

Data ONTAP™ 5.2.3

Start Here

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Purpose of this document

Welcome to release 5.2.3 of the Data ONTAP™ software.

This document provides you with the information that you need to get started using Data ONTAP 5.2.3 and your NetApp® filer.

Organization

This document is organized as shown in the following table.

Chapter	Contents
Chapter 1, “ Introduction ,” on page 1	Provides orientation to this document.
Chapter 2, “ Information for All Users ,” on page 3	Provides information that all users need to know.
Chapter 3, “ Information for New Filer Installations ,” on page 15	Provides information that users who are installing new filers need to know.
Chapter 4, “ Information for Filer Upgrades ,” on page 19	Provides information that users who are upgrading to Data ONTAP 5.2.3 need to know.

What to do next

The following table describes how you should proceed.

If you are...	Then...
Installing a new filer	<p>Read the following information in this document:</p> <ul style="list-style-type: none">◆ Chapter 2, “Information for All Users,” on page 3◆ Chapter 3, “Information for New Filer Installations,” on page 15 <p>Then read the following documents in the order that they are listed:</p> <ol style="list-style-type: none">1. <i>Read Me First</i>, if it is included in the documentation2. <i>Hardware Installation Guide</i> for your new filer3. <i>First-Time Configuration Guide</i>4. If you are converting a new filer plus an old filer into a cluster, the <i>F630, 740, and 760 Cluster Conversion Guide</i>
Upgrading an existing filer	<p>Read the following information in this document:</p> <ul style="list-style-type: none">◆ Chapter 2, “Information for All Users,” on page 3◆ Chapter 4, “Information for Filer Upgrades,” on page 19 <p>Then read the following documents in the order that they are listed:</p> <ol style="list-style-type: none">1. <i>Read Me First</i>, if it is included in the documentation2. <i>Software and Firmware Upgrade Guide</i>3. If you are converting two filers to a cluster, the <i>F630, 740, and 760 Cluster Conversion Guide</i>

Scope of this chapter

This chapter contains information that all Data ONTAP software users should read. The following table describes the chapter's contents.

To learn about...	Read...
Limitations of this release	“Limitations of this release” on page 4
Documentation included with this release	“Documentation included in this release” on page 5
Corrections to information contained in various documents	“Late-breaking documentation changes” on page 11

Limitations of this release

EtherChannel virtual interface takeover not supported

EtherChannel virtual interface takeover is not supported in clusters.

Tape device locked after cluster takeover

This limitation applies only to clustered filers.

The tape device on a filer locks and the filer must be rebooted to release the tape device when the following scenario occurs:

- ◆ Filer A is performing a dump to a tape device attached to filer B
- ◆ Filer A fails
- ◆ Filer B takes over for filer A
- ◆ Filer A is rebooted
- ◆ Filer B gives back control to filer A

In this scenario, the tape device remains locked.

Solution: Reboot filer B to unlock the tape device.

Documentation included in this release

Documentation provided in several formats

This release includes documentation in the following formats:

- ◆ Print
- ◆ Adobe Acrobat PDF
- ◆ HTML
- ◆ ASCII text

Not all documents are provided in all formats.

Documents provided

The following table lists the documents in this release and describes their contents.

Document	Description
<i>F630, F740, and F760 Cluster Conversion Guide</i>	Describes how to convert a pair of filers to a cluster.
<i>Command Reference</i>	Describes the commands that you use to control a filer.
<i>End User Software License</i>	Describes the terms and conditions under which the Data ONTAP software is licensed to you.
<i>Field Service Guide</i> for your filer	Describes how to install components within a filer.
<i>First-Time Configuration Guide</i>	Describes how to configure a new filer.
<i>Hardware Guide</i> for your filer	Describes how to install a new filer.
<i>Hardware Guide for the NetApp StorageShelf 2</i>	Describes how to install the Dual StorageShelf 2.
<i>intro.htm</i>	Describes the contents of the Data ONTAP CD-ROM. This is an HTML file on the CD-ROM.

Document	Description
<i>NetApp Fibre Channel StorageShelves Hardware Guide</i>	Describes how to install the Fibre Channel StorageShelf FC7 and FC8 disk shelves.
<i>Quick Reference Card</i>	Summarizes the commands that you use to control a filer.
<i>Read Me First</i>	Describes any critical information that was too late to be described in other documents.
<i>Software and Firmware Upgrade Guide</i>	Describes how to upgrade the Data ONTAP software on an existing filer.
<i>Start Here</i>	This document. Describes information for new and experienced users, and provides an overview of how to proceed with a new filer installation or an existing filer upgrade.
<i>System Administrator's Guide</i>	Describes how to manage a filer after it is installed and configured.

