnapDrive Compatibility Matrix on the NetApp on the Web (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 snapshots ◆ SnapMirror software, if you plan to use the SnapMirror option Note_____ The iSCSI and FCP licenses supplied with SnapDrive enable all the CIFS functionality necessary for using SnapDrive. If you also want <i>full-featured, direct CIFS access</i> to a particular filer, you must install a separate CIFS license on that filer. _____

Component	Requirement
Hardware on the Windows host machine	◆ 500 MHZ Pentium® III ◆ 256 MB system RAM ◆ Emulex® LP9002L-F2 HBAs for FCP, supplied by NetApp Note _____ 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 <i>SnapDrive 3.1 Installation and Administration Guide</i>. The guide is available on the NOW site at http://now.netapp.com/. From the NOW site, navigate to the documentation section. Note _____ Obtain the latest firmware and drivers for the HBAs and network interface cards (NICs) you are using, to ensure high network bandwidth and ease of configuration. ❖ The NIC you use to facilitate data transfer for the Microsoft iSCSI Initiator can come from any vendor, but must have the appropriate LOGO certification: “Designed for Windows Server 2003” or “Designed for Windows 2000.” ❖ The latest FCP driver and firmware is available on the NOW site at http://now.netapp.com/NOW/cgi-bin/software/. From this gateway, navigate to the SAN (FCP) Host Attach Kit 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.
Operating system on the Windows host machine	One of the following operating systems: ◆ Windows 2000 Server with Service Pack 4 (SP4) ◆ Windows 2000 Advanced Server with SP4 (for Windows-cluster configurations) ◆ Windows 2003 Server Standard or Enterprise Editions

Component	Requirement
Microsoft Windows 2000 hotfixes	Before you can install SnapDrive, your host machine must have the appropriate Microsoft post-SP4 hotfixes installed: ◆ If your host is running Windows 2000, you must install hotfix 293778. Before installing hotfix 293778, see Bug ID 113541 in “Known issues” on page 19 for more information. ◆ If your host is running Windows 2000 and you encounter the problem described in the Microsoft Knowledge Base article 822831, you must install hotfix 822831. In addition, NetApp strongly recommends installing the following hotfixes on your Windows 2000 hosts: ❖ Q293778–Ftdisk.sys 5.0.2195.6920 or later. “Multiple-Path Software May Cause Disk Signature to Change” ❖ Q325040–Classpn.sys 5.0.2195.5912 or later. “After You Restart Your Computer, an Error Message Occurs, or a Drive Letter Changes, or a Dynamic Disk Is Displayed As BASIC” ❖ Q815198–Wmiprov.dll 1.50.1085.99 or later. “WMI Classes Information for Multipath Drivers Is Not Displayed in WBEMTest” ❖ Q815616–Classpn.sys 5.0.2195.5912 or later. “Clustered Disk Drive Letter Unexpectedly Changes” ❖ Q838637–Scsiport.sys 5.0.2195.6906 or later. “Computer stops responding when a SCSI miniport driver issues a ScsiPortNotification(BusChangeDetected) call” ◆ Q885294–Ntfs.sys 5.0.2195.6973 or later. “Your computer restarts, and you receive a 0xA Stop error in the Ntfs.sys file when you remount a volume” Note_____ The Microsoft hotfixes 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 3.1.1 download page. Other Microsoft hotfixes must be requested directly from Microsoft Product Support Services at http://support.microsoft.com/.

