Data ONTAP DSM 3.4 for Windows MPIO
Release Notes

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Data ONTAP DSM 3.4 for Windows MPIO Release Notes

These release notes describe new features, enhancements, and known issues for Data ONTAP DSM 3.4 for Windows MPIO.

These release notes apply to the DSM version 3.4. Release Notes might be updated between product releases. You should periodically check online for updated Release Notes.

Release notes are available in .html and .pdf formats. They are optimized for .html viewing and linking.

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DSM 3.4 Overview

The Data ONTAP DSM 3.4 for Windows MPIO enables you to manage multiple Fibre Channel (FC) and iSCSI paths between a NetApp or IBM N series storage system and a Windows host computer.

You can have one or more active paths and zero or more passive paths, depending on the load balance policy. The DSM automatically selects paths for I/O as needed, maximizing throughput and maintaining the host's access to its storage.

The DSM has both graphical and command line management interfaces. You can install the DSM interactively or from a Windows command prompt.

Information on finding system requirements

NetApp qualifies additional components between releases of the Host Utilites software.

For the most up-to-date information on the system requirements, see the NetApp Interoperability Matrix.

Related information

NetApp Interoperability Matrix - http://now.netapp.com/NOW/products/interoperability/

New features in this DSM release

The Data ONTAP DSM 3.4 for Windows MPIO adds support for ALUA and removes the requirement for specifying an Administrator account to run the DSM management service.

DSM 3.4 includes the following changes from DSM 3.3.1:

- Support for asymmetric logical unit access (ALUA) for Fibre Channel (FC) paths.
- The DSM management service can now run under the default SYSTEM account. You no longer need to provide Administrator account credentials for the service.
- Manual configuration for fabric MetroCluster configurations is no longer required.
- Windows Host Utilities 5.3 is required to support DSM 3.4.
- Mixed FC and iSCSI paths to the same LUN are not supported.

Updates to the release notes

The release notes might be updated between product releases. This section lists any updates since the original release.

No updates

There are currently no updates for this section.

Important Cautions

Before deploying this release of Data ONTAP DSM for Windows MPIO, make sure that you read the following items to identify and resolve issues that might affect the operation of your systems.

To request more information about an individual bug and to explore other bug-related tools, see Bugs Online on the NOW site.

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Hotfix KB979743 required for Windows Server 2008 to avoid LUN loss during faults

Hotfix KB979743 should be applied to all Windows Server 2008 SP2 hosts. It should also be applied to Server 2008 R2 hosts when the hotfix is released by Microsoft.

Microsoft released hotfix KB979743 to prevent LUN loss on Windows Server 2008 SP2 hosts during certain faults that cause FC and FCoE path loss. This hotfix should be installed from the Microsoft support site. A reboot is required.

Microsoft is currently testing a version of this hotfix for Windows Server 2008 R2 hosts. It should be applied when it is available from Microsoft. It is possible that the hotfix number might change before it is released. See bug 408024 at Bugs Online for the latest information about this issue, including any changes to the Server 2008 R2 hotfix number.

Related information

Bugs Online - now.netapp.com/NOW/cgi-bin/bol/

Hotfix installed but application installer still displays error

The Data ONTAP DSM for Windows MPIO installation program displays an error message saying a Windows hotfix is required, but the hotfix is already installed.

Some hotfixes for Windows Server 2008 are not recognized unless the affected feature is enabled. For example, an MPIO hotfix might not be recognized as installed until the MPIO feature is enabled.

If you are prompted to install a hotfix that is already installed, try enabling the affected Windows feature and then restart the application installation program.

This problem has been observed with hotfix 958912. Enabling the MPIO feature resolves the error.

Emulex FC HBA timeouts not set by DSM installation program

The DSM installation program runs the fcconfig program to set timeouts for Fibre Channel (FC) host bus adapters (HBAs). However, for some Emulex FC HBAs, the correct timeouts are not set, which can cause failover problems.

After installing or repairing the Data ONTAP DSM, you should use the Emulex OneCommand Manager to verify, and if necessary set, the required LinkTimeOut and NodeTimeOut values.

For DSM 3.4, LinkTimeOut must be set to 1 and NodeTimeOut must be set to 10.

For the latest information about this issue, see bug 399738 at Bugs Online.

Related information

Bugs Online - now.netapp.com/NOW/cgi-bin/bol/

Problems installing Windows hotfix KB982109

You might have problems installing required Windows hotfix KB982109 on Windows Server 2003, depending on which MPIO version, if any, installed. Also, the hotfix requires a reboot, but does not prompt for reboot.