Configuration information

An interactive hardware *System Configuration Guide* is available on NetApp On the Web (NOW) at the following URL:

<http://now.netapp.com/knowledge/docs/hardware/syscfg/index.htm>

The *System Configuration Guide* contains the latest information about what hardware is supported by your filer.

Document formats

The following table lists the documents in this release and shows the formats in which they are provided.

Document	Print	PDF	HTML	Man Pages
<i>F630, 740, and 760 Cluster Conversion Guide</i>	X	X	X	
<i>Command Reference</i>	X		X	X
<i>End User Software License</i>	X			
<i>Field Service Guide for your filer</i>	X	X		
<i>First-Time Configuration Guide</i>	X	X	X	
<i>Getting Started</i>	X	X	X	
<i>Hardware Guide for the NetApp StorageShelf 2</i>	X	X		
<i>Hardware Guide for your filer</i>	X	X		
<i>NetApp Fibre Channel StorageShelves Hardware Guide</i>	X	X		
<i>Quick Reference Card</i>	X	X		
<i>Read Me First</i> (provided only if there was last-minute information)	X			
<i>Software and Firmware Upgrade Guide</i>	X	X	X	
<i>Start Here</i>	X	X	X	
<i>System Administrator's Guide</i>	X	X	X	

Accessing the PDF files

You can access the PDF files from the CD-ROM or from NOW.

Accessing the PDF files from the CD-ROM: To access the PDF files from the CD-ROM, follow these steps.

Step	Action
1	Read the <i>intro.txt</i> file on the CD-ROM to find the PDF files.

Step	Action
2	Use Adobe Acrobat Reader 3.0 or later to open the desired file.

Accessing the PDF files from NOW: To access the PDF files from NOW, follow these steps.

Step	Action
1	Use your browser to go to <i>http://now.netapp.com</i> .
2	Click the Software Library link.
3	Click the Data ONTAP 5 link.
4	Click the 5.2.3 link.
5	Read the information about Data ONTAP 5.2.3.
6	Click the Data ONTAP 5.2.3 link at the end of the Data ONTAP 5.2.3 information. Result: The Network Appliance End User Software License appears.
7	Read the license. At the bottom of the license is a request for your email.
8	Type your email address in the text box.
9	Click the Accept button. Result: The Data ONTAP 5.2.3 page appears.
10	Under the heading, "Documentation in Adobe Acrobat format," click the desired document.

Accessing the HTML files

You can access the HTML files from the CD-ROM or from NOW.

Note

You need to use Netscape™ 4.0 or later or Internet Explorer™ 4.0 or later to view the documentation in HTML.

Accessing the HTML files from the CD-ROM: To access the HTML files from the CD-ROM, follow these steps.

Step	Action
1	Read the <i>intro.txt</i> file on the CD-ROM to find the directory that contains the Documentation Web.
2	Use your browser to open the <i>index.htm</i> file.
3	Under HTML, click the star next to the desired document.

Accessing the HTML files from NOW: To access the HTML files from NOW, follow these steps.

Step	Action
1	Use your browser to go to http://now.netapp.com .
2	Click the Software Library link.
3	Click the Data ONTAP 5 link.
4	Click the 5.2.3 link.
5	Read the information about Data ONTAP 5.2.3.
6	Click the Data ONTAP 5.2.3 link at the end of the Data ONTAP 5.2.3 information. Result: The Network Appliance End User Software License appears.
7	Read the license. At the bottom of the license is a request for your email address.
8	Type your email address in the text box.
9	Click the Accept button. Result: The Data ONTAP 5.2.3 page appears.
10	Under the heading, “Documentation in HTML format,” click the document set link. Result: The Data ONTAP 5.2.3 Documentation page appears.

Step	Action
11	Under HTML, click the star next to the desired document.

Accessing the man pages

You can access the man pages as follows:

- ◆ From a UNIX system: Mount the */etc/man* directory from your filer's default volume, modify the man page path to add the */etc/man* directory to the path, then use the `man` command to view the individual pages.
- ◆ With an HTML browser: Go to `http://filename/na_admin`, where *filename* is the name of the filer you want, then click the Manual Pages link.

Late-breaking documentation changes

About this section

This section contains changes that could not be included in NetApp documentation. The information in this section supersedes the information in any other NetApp documentation.

Changes to the System Administrator's Guide

The section titled "Using disks of various sizes" in the *System Administrator's Guide* refers to SCSI disk shelves only.