Component	Requirement
Microsoft Windows 2003 hotfixes	Before you can install SnapDrive, your host machine must have the appropriate Microsoft post-SP4 hotfixes installed: ◆ If your host is running Windows 2003, you must install hotfixes 824354, 831112, 833167, 838894, and 840281. Before installing hotfix 840281, see Bug ID 131344 in “Known issues” on page 19 for more information. In addition, NetApp strongly recommends installing the following hotfixes on your Windows 2003 hosts: ❖ Q815198–Wmiprovl.dll 1.50.1085.99 or later. “WMI Classes Information for Multipath Drivers Is Not Displayed in WBEMTest” ❖ Q824354–Clusdisk.sys 5.2.3790.82 or later. “Server stops responding or you receive a stop error message when you set up a Windows Server 2003-based server cluster.” ❖ Q833167–Clusdisk.sys 5.2.3790.114 or later, Ftdisk.sys 5.2.3790.113 or later, Vssapi.dll 5.2.3790.113 or later, Vssvc.exe 5.2.3790.113 or later, Vss_ps.dll 5.2.3790.113 or later. “A Volume Shadow Copy Service (VSS) update package is available for Windows Server 2003” ❖ Q838637–2K3–Scsiport.sys 5.2.3790.142 or later. “Computer stops responding when a SCSI miniport driver issues a ScsiPortNotification(BusChangeDetected) call” ❖ Q840281–Clusres.dll 5.2.3790.163 or later. “Volume information is lost when you extend a partition by using the DiskPart tool and then move the volume in a Windows Server 2003 cluster” ❖ Q886800–Partmgr.sys 5.2.3790.220 or later. “A disk signature is unexpectedly changed on a Windows Server 2003 clustered physical disk resource” ❖ Q887532–Vdsbas.dll 5.2.3790.224 or later. “You may receive the “VDS_E_OBJECT_DELETED” error message when you try to import a transportable shadow volume in Windows Server 2003” ❖ Q891793–Storport.sys 5.2.3790.274 or later. “The updated Storport storage driver, version 5.2.3790.274, fixes a range of Storport-related problems in Windows Server 2003”. This hotfix replaces hotfix 883646. Note Microsoft hotfix 824354 can be downloaded from the NOW software download site at http://now.netapp.com/NOW/cgi-bin/software/, and navigating to the SnapDrive 3.1.1 download page. Other Microsoft hotfixes must be requested from Microsoft Product Support Services at http://support.microsoft.com/.

Preparing the SnapDrive service account

Before installing SnapDrive, you must establish a SnapDrive service account. 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 filer 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.

Note

If at any time you change the password for this account (for example, from the Windows login dialog box), you must make the same change to the password the SnapDrive service uses to log in. You can do this from the Start menu: select Settings > Control Panel > Administrative Tools > Services > SnapDrive > Log On.

- ◆ The service account must have administrator privileges on both the filer 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 filer 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 filer. It must belong to the BUILTIN\administrators group on the filer.

You can accomplish this in several ways, including connecting a Remote Administration session to the filer 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 filer 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.)

- ◆ If your filer is running Data ONTAP 6.4.4 or the latest 6.4.x release, the service account must have rsh (remote shell) access to the filer.
SnapDrive requires this type of access for certain operations. You enable rsh access by editing two files on the filer; see the section on enabling rsh access in the *SnapDrive 3.1 Installation and Administration Guide*.

Note

If your filer is running Data ONTAP 6.5 or later with SnapDrive 3.1, the rsh service is not needed.

- ◆ The host must have access to the filer volumes on which virtual disks are stored.
You enable such access by creating a share on the filer for each volume or qtree you want the host to access. You can only do this after you create the volumes or qtrees. The procedure is covered in the section on creating a CIFS share of the *SnapDrive 3.1 Installation and Administration Guide*.

Bug fixes

About this section

The following table lists bugs that were fixed in SnapDrive 3.1.1. For a complete list of bug fixes, launch your Web browser, navigate to <http://now.netapp.com/NOW/cgi-bin/bol/>, type the Bug ID into the “Enter Bug IDs” field, and then click Go.

Bug ID	Description
135104	SnapManager database and transaction log verification operation fail when on Windows Server 2003 Standard Edition when drive letter Z:\ is assigned to the CDROM or other removable storage devices.
139971	Snapmanager verification with SD3.1 fails if verification server cannot use the same filer IP as the Exchange server used in the backup.
140834	Unable to create a snapshot of virtual disks when filer has more than one IP address and both reachable from same host.
141316	Snapshot mount fails if space available on the volume is less than size of the LUN in snapshot on Data ONTAP versions prior to 7.0 due to ONTAP burt 130299.
142896	On installation of SnapDrive 3.1, user name and password are in cleartext in navp*.log, located in Program Files\SnapDrive installation directory. After upgrade completes, user can delete navp*.log files with date/time prior to upgrade to SnapDrive 3.1D3.

Bug ID	Description
140767	A Win2k3/W2K host over FCP may lose connection to its LUNs in the following MPIO situations: 1. Host SCSI I/O times out due to filer taking longer time than Disk TimeoutValue setting allows to complete the I/O (set on host). Snapdrive 3.1.1 adds additional retry requests to the MPIO module. In addition, the Disk "TimeoutValue" must be set to > 190 (Reg key: HKLM\System\CurrentControlSet\Services\Disk). Upgrading from any previous version of SnapDrive will set this value correctly. However, a clean install of SnapDrive 3.1.1 will require this value to be set, which can be done by editing the registry value, or by re-running the 3.1.1 installation. 2. Under heavy load, and continuous running of takeover/giveback for extended periods of time, a host may lose connection to its LUNs. This release greatly mitigates this problem and makes the MPIO solution more robust.
147714	System hang is caused by recursively acquiring spinlock in NTAPDSM. Only applies to MPIO based systems and only when first device in the group (LUN) is set to DISABLED while running I/O.
139345	"FCP PARTNER PATH MISCONFIGURED" being reported for no apparent reason. A change was made to the MPIO algorithm to be target based instead of HBA based. This change will prevent "FCP PARTNER PATH MISCONFIGURED" error from being misreported.
147572	Changed SnapDrive to use different API call to do proper LUN enumeration on both Qlogic and Emulex FCP HBAs (146293 is duplicate).

