

Data ONTAP® VDS Hardware Provider 1.0 Installation Guide

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Table of Contents

Chapter 1	Overview of Virtual Disk Service	1
	What Virtual Disk Service is.	1
	About Data ONTAP VDS Hardware Provider.	1
 Chapter 2	 Installing Data ONTAP VDS Hardware Provider	 3
	Verifying minimum requirements	3
	Installing Storage Manager for SANs	5
	Installing the Data ONTAP VDS Hardware Provider	5
	Adding Data ONTAP storage systems to VDS Hardware Provider	6
	Removing Data ONTAP storage systems from VDS Hardware Provider .	7
	Managing LUNs	7
	Uninstalling Data ONTAP VDS Hardware Provider	8

What Virtual Disk Service is

Microsoft® Virtual Disk Service (VDS) is a feature of Microsoft Windows® Server 2003 that provides a single interface for managing disks. VDS uses two provider types to manage storage devices: the *VDS software provider* and the *VDS hardware provider*.

The VDS software provider is built in to the Windows Server 2003 operating system and enables you to manage disks and volumes at the operating system level.

The VDS hardware provider is supplied by your storage hardware vendor and enables you to manage RAID storage arrays.

For more information about Virtual Disk Service, see the [Microsoft](#) Web site.

About Data ONTAP VDS Hardware Provider

Data ONTAP® VDS Hardware Provider enables you to map, monitor, and provision (create, expand, and delete) LUNs on a Data ONTAP storage system from a Windows Server 2003 system.

Data ONTAP Hardware Provider provides support for LUNs on both the iSCSI and FCP protocols.

About LUN creation: Keep the following points in mind when you use Data ONTAP VDS Hardware Provider to create LUNs:

- ◆ You can create LUNs only on storage systems running a version of Data ONTAP that supports flexible volumes. LUNs cannot be created on storage systems configured with traditional volumes only.
- ◆ VDS Hardware Provider creates a new flexible volume for each LUN it creates.
- ◆ Flexible volumes created by VDS Hardware Provider will be placed only into existing aggregates; VDS Hardware Provider does not create new aggregates.
- ◆ VDS Hardware Provider does not extend aggregates; you must extend them manually. If the aggregate selected to contain the flexible volume does not have enough free space available or if the aggregate cannot be extended, LUN creation will fail.

For information about requirements for installing and running the Data ONTAP VDS Hardware Provider, see “[Verifying minimum requirements](#)” on page 3.

Verifying minimum requirements

Before you install Data ONTAP VDS Hardware Provider, verify that you meet the following minimum requirements.

Host requirements:

Component	Requirement
Operating system	Windows Server 2003 R2, 32-bit or 64-bit (x64 only), with the following hotfixes: ◆ 902837 ◆ 908249 ◆ 911030 ◆ 913648 ◆ 916048 ◆ 922244 You can download Microsoft hotfix 922244 from the NOW software download site at http://now.netapp.com/NOW/cgi-bin/software/. From this software page, click ToolChest then navigate to the Data ONTAP VDS Hardware Provider download page. For a list of the latest hotfix requirements, see the Data ONTAP VDS Hardware Provider description page at: http://now.netapp.com/NOW/cgi-bin/software/ and then click on ToolChest.
Additional Windows component	Storage Manager for SANs

Storage system requirements:

Component	Requirement
Storage system	One or more of the following: ◆ FAS270 or FAS270c ◆ FAS3000 ◆ FAS6000
Operating system	◆ For FCP, Data ONTAP 7.0.3 or later ◆ For iSCSI, Data ONTAP 7.1 or later
Licenses	◆ iSCSI, if you plan to use iSCSI-accessed LUNs ◆ FCP, if you plan to use FCP-accessed LUNs
Storage space	◆ Aggregate space must exist on the storage system and must have space available for LUN creation. Note_____ Storage systems that are configured with traditional volumes only are not supported by Data ONTAP VDS Hardware Provider. _____

For the most current list of system requirements, see the Data ONTAP VDS Hardware Provider Description Page on the NetApp on the Web (NOW) site at <http://now.netapp.com/NOW/cgi-bin/software/> and then click on ToolChest.