The example for the -o option in the table at the top of page 144 of the System Administrator's Guide should read

```
exportfs -i -o rw=mixer /vol/vol0/home/terry
```

Changes to the Field Service Guide for the NetApp F600 series

The labels for the serial connectors on the NetApp F630 system, as shown on pages 3-5 and 3-6, have changed as follows.

Old	New
COM1	Console
COM2	Diagnostic

Changes to the Hardware Guide for the NetApp F500 series

Table 3-1, "Supported external tape stackers," on page 3-2, should be titled "Supported external tape libraries." It should include the following items.

Manufacturer	Model
Breece Hill Technologies	Q2.15
Digital or Sun	DLT 4700

Table 3-2, "Supported external tape drives," on page 3-2, should include the following additional items.

Manufacturer	Model
Digital or Sun	DLT 4000
Digital or Sun	DLT 7000 (for the NetApp 520)

Changes to the Hardware Guide for the NetApp F200 and F300 series

Table 3-1, “Supported external tape stackers,” on page 3-2, should include the following item.

Manufacturer	Model
Digital or Sun	DLT 4700

Table 3-2, “Supported external tape drives,” on page 3-2, should include the following additional items.

Manufacturer	Model
Digital or Sun	DLT 4000
Digital, Quantum, or Sun	DLT 7000 (F200 Series only)

What to do next

Next steps

What you do next depends on whether you are installing a new filer or upgrading a filer, as shown in the following table.

If you are...	Read...
Installing a new filer	Chapter 3, “ Information for New Filer Installations ,” on page 15
Upgrading a filer	Chapter 4, “ Information for Filer Upgrades ,” on page 19

Who should read this chapter

You should read this chapter if you are installing a new filer. If you are upgrading from a previous version of Data ONTAP, read Chapter 4, “[Information for Filer Upgrades](#),” on page 19 instead.

What is in a new filer

A new filer has the following items installed on it:

- ◆ The latest version of Data ONTAP
- ◆ The latest firmware
- ◆ The additional items that you ordered

Methods of administering a filer

Three ways to administer a filer

You can administer a filer in three ways:

- ◆ You can use the filer's command-line interface.
- ◆ You can also perform most filer and cluster administrative functions using the FilerView® graphical user interface. To access FilerView on a filer, open the following URL with a Web browser:

`http://filename/na_admin`

Then select FilerView.

- ◆ You can also perform most CIFS administrative functions using Windows facilities. For further information, see the chapter titled “CIFS Administration” in the *System Administrator's Guide*.

What to do next

For a new filer

If you are installing a new filer, follow these steps.

Step	Action
1	Read the <i>Read Me First</i> document if it is included in the documentation.
2	Follow the instructions in the <i>Hardware Installation Guide</i> for your new filer.
3	Follow the instructions in the <i>First-Time Configuration Guide</i> . This guide includes instructions for configuring the software for filers and clusters and for making any necessary hardware connections for a factory-configured cluster.

For cluster conversions

If you are using the new filer with another filer to form a cluster, follow these steps.

Step	Action
1	Read the <i>Read Me First</i> document if it is included in the documentation.
2	Follow the instructions in the <i>Hardware Installation Guide</i> for your new filer.
3	Follow the instructions in the <i>F630, 740, and 760 Cluster Conversion Guide</i> .

Who should read this chapter

You should read this chapter if you are upgrading to this release of the Data ONTAP software or are converting filers to a cluster. If you are installing a new filer or a factory-configured cluster, read Chapter 3, “[Information for New Filer Installations](#),” on page 15.

Deciding whether to upgrade

Before you upgrade to Data ONTAP 5.2.3 software, consider the following: if you upgrade and find that you need to revert to a pre-5.1 release, you might lose qtree information.

Caution

If you are using a P or D release, you should check “[Bugs fixed since Data ONTAP 5.2](#)” on page 25 or Bugs Online (<http://now.netapp.com/cgi-bin/bol/>) to determine whether the bug fixes included in the P or D release are included in this release. Failure to ensure that the bug fixes included in the P or D release are included in this release could cause problems that were fixed to be reintroduced to your system.

Contents of this chapter

This chapter contains information for users who are upgrading to Data ONTAP 5.2.3 from a previous release of Data ONTAP. The following table describes the contents.

