



Dell EqualLogic FS Series Appliances

Release Notes

FS Series Firmware Version 3.0.0 (Beta)

Beta Draft

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Preface

Dell™ EqualLogic® PS Series arrays optimize resources by automating capacity, performance, and network load balancing. Additionally, PS Series arrays offer all-inclusive array management software and firmware updates. Dell EqualLogic FS Series appliances, combined with PS Series arrays, offer a high performance, high availability, scalable NAS solution.

How This Document is Organized

This document describes new features, changes, bug fixes, system limits, and open issues for version 3.20 of FS Series firmware.

The document is organized as follows:

- The *What's New in This Release* section describes new features and enhancements to existing features in this release.
- The *Issues Corrected in v3.20* section lists all of the bugs that were found in a previous release and fixed in version 3.20.
- The *System Limits and Compatibility* section includes configuration information that applies to the entire version 3.20 release.
- The *Known Issues and Limitations* section describes issues for which a fix has not yet been implemented, and known product limitations.

Related Documentation

For detailed information about FS Series appliances, PS Series arrays, groups, volumes, array software, and host software, log in to the Documentation page at the customer support site.

PS Series storage arrays and FS Series storage appliances documentation includes the following:

- *Release Notes*. Provides the latest information about PS Series storage arrays and FS Series Appliances.
- *Installation Guide*. Describes how to set up the hardware and start using PS Series storage arrays and FS Series storage appliances.
- *Group Manager Administrator's Manual*. Describes how to use the Group Manager GUI to manage PS Series storage arrays and FS Series storage appliances. This manual provides comprehensive information about concepts and procedures.
- *Group Manager CLI Reference*. Describes how to use the Group Manager command line interface to manage a storage array or a group and individual appliances.
- *Hardware Owner's Manual*. Provides information on maintaining the PS Series storage array and the FS Series appliance hardware.

Dell Online Services

You can learn about Dell products and services using this procedure:

1. Visit dell.com or the URL specified in any Dell product information.
2. Use the locale menu or click on the link that specifies your country or region.

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Dell EqualLogic Storage Solutions

To learn more about Dell EqualLogic products and new releases being planned, visit the Dell EqualLogic TechCenter site: delltechcenter.com/page/EqualLogic. Here you can also see articles, demos, online discussions, and more details about the benefits of our product family.

Technical Support and Customer Service

Dell support service is available to answer your questions about FS Series appliances.

Contacting Dell

If you are a customer in the United States or Canada in need of technical support, call 1-800-945-3355. If you are outside of the United States or Canada, you can obtain a listing of International Dell EqualLogic support telephone numbers by visiting support.dell.com/support/topics/global.aspx/support/enterprise_support/en/equallogic.

If you have an Express Service Code, have it ready. The code helps the Dell automated support telephone system direct your call more efficiently. Note: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Visit support.dell.com.
2. Verify your country or region in the Choose A Country/Region drop-down menu.
3. Click `Contact Us`.
4. Select the appropriate service or support link based on your need.
5. Choose the method of contacting Dell that is convenient for you.

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1 About Dell EqualLogic FS Series Appliances

A PS Series group is an iSCSI SAN that provides high-performance, highly available, scalable block storage. With Dell™ EqualLogic® FS Series (Network Attached Storage) appliances, and PS Series firmware, a PS Series group can provide both block storage and NAS, delivering a unified storage solution that is easy to configure and manage.

Note: Before you update to FS Series firmware version 3.20 or later, you must update your PS Series storage arrays to firmware version 8.0.x.

This document describes important product information and restrictions for FS Series appliances and FS Series version 3.20 or later firmware. This document also includes information about PS Series version 8.0.x firmware as it relates to NAS clusters. Refer to the *Dell EqualLogic PS Series Storage Arrays Release Notes* document for specific PS Series storage information and restrictions.

Notes:

- The versions of the FS Series and PS Series firmware described in this document include all corrections and enhancements made in prior releases.
- Unless otherwise noted, all information in this document applies to version 3.20 or later of the FS Series firmware and version 8.0.x of the PS Series firmware and all future maintenance releases for these versions.

End User License Agreement

The first time you log in (from either a browser or standalone application) to the Group Manager GUI using group administration privileges, the system prompts you to accept an End User License Agreement (EULA). If you accept the EULA, Group Manager launches. If you do not accept the EULA, you are logged out of Group Manager. You need only accept the EULA once per group. If you later add more members to the group, the system does not ask you again to accept the EULA.