When you try to install Windows hotfix KB982109 on a Windows Server 2003 host that does not have the required version of Windows MPIO components installed, you receive an error message: `Setup cannot continue because one or more prerequisites required to install KB982109 failed...`

The Data ONTAP DSM installation program installs the required MPIO components on the Windows host. The DSM installation program prompts you to install this hotfix *after* the DSM installation is complete. The hotfix can be successfully installed after the DSM, because the required prerequisites are then available.

Attention: You must reboot the Windows host after installing the hotfix. However, the hotfix does not prompt you to reboot. Be sure to reboot your host after installing the hotfix, even though you are not prompted.

Known problems and limitations

Some unexpected and potentially undesired behaviors, as well as, in some cases, workarounds to avoid these behaviors, have been identified in this release.

To request more information about an individual bug and to explore other bug-related tools, see Bugs Online on the NOW site.

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Windows Server 2008 R2 cluster node takes about 7 minutes to establish persistent reservation during bootup

You can reduce the bootup time for a Windows Server 2008 R2 host in a failover cluster configuration by changing the cluster service startup setting.

The delay in establishing the persistent reservation is caused by the cluster service terminating unexpectedly while the Data ONTAP DSM is performing device discovery after the reboot. The cluster service recovers automatically by restarting after about 5 minutes and establishes reservations.

To improve bootup time, you can set the Cluster service **Startup Type** value to **Automatic (Delayed Start)** in the Windows Services Microsoft Management Console (MMC) snap-in. This reduces the time to establish the persistent reservation to about 1 minute.

Installing or uninstalling DSM takes a long time in MSCS configurations

Installing or uninstalling the Data ONTAP DSM for Windows MPIO can take a long time on Windows hosts in a Microsoft cluster (MSCS) configuration.

The long install and uninstall times are a result of the way multipathing works with MSCS. In large production environments, times of one hour have been observed.

You can simply choose to let the process run, with the understanding that it might take a long time to complete.

Another option is to shut down one node in the cluster, install or uninstall the DSM software on the running node, shut down the first node, and repeat the process on the second node.

For the latest information, see bug 373412 at Bugs Online.

Related information

Bugs Online - now.netapp.com/NOW/cgi-bin/bol/

Windows Server 2008 cluster node hangs and takeover of disk resources fails when both ISLs are down in MetroCluster configuration

In a MetroCluster storage configuration, when both the front-end and back-end Inter-Switch Links (ISLs) are down and a group move is attempted between local sites, the move is unsuccessful and the Windows cluster nodes hang.

The root cause for this cluster hang is the enumeration of the disks causes a READ command to be sent to the disk that is in the remote storage site. The READ command is attempted across the ISL which is down, but the command fails because there is no path to the remote disk.

Even though the disk from the remote storage site is not part of the resource group being moved, because the remote disk is part of the node's storage resources and is mounted in both the local and remote sites, the disk enumeration tries to access the remote disk to match its device ID.

Before doing a group move in the local site when the MetroCluster ISLs are down, you should manually disable the disks belonging to the remote sites using the Windows Device Manager or Windows Disk Management.

After disabling the remote disks, the group move succeeds. Because the remote disks are disabled, when Windows cluster does a disk enumeration, the READ commands are not sent to the remote site.

It is important to note that the remote disks must be disabled on BOTH the nodes (source and destination) in the LOCAL site before doing the group move.

Error messages when adding account during installation

When you try to add the service account during DSM installation, you see one or both of the following messages: `error in object picker Dialog: Description Invalid access to memory location` and `The exception unknown software exception (0x0000005) occurred in the application at location` *`address`*.

This problem has been observed on Windows Server 2003 x64 processor systems.

The first message (`error in object picker Dialog: Description Invalid access to memory location`) is displayed when you click **Add** to add a new account for the DSM service. The installation does not continue. The second message is displayed when you cancel the installation program.

The workaround is to restart the DSM installation program.

DSM does not display virtual disks

A Windows Server 2003 or Windows Server 2008 host running Data ONTAP DSM fails to display virtual disks (LUNs) that are created.

The virtual disks work correctly, but cannot be viewed or managed using the DSM GUI or CLI.

Contact Customer Support for assistance with bug 300167.

Related information

Bugs Online - now.netapp.com/NOW/cgi-bin/bol/

Uninstalling from SAN-booted Windows Server 2003 host

Uninstalling the Data ONTAP DSM can cause the Windows Server 2003 host to lose access to its boot LUN. Uninstalling the DSM leaves the host in an unstable state.

About this task

Avoid uninstalling the DSM from a SAN-booted host.

You can always upgrade a SAN-booted host to a new DSM version without uninstalling.