To learn about...	Read...
System requirements for running this release of the Data ONTAP software	“ System requirements for this release ” on page 20
What is new in this release	“ New features in this release ” on page 23
Bugs fixed in the Data ONTAP 5.2 releases	“ Bugs fixed since Data ONTAP 5.2 ” on page 25
What steps to take after reading this guide	“ What to do next ” on page 28

System requirements for this release

Filers supported

This release runs on the following Network Appliance™ filer models: all F200, F300, F500, F600, and F700 series models. When the term “filer” is used in this document, the information applies to any of these models.

Clusters are supported only on the following NetApp filers with fibre channel connections to disk shelves:

- ◆ F630
- ◆ F740
- ◆ F760

Number of disk shelves supported

This release supports disk shelves as shown in the following table, up to a capacity of 1.5 terabytes (TB).

Filer	Maximum number of disk shelves	
	9 GB	18 GB
Cluster (combined)	24	12
F630	24	12
F720	8	4
F740	16	8
F760	24	12

For other filers, see the *System Configuration Guide*.

Memory requirements

This release of Data ONTAP has the following memory requirements.

If your filer...	It needs a minimum of...	
	Main memory...	NVRAM...
Is configured as a partner in a cluster	256 MB	32 MB
Has 1/2 TB or more of disk storage (for example more than 56 9-GB drives or more than 28 18-GB drives)	512 MB	32 MB
Is not in a cluster and does not have 1/2 TB or more of disk storage	128 MB	2 MB

Filer firmware requirement

The minimum firmware revision for each filer is shown in the following table.

Filer	Firmware revision
F200 and F300 series	1.9_i
F500 series	2.1_a
F630	2.1_a1
F700 series	2.2_a2

For instructions about upgrading your filer firmware, see the *Software and Firmware Upgrade Guide*.

Fibre channel disk firmware requirement

The minimum firmware revision for fibre channel disks is shown in the following table.

Disk part number	Disk model	Firmware revision
X219F	ST19171FC	FD59
X221A	ST39102FC	FDF6
	ST118202FC	FDF6

For instructions about upgrading your disk firmware, see the *na_disk_fw_update* man page.

Compression for core dump files on F500, F600, and F700 filers

Data ONTAP 5.2.3 supports compression for core dump files on filers in the F500, F600, and F700 series. This means that less disk space is required to store core dumps than in previous releases. Also, the time to perform these operations is the same or less than the time required in previous releases.

Disks required to store a core dump

When a core dump occurs within a NetApp filer, the memory and NVRAM are dumped to a set of fixed-sized areas at the beginning of all the disks. Therefore, a filer with a large amount of memory but not enough disks does not have enough room to perform a full core dump. If there are not enough disks on a filer, a partial core dump is performed.

The minimum number of disks that must be installed for a filer to successfully perform a core dump is shown in the following table.

Memory	NVRAM	4-GB disks	9-GB disks	18-GB disks
256 MB	8 MB	3	4	1
256 MB	32 MB	4	4	1
512 MB	32 MB	6	7	2
1 GB	32 MB	12	14	3

New features in this release

Clusters

This release supports clusters. A cluster consists of a pair of NetApp filers that are connected. When one filer in a cluster undergoes a system failure and can't reboot, the partner filer in the cluster can take over the failed filer's functions and serve the data on the failed filer's disks. This is known as a takeover. In addition to an automatic takeover, you can issue a command at any time to force a takeover.

The clusters feature is available only for the following filers:

- ◆ F630
- ◆ F740
- ◆ F760

Year 2000 compliance

This release of Data ONTAP is Year 2000 compliant. Year 2000 compliance includes the capability to do the following tasks:

- ◆ Handle date information before, during, and after January 1, 2000, including but not limited to the following actions:
 - ❖ Accepting date input
 - ❖ Providing date output
 - ❖ Performing calculations on dates, or portions of dates
- ◆ Function accurately and without disruption solely as a result of the change from this century to the next.
- ◆ Respond to two-digit year date input in a way that resolves the ambiguity as to century in a disclosed, defined, and predetermined manner.
- ◆ Store and provide output of date information in ways that are unambiguous to century.
- ◆ Correctly process leap years.

Support for 18-GB disk drives

Data ONTAP 5.2.3 supports 18-GB disk drives in clusters. The 18-GB disk drives are labeled "18F."

Filer capacity no greater than 1.5 TB: The total disk capacity of a filer or a cluster is limited to 1.5 TB, regardless of the combinations of disks used.

18-GB disk drives only in FC8 or FC8R disk shelves: You can use 18-GB disk drives only in Fibre Channel StorageShelf FC8 or FC8R disk shelves.

Support for mixing SCSI and fibre channel disk shelves

You can connect both SCSI and Fibre Channel disk shelves to the same filer with this release. This feature is available only for the following filers:

- ◆ F630
- ◆ F740
- ◆ F760

Note

This feature is not available for clusters.