Bug ID	Description
134494	Root of burt 140995. Both bugs are fixed in this release with the inclusion of updated MPIO driver from Microsoft. All users running 3.1D2 or 3.1D4 should upgrade to SnapDrive 3.1.1.

The following table lists bugs that were fixed in SnapDrive 3.1. For a complete list of bug fixes, launch your Web browser, navigate to <http://now.netapp.com/NOW/cgi-bin/bol/>, type the Bug ID into the “Enter Bug IDs” field, and then click Go.

Bug ID	Description
138078	When you ran the SnapDrive Data Collection Tool (SnapDrvDC.exe), a dialog box might have appeared stating, “unable to query WMI WIN32_Product class”. SnapDrvDC uses the “Win32_Product” class, which the WMI Windows Installer Provider services. In XP and earlier, the WMI Windows Installer Provider was installed by default. However, beginning with Windows Server 2003, the WMI Windows Installer Provider was an optional component, which needed to be installed.
137602	In SnapDrive 3.0R1 and 3.0R2, an attempt to delete/disconnect a virtual disk failed with the error message “Error code: An assertion failed in FCPVdisk.cpp@2039”. This error message could have been caused after the virtual disk was created using an iSCSI initiator and the node name of the iSCSI initiator was manually changed.
114167	When disconnecting or deleting a virtual disk, the following error might have occurred: “Unable to disconnect virtual disk. Failure in disconnecting the virtual disk. Error: Error 0xffff000b occurred.” This error was caused by a failure in the Microsoft iSCSI API, which updates the list of persistently bound volumes. It happened at the end of the delete/disconnect operation. The disk was actually getting disconnected or deleted.

Bug ID	Description
114156	When in a MSCS cluster environment of two or more nodes, Windows allowed use of a drive letter, which is usually assigned only to physical disk shared resources, to be used for a network share, or to be used by SnapDrive for a dedicated disk create or connect process on a non-owner node (unless cluster group failover occurred and the node was previously owner of this group). After reboot, this drive letter would again become available for a disk create/connect operation.
113631	SnapDrive might have timed out while waiting for Single File SnapRestore (SFSR) to complete. This behavior occurred if the SFSR of a LUN was not completed within approximately 20 minutes.
111301	VSS hardware snapshot could intermittently fail with eventid:4359.
108934	When connecting to a LUN in a snapshot, SnapDrive did not correctly match the letter case between the filer path and UNC path. In this case, a failure to connect the LUN occurred and an error message was generated.
107376	When using the Connect Disk or Create Disk wizards, pressing the Tab key did not highlight the UNC path edit box.
100935	The volume option “nosnapdir” needed to be off for volumes that store virtual disks managed by SnapDrive.
98562	Running <code>sdcli path version</code> from the command line only returned <code>NTAPDSM driver is installed on this system</code> . This indicated that MPIO is installed on the system.
96228	If an IP address was used instead of a host name (NetBIOS name), an attempt to connect to a quorum disk from cluster node 2 (<i>SnapDrive 2.0.1 Installation and Administration Guide</i> , page 79, Step 8) failed with the error message, “Unable to locate a virtual disk to perform requested operation.” The event ID 213 was then logged into the application log.
86705	If a SnapMirror destination volume did not have the Unicode options enabled, CIFS denied access to this volume.

