

Data ONTAP® DSM 3.1 for Windows® MPIO

Release Notes

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About this release

Overview

The Data ONTAP® DSM 3.1 for Windows® MPIO enables you to manage multiple Fibre Channel protocol (FCP) paths between a Network Appliance™ or IBM® N series storage system and a Windows host computer. You can have one or more active paths and any number of passive paths. If all active paths fail, the DSM automatically switches to the passive paths, maintaining the host's access to its storage.

What is new in 3.1

The Data ONTAP® DSM 3.1 for Windows MPIO includes the following changes from DSM 3.0:

- ◆ New load balance policies that offer multiple active paths to a LUN (also known as active/active policies). The new policies are Round Robin, which uses all optimized paths, and Round Robin with Subset, which enables you to specify the combination of active and passive paths used.
The Round Robin and Round Robin with Subset load balance policies work only with storage systems running Data ONTAP 7.2.2 and higher that use the `single_image` or `standby cfmode` setting.
- ◆ Support for Microsoft clusters (also known as MSCS) on Windows 2000 Server. This configuration supports only the Auto Assigned load balance policy.
- ◆ Coexistence with the Microsoft iSCSI Initiator 2.03 and higher on the same Windows host. You cannot, however, access the same LUN using both iSCSI and FCP. Be sure to select the **Microsoft MPIO Multipathing Support for iSCSI** check box during installation of the Initiator.

What is included

The DSM includes the following components and documentation:

- ◆ An installation program that installs the DSM and any required Windows MPIO components. The program also sets Windows registry values and Fibre Channel host bus adapter (HBA) parameters.
- ◆ Installation and Administration Guide - This document provides instructions for installing the DSM on a Windows host and managing it using the graphical user interface or command line interface.
- ◆ Release Notes - Lists known problems and limitations, and any last minute documentation changes in this release of the DSM.

SnapDrive versions

The Data ONTAP DSM 3.1 for Windows MPIO is designed to work with SnapDrive® for Windows. The DSM works with SnapDrive 4.2 for Windows and later.

Do not use the Data ONTAP DSM 3.1 with SnapDrive 4.1 or earlier. Instead, use the MPIO support in SnapDrive 4.1 or earlier.

About licenses

A valid license key is required to install and use the DSM.

If you already have an MPIO license key for SnapDrive 4.1 for Windows or earlier (SDR-MPIO license key), you can use that key for the Data ONTAP DSM when you upgrade your system to the Data ONTAP DSM and SnapDrive 4.2 for Windows or later.

If you are using a new license key, be sure to get the Data ONTAP DSM for Windows MPIO license key (MPIO-WIN).

For more information on obtaining a license key, see the Data ONTAP DSM for Windows MPIO *Installation and Administration Guide*.

System requirements

Check the FCP Host Compatibility Matrix at http://now.netapp.com/NOW/knowledge/docs/san/fcp_iscsi_config/index.shtml for the latest system requirements and compatibility information, including:

- ◆ Hardware platforms
- ◆ OS version and hotfix requirements
- ◆ HBA models and drivers
- ◆ Supported versions of Data ONTAP software
- ◆ Supported versions of FCP Windows Host Utilities and SnapDrive for Windows software
- ◆ Supported configurations

Known problems and limitations

New load balance policies still not available after Data ONTAP upgrade

Problem: The new Round Robin and Round Robin with Subset load balance policies require Data ONTAP software 7.2.2 or higher on the storage system. After upgrading the storage system, the load balance policies are still not available.

What to do: The Data ONTAP version for a LUN is queried when the LUN is initially claimed by the DSM. This version information is not automatically updated for existing LUNs when a new version of Data ONTAP is installed.

Reboot the Windows host to force a refresh of the Data ONTAP version information for existing LUNs. The new load balance policies become available.

Message: Installation failed. The legacy drivers failed to remove. Please contact NetApp Customer Support.

Problem: After uninstalling the MPIO component of SnapDrive for Windows, the following message is displayed when installing the Data ONTAP DSM for Windows MPIO: Installation failed. The legacy drivers failed to remove. Please contact NetApp Customer Support.

The installation does not complete. This problem is that the Windows MPIO components are not completely removed.

What to do: Remove the Windows MPIO components manually:

1. Open Windows **Device Manager**. (Right click **My Computer** and select **Manage**. Select **Device Manager** in the left pane.)
2. Expand **SCSI and RAID controllers**.
3. Right click **Multi-Path Support**, and select **Uninstall**.
4. Follow the prompts and reboot when instructed.
5. Run the DSM installer again.