Step

1. If you must uninstall the DSM, contact technical support for assistance.

DSM GUI and CLI display 0.0.0.0 for initiator address

When viewing the paths for a virtual disk in the DSM GUI, or when running the `dsmcli path list -v` CLI command, the iSCSI initiator address is displayed as 0.0.0.0.

This problem occurs only when the iSCSI session is created and the initiator address is allowed to default in the Microsoft iSCSI initiator.

When creating an iSCSI session, manually select the initiator address.

Full DSM feature set not available using Microsoft user interfaces

All management functions of the Data ONTAP DSM are not available through the native Microsoft user interfaces, such as the Microsoft iSCSI GUI.

Use the GUI or CLI supplied with the Data ONTAP DSM for management. The DSM GUI is available from Windows Computer Management.

See the *Data ONTAP DSM for Windows MPIO Installation and Administration Guide* for instructions.

New LUNs do not appear in DSM GUI or CLI

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.

Steps

1. On the Windows host, select **Start > Administrative Tools > Computer Management**.
2. Select **Storage > Disk Management** in the navigation pane.

   The Initialize and Convert Disk wizard starts.
3. If the wizard does not start, select **Action > Rescan Disks**.
4. Follow the prompts to initialize the disks, but do not convert them to dynamic disks.
5. Partition and format the disks if desired.

After you finish

Refresh the DSM GUI display.

Raw passthru SCSI disks on a guest OS are not available when running MPIO on the guest

If you run MPIO software on a guest OS (for iSCSI directly from the guest), and you also configure raw passthru disks as SCSI physical disks from the parent, the guest is unable to use the raw disks.

This issue occurs with the Data ONTAP DSM for Windows MPIO and the Veritas DMP DSM.

When you are running MPIO on the guest, map raw drives as IDE physical disks.

Internal Error: Access is Denied during installation

On Windows Server 2008, you might receive an `Internal Error: Access is Denied` message if User Access Control is enabled and installation is attempted from a user account other than Administrator.

There are two workarounds for this problem: installing from an elevated command prompt or disabling User Access Control.

For the latest information, see bug 312358 at Bugs Online.

For more information about User Access Control, see the Microsoft Technet article *User Account Control Step-by-Step Guide*.

Next topics

Installing from an elevated command prompt on page 17
Disabling User Access Control on page 18

Related information

Bugs Online - now.netapp.com/NOW/cgi-bin/bol/
Microsoft Technet User Account Control Step-by-Step Guide - technet.microsoft.com/en-us/library/cc709691.aspx

Installing from an elevated command prompt

Run the installation from an elevated command prompt to avoid the `Internal Error: Access is Denied` error.

Before you begin

An elevated command prompt is required to install the DSM when User Access Control (UAC) is enabled. The elevated command prompt overrides the UAC restrictions.

Steps

1. Click **Start**.
2. Right-click **Command Prompt** and then click **Run as Administrator**.
3. Run the installation program by navigating to the directory containing the installation package and entering the package name at the command prompt.

Related information

Microsoft Technet User Account Control Step-by-Step Guide - technet.microsoft.com/en-us/library/cc709691.aspx

Disabling User Access Control

Disable User Access Control to avoid the `Internal Error: Access is Denied` error.

Steps

1. Log in as an administrator.
2. Select **Control Panel > User Accounts > Turn User Account Control on or off**.
3. Clear the **Use User Access Control (UAC) to help protect your computer** check box and then click **OK**.
4. Run the installation program again.

Related information

Microsoft Technet User Account Control Step-by-Step Guide - technet.microsoft.com/en-us/library/cc709691.aspx

iSCSI sessions do not reconnect after reboot with mixed IPv4 and IPv6

In a multipath I/O (MPIO) configuration or multiple connections per session (MCS) configuration that has both IPv4 and IPv6 endpoints, some iSCSI sessions might fail to reconnect after rebooting the Windows host.

To ensure that all of your iSCSI paths return after a reboot, use either all IPv4 endpoints or all IPv6. Do not mix IPv4 and IPv6.

For the latest status, see bug 342374 at Bugs Online.

Related information

Bugs Online - now.netapp.com/NOW/cgi-bin/bol/

Bugs Online search tool

NetApp provides a online tool that lets you search for the most current information about a known bug.

You can use the Bugs Online tool to determine if new information has been uncovered about a bug or if the bug has been fixed.

Bugs Online provides several search methods. You can enter the bug number or keywords related to the bug. Keyword combinations and Bug Type(s) that you might want to use include:

- ONTAP DSM

You an also set Bugs Online to automatically display all bugs of interest to you. Use the New Bug Alerts Profiler at the bottom of the Bugs Online page to set bug searching criteria that match your requirements

Related information

Bugs Online & Release Tools - now.netapp.com/NOW/cgi-bin/bol

NetApp product documentation

You can access documentation for all NetApp products on the NOW site at now.netapp.com.