Bug ID	Description
96569/ 87804	To ensure proper SnapDrive operation when MPIO was installed, you had to connect at least one LUN-type virtual disk to your host, and then reboot the host. This ensured that the mpdev.sys driver loaded properly upon reboot.
85676	When you restarted your Microsoft Windows 2000-based computer, you might have received the following error message: “Windows could not start because the following file is missing or corrupt:\WINNT\SYSTEM32\CONFIG\SYSTEMcd.” This problem was caused when the limitation on the system registry hive size was exceeded. In Microsoft Windows 2000, 16 megabytes (MB) of memory are available during the startup process to load: the system hive, the Page Frame Number (PFN) database, the Windows NT Loader (NTLDR), the kernel, the hardware abstraction layer (HAL), and the boot drivers. When SnapManager performs backup with verification, it temporarily connects LUN in snapshot using SnapDrive. When verification is completed, the LUN in snapshot is disconnected, a stale key and stale value are left in the registry. The key and value are as follows: ##?#STORAGE#VOLUME#<...>&0&SIGNATURE<...>OFFSE T<...>LENGTH<...>#{53f5630d-b6bf-11d0-94f2- 00a0c91efb8b}under the HKLM\System\ControlSet00 <N>\Control\DeviceClasses\{53f5630d-b6bf-11d0-94f2- 00a0c91efb8b}key \??\Volume{<SomeGUID>} under the HKLM\System\MountDevices key. These entries accumulate over time making the system registry hive too big for the system to boot. See the Microsoft Knowledge Base Articles 269075 and 277222 for a description of this problem.
82457	When the volume hosting an MSCS quorum virtual disk became unavailable for any reason, the cluster services failed and all MSCS physical disk resources became unavailable. If the original (source) volume was configured for SnapMirror, the shared virtual disks on the SnapMirror destination volume could be reconnected.

Known issues

About this section

The following table lists issues known to exist in SnapDrive 3.1. For the latest information about workarounds, launch your Web browser, navigate to <http://now.netapp.com/NOW/cgi-bin/bol/>, type the Bug ID into the “Enter Bug IDs” field, and then click Go.

Bug ID	Description and workaround
132636	When you choose to uninstall MPIO drivers, using the SnapDrive uninstall process in SAN boot configuration, the MPIO drivers uninstall as normal. However upon system reboot the Multi-Path Support driver (mpio.sys) is only partially uninstalled and appears disabled. The Windows 2000 Server and Windows Server 2003 operating systems exhibit different characteristics when this happens: Windows Server 2003: “Multi-Path Support” under SCSI and RAID Controller (Device Manager) appears with a yellow exclamation mark. (Properties reveal that the driver is disabled.) “This device is disabled. (Code 22).” Windows 2000 Server: “Multi-Path Support” under SCSI and RAID Controller (Device Manager) appears normal (Properties reveal that the driver is disabled.) “This device is disabled. (Code 22).” Workaround: To ensure that MPIO drivers are completely removed in SAN boot configurations, you must manually uninstall the disabled driver. Although you are prompted to reboot the system once you have uninstalled the driver, you do not need to reboot the system. For a root-enumerated device (such as Multi-Path Support driver - mpio.sys), the system does not let you uninstall a ROOT device marked as “not disabled”. The reason is that ROOT devices, by design, do not come back when they are uninstalled like Plug and Play devices do. The mpio.sys driver sets the bit “PNP_DEVICE_NOT_DISABLEABLE - The device must not be disabled” for a device that is required for proper system operation. For example, if a driver receives notification that a device is in the paging path (IRP_MN-DEVICE_USAGE_NOTIFICATION for DeviceUsageTypePaging), the driver calls IoInvalidateDeviceState and sets this flag in the resulting IRP_MN_QUERY_PNP_DEVICE_STATE IRP. If this bit is set for a device, the PnP Manager propagates this setting to the device’s parent device, its parent’s parent device, and so forth.

Bug ID	Description and workaround
(cont.) 132636	If this bit is set for a nonenumerable device, the device cannot be disabled or uninstalled. If a device is marked PNP_DEVICE_NOT_DISABLEABLE, the debugger displays a DNUF_NOT_DISABLEABLE user flag for the DevNode. The debugger also displays a DisableableDepends value that counts the number of reasons why the device cannot be disabled. This value is the sum of X+Y, where X is 1 if the device cannot be disabled and Y is the count of the device's child devices that cannot be disabled.
131344	When you install Microsoft hotfix 840281, the clusres.dll file in the \Windows\Cluster directory might not update to the correct version, 5.2.3790.193. Workaround: To update the clusres.dll file to version 5.2.3790.193, follow these steps: 1. Stop the cluster service on one node. 2. Rename the clusres.dll file to any other name. 3. Run the hotfix installer, and follow the directions. Note _____ After you install the hotfix or after you follow the workaround steps, a dialog box might appear, prompting you for a Windows OS installation CD to restore the original clusres.dll file. Cancel the dialog box. _____
131631	The default behavior of the Intel HBA is to retry failed I/Os indefinitely during a connection distribution. This behavior causes applications such as Disk Management to wait indefinitely if the iSCSI service is stopped on the filer. Workaround: To change the default behavior of the Intel HBA so it will not retry failed I/Os indefinitely, go to the ProSet GUI, choose the Initiator, choose the option Never Retry SCSI commands that fail or Custom Retry, and then press the Apply button.