If the installation still fails, contact your support representative for assistance.

New LUNs do not appear in DSM GUI or CLI

Problem: When you add new LUNs to your storage system, the new virtual disks are not automatically discovered by the Windows host. You must manually rescan disks.

What to do: To discover new virtual disks:

1. **Start>Administrative Tools>Computer Management**
2. Select **Storage>Disk Management** in the left pane.
3. The **Initialize and Convert Disk** wizard starts. Follow the prompts to initialize the disks, but do not convert them to dynamic disks. Partition and format the disks if desired. If the wizard does not start, select **Action>Rescan Disks**.

The new virtual disks appear in the DSM GUI (you may have to refresh the display).

New LUNs still do not appear after rescan

Problem: After creating a new LUN and rescanning using Windows Disk Manager, the new virtual disk still does not appear in the DSM GUI or CLI.

What to do: The DSM limits the LUN path on the storage system to 128 characters. The DSM fails to claim disks with longer path names. The LUN path, for example /vol/vol2/server3_luns/lun4, is specified when you create the LUN on the storage system. If you are using SnapDrive® for Windows, the 128 character limit applies to the sum of the LUN path and name fields in the Create Disk wizard.

Rename the LUN with a total path length of 128 characters or less and rescan again.

Setting one path preferred sets other paths as preferred

Problem: Using the Round Robin with Subset load balance policy, you use the **Set Active** command to select a preferred path for a LUN. In addition to the selected path, one or more other paths to the same LUN are set as selected at the same time.

What to do: This is caused by multiple paths from the Windows host to the same target port on the storage system. The DSM tracks the preferred setting of each LUN path based on the combination of host SCSI port and target port.

If possible, reconfigure your system so that each host port connects to a different target port on the storage system. This is the recommended configuration for high availability.

Windows 2000 Server reports an unsigned driver when installing the DSM

Problem: When installing the DSM on a Windows 2000 Server system, you get a Digital Signature Not Found dialog box warning for the Data ONTAP Multi-Path Device Specific Module. This warning may not be displayed, depending on your security settings.

This message does not indicate that a security problem actually exists with the driver. Microsoft no longer signs drivers that run only on Windows 2000. Because the Windows 2003 versions of the DSM take advantage of new features that are not available in Windows 2000, there must be a separate Windows 2000 driver. There is no way to get this driver signed.

What to do: Click Yes to continue the installation.

You can instead upgrade to Windows Server 2003. The drivers for Windows 2003 are signed by Microsoft.

If your security policy for unsigned drivers is set to Do not allow installation, you must change the security policy before you can install the DSM.

To change the security policy for unsigned drivers, select Start > Programs > Administrative Tools > Local Security Policy. Expand Local Policies > Security Options. Select Unsigned driver installation behavior, and change the setting to Warn but allow installation.

Do not install iSCSI initiator 2.02

Problem: Do not install the Microsoft iSCSI Initiator 2.02 or lower on a Windows system running the Data ONTAP DSM 3.1 for Windows MPIO. The iSCSI initiator installer overwrites the MPIO components used by the Data ONTAP DSM with an earlier, incompatible version. This will cause the system to crash and prevent Windows from booting. For more information, see bug 217388 at Bugs Online: <http://now.netapp.com/NOW/cgi-bin/bol/>.

What to do: This problem is corrected in iSCSI initiator 2.03 and 2.04. Check the iSCSI Host Support Matrix at http://now.netapp.com/NOW/knowledge/docs/san/fcp_iscsi_config/index.shtml for updates.

iSCSI LUNs not available after installing Data ONTAP DSM

Problem: iSCSI LUNs appear in the Microsoft iSCSI Initiator applet, but do not appear in Windows Disk Management. Existing LUNs are no longer available after installing the Data ONTAP DSM, or new LUNs do not appear.

What to do: Reinstall the Microsoft iSCSI initiator and select the **Microsoft MPIO Multipathing Support for iSCSI** check box during installation. The Microsoft iSCSI DSM, which is installed when you select the MPIO option, is required for iSCSI coexistence with the Data ONTAP DSM.