In addition to product documentation, NetApp provides other product information, such as technical reports and white papers.

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How to search for documentation on the NOW site

NetApp provides a variety of documentation on the NOW site that can be helpful in working with .

You can use the NOW Natural Language PowerSearch tool, located on the Search and Support page on the NOW site, to search through the following information sources:

- Product documents
- Knowledgebase solutions
- Bugs Online
- NOW forums
- Tools and other documentation
- Partner knowledgebases

Related information

Search and Support -- now.netapp.com/eservice/SupportHome.jsp

Links to NetApp product documentation

The Access and Order Product Documentation page contains pointers to the most current NetApp documentation for Host Utilities and storage systems.

Links to specific Host Utilities documentation are in the SAN/IPSAN Information Library and available from the NetApp NOW Description Pages for each Host Utilities product.

The following table describes some of the documents on the NetApp NOW Web site that contain current information about host and storage system requirements, supported configurations, and best practices, as well as procedures for installing and managing your storage environment.

If you need more information about...	Go to...
The latest supported configurations	• NetApp Interoperability Matrix • *System Configuration Guide*

Configuring and managing the storage system	• SAN/IP SAN Best Practices Index
	• The following documents for your Data ONTAP release in the Data ONTAP Information Library
	  • The *Data ONTAP Software Setup Guide*
	  • The *Data ONTAP Block Access Management Guide for iSCSI and FC*
	  • *Data ONTAP Release Notes*
	  • The *Data ONTAP Commands: Manual Page Reference, Volume 1*
	  • *Data ONTAP Commands: Manual Page Reference, Volume 2*
	  • The *Data ONTAP Upgrade Guide*

Supported Fibre Channel SAN topologies	The *FC and iSCSI Configuration Guide*
Verifying storage systems and environments	*Site Requirements Guide*
Configuring your host for the Host Utilities	The Host Utilities documents are in the SAN/IPSAN Information Library

Related information

Access and Order Product Documentation page - http://now.netapp.com/NOW/knowledge/docs/docs.cgi

SAN/IPSAN Library Information Library - http://now.netapp.com/NOW/knowledge/docs/san/

NetApp Interoperability Matrix - http://now.netapp.com/NOW/products/interoperability/

System Configuration Guide - http://now.netapp.com/NOW/knowledge/docs/hardware/NetApp/syscfg/

SAN/IP SAN Best Practices Index - http://now. netapp.com/NOW/knowledge/docs/bpg/san_ipsan/

Data ONTAP Information Library - http://now.netapp.com/NOW/knowledge/docs/ontap/ontap_index.shtml

FC and iSCSI Configuration Guide - http://now.netapp.com/NOW/knowledge/docs/san/fcp_iscsi_config/

Site Requirements Guide - http://now.netapp.com/NOW/knowledge/docs/hardware/NetApp/site/index.htm

How to send your comments

Your feedback is important in helping NetApp provide the most accurate and high quality documentation possible.

If you have comments or suggestions for improving the Host Utilities documents, you can send them to NetApp electronically by emailing them to:

doccomments@netapp.com

Contact Technical Support

If you have a question that has not been resolved by these Release Notes, contact NetApp Technical Support.

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Things to check before you call Technical Support

Before you call Technical Support, there are several things you can try in effort to solve the problem yourself.

They include:

- Go through these *Release Notes* to see if they contain information on your problem.
- Check all cables to make sure that they are connected properly.
- If you are using switches, check the power switches to make sure that the system is turned on. You should also make sure the system components were turned on in the correct order.
- Review the troubleshooting information in the documentation for this product.

Information you need to provide to Technical Support

Before you contact Technical Support, you need to gather information about your system and your problem.

You should have the following information available when you contact Technical Support:

- Your contact information.
- A list of all the NetApp products you are using.
- All the error messages from the system.
- Information on your system setup.
- Your licensing information.

How to contact NetApp Technical Support

You can contact NetApp Technical Support by telephone or from the NetApp NOW site.

To contact Techical Support by telephone, use the following numbers:

- 888 4-NETAPP (US and Canada)
- 00.800.44.NETAPP (EMEA/Europe)
- +800.800.80.800 (Asia/Pacific)

To contact Techical Support from the Web, use the following address:

- http://now.netapp.com

For a detailed listing of Technical Support phone numbers, go to the NetApp Support page at http://www.netapp.com/us/support/ngs-contacts.html

Related information

Technical Support - http://www.netapp.com/us/support/ngs-contacts.html