Bug ID	Description and workaround
130605	For SnapDrive to enumerate HBAs and LUNs, the Emulex driver and HBAAPI dlls must be installed, and the SNIA registry key updated. Using the SAN Host Attach Kit 1.2 for FCP on Windows, installs the driver, the HBAAPI dlls, and updates the SNIA registry key. However, if you do not use the SAN Host Attach Kit 1.2 for FCP on Windows, because you obtained the Emulex driver from another source or you only installed the driver, you must install the Emulex application package. Workaround: If you do not use the SAN Host Attach Kit 1.2 for FCP on Windows and you have the Emulex driver installed, you need to install the Emulex application package, which installs the HBAAPI and other applications. The application package is available from the Emulex web site.
113629	SnapManager backups might fail after moving a LUN from the source volume to a qtree location on the same volume using the <code>lun move</code> operation. If this happens, you might see error messages in the event log. The following is an example of a log message for SnapManager for Exchange (when seen from SnapDrive, the snapshots are grayed out): “Failed to flush a disk buffer for ZAPI: An attempt to create snapshot ‘exchsnap_hq-ex-1_recent’ of the ‘vol3’ volume with ‘async’ option failed on the filer filer1.” Error code: 13020. Error description: The specified snapshot already exists. Workaround: To avoid this situation, you must rename or delete the snapshot from the filer console.

Bug ID	Description and workaround
113541	When MPIO drivers are uninstalled along with SnapDrive, the cluster loses disk resources after reboot. During MPIO driver uninstallation, disks are exposed to the Microsoft Ftdisk.sys driver by a different device name. The result is that Ftdisk.sys changes the disk signature, and the clusdisk driver fails to find the disks with the signature it has stored in the registry. Therefore, those same disks are not cluster resources and the drive letter assigned to the disks changes. Workaround: To properly uninstall the MPIO drive from the MSCS node systems so that the cluster resources are available, and have the same drive letters, follow these steps: 1. Make all multi-pathed LUNs single path. 2. Uninstall SnapDrive and MPIO on node 2 and reboot. This causes all cluster resources to move to node 1. 3. Perform MSCS Move Group to move all resources from node 1 to node 2. 4. Uninstall SnapDrive and MPIO on node 1 and reboot. To reinstall SnapDrive and MPIO, or only SnapDrive, follow these steps: 1. Reinstall SnapDrive with MPIO on node 1 and reboot. 2. Reinstall SnapDrive with MPIO on node 2 and reboot. 3. Verify that drive letters did not change on the LUN disk drives and that cluster resources are available.
112165	If the Network Associates anti-virus driver for Windows 2000 version is installed in the system and the anti-virus service is running, doing an Exchange backup using SnapManager might cause the system to hang. The specific driver names are naifsrec.sys and naifiltr.sys. Workaround: Either update the drivers to Windows 2003 versions or disable the anti-virus service and reboot the computer.
109786	The SnapDrive service might hang during SnapManager for Exchange operations. When this happens, the following message is logged in the event log for the SnapDrive service and other SnapDrive operations: "Another virtual disk operation is already in progress. Please retry the operation later". This event is also logged when the SnapDrive service is running normally with other SnapDrive operations; however, the difference is that in a hung state, SnapDrive exceeds a reasonable amount of time for the operation to complete.

Bug ID	Description and workaround
101404	When upgrading from SnapDrive 2.1 to 3.0 or later, you see a message that your currently installed MPIO files are newer than the ones you are installing. This is a result of a change in Microsoft's numbering scheme for these drivers. The driver versions on the MPIO files in SnapDrive 2.1 have a higher build number; however, the SnapDrive 3.0 or later version of the MPIO files are the newest build. Workaround: When you select Update MPIO drivers, you see two dialog boxes prompting you for permission to overwrite a newer file with an older one. Click Yes in both dialog boxes.

Documentation errata

Managing SnapDrive module licenses from the MMC

To view, add or delete licenses for MPIO or LUN Provisioning and SnapShot Management after either module has been installed, from the Microsoft Management Console (MMC).

Note _____
You can only use the MMC to add or delete the SnapDrive 3.1 module licenses if the module has already been installed. The LUN Provisioning and Snapshot module is always installed, even if you choose to only license and install MPIO, for disk enumeration purposes, however; many of the features that LUN Provisioning and Snapshot Management provides are not available until you supply a license. This can be done in the MMC, even if you originally chose an MPIO-only installation.

Step	Action
1.	In the left pane of the MMC window, select Storage.
2.	Right-click SnapDrive and select Licenses information. Result: The SnapDrive License Modules Setting window is displayed.
3.	View, add or remove (delete) the license(s) for MPIO and LUN Provisioning and Snapshot Management, as needed.