Installing SnapDrive 4.1 for Windows after installing the DSM

Problem: The MPIO components installed by the Data ONTAP DSM 3.1 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 install SnapDrive 4.1 or earlier, you must force the removal of all MPIO components installed by the DSM. See “Uninstalling the Data ONTAP DSM” in the Data ONTAP DSM for Windows MPIO *Installation and Administration Guide* for complete instructions.

Installation error message: "Unable to find the path to the MSI"

Problem: When installing or repairing the Data ONTAP DSM 3.1 from the product CD, the following error message is displayed: “Unable to find the path to the MSI. Installation will not be able to automatically execute after reboot.”

What to do: After the system reboots, run the DSM installation program again. The installation will complete normally.

Note: This problem only applies to 64-bit systems.

System crash after reverting from DSM 3.1 to DSM 3.0

Problem: If you revert from the Data ONTAP DSM 3.1 to DSM 3.0 without first uninstalling DSM 3.1, your Windows host can crash on reboot. This problem is caused by a registry entry that must be removed for successful revert. The uninstall process in the DSM 3.1 *Installation and Administration Guide* removes this entry and prevents the problem.

What to do: If you have not yet installed DSM 3.0, fully uninstall DSM 3.1 as described in the *Installation and Administration Guide*.

If your system has already crashed, complete the following steps:

1. Offline (use `lun offline` command) all LUNs that are mapped to the Windows host.
2. Boot the Windows host.
3. Edit the Windows registry on the host and delete the following registry key:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ontapdsm\Parameters\PersistentReservationKey

4. Reboot the Windows host and then online the LUNs.

Problems reverting from DSM 3.1 to DSM 3.0

Problem: After installing Data ONTAP DSM 3.0 for Windows MPIO on a system that previously had DSM 3.1 installed, the GUI fails to run. The error message “A Virtual disk with matching Serial Number not found” is displayed when trying to start the DSM GUI.

What to do: This problem is caused by DSM 3.1 files that are not removed when uninstalling. These files prevent the DSM 3.0 GUI from running correctly.

If you have not yet installed DSM 3.0, delete all files in the DSM installation directory (default is C:\Program Files\NetApp\MPIO) after uninstalling DSM 3.1.

If you have already installed DSM 3.0 and have encountered the problem, complete the following four steps:

1. Stop the Data ONTAP DSM Management Service using the Windows Services applet in Administrative tools, or enter `net stop mpiosvc` from a Windows command line.
2. Delete the following files in the DSM installation directory (default is C:\Program Files\NetApp\MPIO):
 - ◆ dsmmgmt.dll (all systems)
 - ◆ mpgui.dll (64-bit systems only)
 - ◆ mpiosvc.exe (64-bit systems only)
 - ◆ mpiosvcps.dll (64-bit systems only)
 - ◆ dsmcli.exe (64-bit systems only)
 - ◆ ontap_dsm.chm (64-bit systems only)
3. Run the Repair option of the DSM installer.
4. Reboot the Windows system when prompted, or cancel the reboot and restart the Data ONTAP DSM Management Service manually.

Note: This problem only affects systems that revert from DSM 3.1 to DSM 3.0.

For information about additional problems

Occasionally, additional problems are reported with the DSM or known bugs are fixed. The problems are listed in an online system called Bugs Online.

For a list of known and fixed bugs, access Bugs Online by completing the following steps.

Step	Action
1	Use a Web browser to go to http://now.netapp.com .
2	Click Service & Support.
3	Click Bugs Online & Release Tools.
4	In the Bug Search Tools section, choose ONTAP DSM from the Bug Type(s) menu.
5	Click Go. Result: The Bugs Online - Advanced Search Results lists all bugs for the Data ONTAP DSM for Windows MPIO.

Where to find additional information

Where to go for more information

The following table describes documents with the most current information about host and storage system requirements and additional documentation.

If you want...	Go to...
The most current system requirements for the DSM	<i>FCP Host Compatibility Matrix</i> at http://now.netapp.com/NOW/knowledge/docs/san/fcp_iscsi_config/index.shtml
The supported storage system models for Data ONTAP licensed with FCP	◆ <i>FCP Configuration Guide</i> at http://now.netapp.com/NOW/knowledge/docs/san/fcp_iscsi_config/ ◆ <i>System Configuration Guide</i> for Data ONTAP at http://now.netapp.com
Information about how to configure and manage the FCP service on the storage system	The following documents for your Data ONTAP release: ◆ <i>Data ONTAP Block Access Management Guide</i> ◆ <i>Data ONTAP Release Notes</i>