FilerView enhancements

This release contains enhancements to FilerView to support clusters. These features are highlighted in the online Help in sections headed “Cluster Considerations.”

Man page enhancements

Some man pages in this release contain sections headed “CLUSTER CONSIDERATIONS,” which describe aspects of commands that are specific to clusters.

True hot disk insertion

You can insert a disk into a disk shelf or remove a disk from a disk shelf without entering any filer commands.

Bugs fixed since Data ONTAP 5.2

Bugs fixed in this release

Bugs fixed in Data ONTAP 5.2.3: The following table lists the bugs fixed in Data ONTAP 5.2.3.

Bug ID	Title
6893	Sometimes a disk scrub may not run as scheduled
10658	dump via NDMP can leave inomap buffer locked
10814	wack doesn't fix xnodes correctly
11454	Changes to /etc/symlinks.translations file require cifs shutdown
11610	Some SNMP discovery software crashes filer
12424	Dump is slow in writing a small qtree to tape
12957	PANIC: UNCORR SYS MCHK 20f on '700-series systems
14301	Failure to giveback cluster when using /etc/symlink.translations
14430	Failure to giveback cluster when using /etc/symlink.translations
14991	Machine check may occur during revert_to operation
15311	Aborting a volcopy in progress causes a panic
15874	Filer panics when restoring a dump containing hard links

Bugs fixed in Data ONTAP 5.2.2: The following table lists the bugs fixed in Data ONTAP 5.2.2.

Bug ID	Title
12363	Filer may crash when domain controller connection terminates
14164	Possible data inconsistency due to mishandling of write errors

Bugs fixed in Data ONTAP 5.2.1: The following table lists the bugs fixed in Data ONTAP 5.2.1.

Bug ID	Title
6417	NDMP mover in improper state when BudTool tries to Abort
9130	CIFS Level 2 oplocks can cause system instability
9789	“options cifs.generic_account newuser” is not settable from rc
10067	Nonresponsive CIFS oplock breaks can block access to files
10272	Some console CIFS commands can hang if DC is not reachable
10346	Crash when doing an “ls” from NFS on a file with an ACL
10486	Domain Administrators hardwired into Administrators group
10518	Errors generated when using NDMP to dump to 2BudTool, with file history enabled and NT ACLs
10604	IP aliases are unreachable from other interfaces
10610	NDMP remote backup/restore to BudTool hangs
10658	Filer hangs when backing up a quota tree with a number of directories that is a multiple of 32
10708	Deletes of files from read-only shares can succeed
10783	When a file system disk is swapped in, need a reboot to see the disk
10787	Incorrect numbers can be reported for exceeded quotas
10831	NDMP 3-way restores greater than 4 GB hang the filer
10833	Problems copying files with NT RESKIT ROBOCOPY utility
11010	Crash in NT “svrmgr” when displaying share permissions
11125	Nested symlinks can panic filer
11164	Dump Pass II on incremental dumps can take 10 times as long as Pass I
11167	After restoring on Intel platforms, CIFS can only access 8.3 names

Bug ID	Title
11402	UAC faults on alpha based filers using NT scopy, backup or restore

Bug fixed in Data ONTAP 5.2R2: Bug 10617, “Filer crashes may result in file system inconsistencies,” was fixed in Data ONTAP 5.2R2

Bugs fixed in Data ONTAP 5.2R1: The following table lists the bugs fixed in Data ONTAP 5.2R1.

Bug ID	Title
10723	Newly added disks get spared, requiring support intervention to recover file system access
10725	Loop recovery timer is 30 retries, not 30 seconds

What to do next

Converting filers to a cluster

Obtain the required licenses and cluster hardware, then follow the instructions in the *F630, 740, and 760 Cluster Conversion Guide*.

Note

Before you put your cluster into operation, run the `disk_fw_update` command from each filer to ensure that the disks have the latest firmware.

To use clusters, you must have a cluster license for each filer. You must have a license on each filer for each protocol that you use.

After the conversion

If you have not already done so, consult the *System Administrator's Guide* and the on-line man pages or the *Command Reference Guide* for information about clusters. In particular, read the following documents for information about clusters:

- ◆ Chapter 9, “Cluster Administration,” of the *System Administrator's Guide*
- ◆ The *Quick Reference Card*, which lists the commands that behave differently in a cluster environment
- ◆ The man pages for commands that behave differently in a cluster environment and the man pages for the `cf` and `partner` commands