Installing Storage Manager for SANs

Storage Manager for SANs is a component of Windows Server 2003 R2. You must have Storage Manager for SANs installed on your system before you can install the Data ONTAP VDS Hardware Provider. To install Storage Manager for SANs complete the following steps.

Step	Action
1	From the Windows Start menu, click Control Panel > Add or Remove Programs.
2	Click Add/Remove Windows Components.
3	From the list of components, select Management and Monitoring Tools; then, click Details.
4	In the Subcomponents of Management and Monitoring Tools list, select the check box next to Storage Manager for SANs and click OK.

Installing the Data ONTAP VDS Hardware Provider

To install Data ONTAP VDS Hardware Provider, complete the following steps.

Step	Action
1	Browse to the location of the Data ONTAP VDS Hardware Provider installation package and double-click the executable.
2	Click Next on the “Welcome to the InstallShield Wizard for Data ONTAP VDS Provider” screen.
3	If this is a new installation, read and accept the license agreement and click Next.
4	In the Customer Information Window, type the user name and organization in the fields provided and then select either “Install this application for anyone who uses this computer” or “Only for me.” Click Next.
5	In the Destination Folder window, click Change to browse and select a different destination folder than the one displayed; otherwise, click Next to accept the default.

Step	Action
6	The Data ONTAP Support Information window displays the minimum supported versions of Data ONTAP for an FCP or an iSCSI configuration. Click Next.
7	In the Ready to Install window, click Install and then click Finish when the installation is complete.
8	Reboot.

Adding Data ONTAP storage systems to VDS Hardware Provider

For Data ONTAP Hardware Provider to be aware of available storage systems, the storage systems must be added to it.

Prerequisites for adding clustered storage systems to VDS Hardware Provider: Before adding clustered storage system details to VDS Hardware Provider, verify that you meet the following prerequisites:

- ◆ The login name and password are the same on both systems in the cluster.
- ◆ Either the cluster partners reside in the same domain or the storage systems' host names must be resolvable by DNS queries from the host running VDS Hardware Provider.
- ◆ Both partners are accessible on the network by the host on which VDS Hardware Provider is installed.

To add storage systems to Data ONTAP VDS Hardware Provider, complete the following steps.

Step	Action
1	From the Windows Start menu, click Control Panel > Data ONTAP VDS Hardware Provider.
2	In the VDS Hardware Provider for Data ONTAP window, click Add.

Step	Action
3	In the Subsystems window, type the following storage system information: ◆ DNS name or IP address ◆ Login name ◆ Password Then click the button next to Fibre Channel or iSCSI to select the disk protocol type you will use.
4	Click Verify to check that the storage system information you entered is correct; then, click OK.
5	To add additional storage systems, repeat Step 2 through Step 4 .

Removing Data ONTAP storage systems from VDS Hardware Provider

To remove a storage system from VDS Hardware Provider, complete the following steps.

Step	Action
1	From the Windows Start menu, click Control Panel > Data ONTAP VDS Hardware Provider.
2	In the Subsystems tab of the VDS Hardware Provider for Data ONTAP window, highlight the storage system you want to remove and click Remove. Result: The storage system is removed immediately from the list of subsystems.

Managing LUNs

After you have installed Data ONTAP VDS Hardware Provider and you have added your storage systems, use Microsoft's Storage Manager for SANs or DiskRAID command-line interface utility to manage your LUNs.

Using Storage Manager for SANs: To launch Storage Manager for SANs, click Start > Administrative Tools > Storage Manager for SANs. For details about managing LUNs with Storage Manager for SANs, see the application's online Help.

Using DiskRAID: To use the DiskRAID utility, type `diskraid` from a Windows command prompt, and then type `help` to get details for DiskRAID command options.

For additional information about using the DiskRAID utility or Storage Manager for SANs, see the Microsoft Web site.

Uninstalling Data ONTAP VDS Hardware Provider

To uninstall Data ONTAP VDS Hardware Provider, use either the NetApp VDS Hardware Provider installation program or the Add/Remove Programs functionality of the Control Panel.

To use Add/Remove Programs to uninstall NetApp VDS Hardware Provider, complete the following steps.

Step	Action
1	Select Start > Control Panel > Add or Remove Programs to display the Add or Remove Programs window.
2	Select Data ONTAP VDS Hardware Provider and click Remove.