If your configuration includes FS Series Network Attached Storage (NAS) appliances at the time that you accept the EULA, your acceptance of the EULA covers both your PS Series arrays and FS Series NAS appliances. If your configuration does not include FS Series NAS appliances when you accept the EULA, and you later attempt to create a NAS cluster by adding FS Series NAS appliances, the system prompts you to accept the EULA again to cover your FS Series NAS appliances. You need only accept the EULA once for the FS Series NAS appliances. If you subsequently add more FS Series NAS appliances to the NAS cluster, the system does not ask you again to accept the EULA.

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2 What's New in this Release (v3.20xf cvg)

Note: This Beta release does not contain on-line help for all new features. The new feature information is included in the New Features Admin Guide and the New Features CLI Guide, provided with this release.

Version 3.20xf cvg of the FS Series firmware includes a number of new features, described in the following sections.

Access-based Enumeration

Access-based Enumeration is an industry standard feature included with Microsoft Windows servers. This feature allows users of Windows-based file servers to view the files and folders to which they have access only. Access-based Enumeration is enabled by the NAS administrator to allow users to access files and folders for which they have permissions via a CIFS share.

Refer to the Group Manager Administrator's Manual for more detailed information about Access-based Enumeration.

CIFS Home-Shares

Prior to this release, the cluster administrator could create a CIFS share by specifying the NAS container where the share was to reside, the share name, a mount path for the share, and optional attributes that control virus-scanning of files. However, each CIFS share had to be made manually, one at a time.

The CIFS Home-Share feature allows you to create a single CIFS Share on a NAS cluster that contains a separate folder for each user. This feature allows the administrator to create a single template that is used to create a folder under the Home Share for each user. Depending on the NAS 'path-template' option selected by the NAS cluster administrator, either the user's Windows username, or the domain name and the username is used to create a unique folder name on the NAS cluster. The path-template is appended to a path-prefix string supplied to the CIFS Home-Share instance to generate the folder name for each Windows user.

There is only a single CIFS Home-Share instance on a NAS cluster. The Home Share feature allows a single CIFS-Share mount point for either a Windows workgroup or a Windows domain, while allowing many users to store their data on the NAS cluster.

NAS Diagnostics Collection

This feature simplifies the process by which users run diagnostics and provide the generated files to the Customer Support team for troubleshooting. As of this release, you can run advanced NAS Diagnostics from the EQL CLI. To run the full range of diagnostics, you must use the Equallogic CLI.

Note: Note: You should only use this feature under the direction of Dell Support.

Rehydrate on Read

When you disable data reduction, data remains in its reduced state during subsequent read operations by default. As of this release, you have the option to enable rehydrate-on-read after disabling data reduction. Enabling rehydrate-on-read causes a rehydration (reversal of data reduction) of data on subsequent read operations. You cannot rehydrate an entire NAS volume, although you could accomplish this by reading all files and folders within a NAS volume.

Note: Rehydrating data affects performance and disk storage space utilization, because the data blocks are rendered on the disk in their original form.

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Rehydrate on Read with User Quotas

If you defined user quotas based on logical space utilization, those quotas remain in force throughout rehydration of the reduced data. For example, if three users have stored files of size 3GB in the same container, and all of those files are identical, the physical space occupied will be around 3GB instead of 9GB after applying data reduction. The logical space utilization will be 3GB for each user. If each of those users have a user quota set to 4GB each, then each of them can store only 1GB additional data.

Thin Provisioning

Thin provisioning technology enables you to more efficiently allocate storage space, while still meeting application and user storage needs. With a thin-provisioned NAS container, the group allocates space based on actual container data usage, enabling you to “over-provision” group storage space (provision more space than what is physically available).

When NAS containers are thin-provisioned, NAS cluster storage space is consumed only when data is physically written to the NAS container, not when the NAS container is initially created. When data is written to a container, it initially fills or consumes reserved space. When reserved space is exhausted, it begins to consume unreserved (thin-provisioned) space.

Thin-provisioning offers the flexibility to provision NAS clusters to account for future increases in usage. However, because it is possible for the storage space used by the NAS container to exceed the storage space allocated to the NAS cluster, you should monitor available capacity to ensure that the NAS reserve always has sufficient free space available.

You can also specify a portion of the NAS container (Reserved Space) that is dedicated to the NAS container (no other container can take the space). The total Reserved Space of all NAS containers cannot exceed the available capacity of the NAS cluster. If a file is deleted from an unreserved portion of a thin provisioned NAS container, the free space as seen in the NAS cluster increases. The freed up capacity is also visible and available to clients in the CIFS shares or NFS exports.

Multiple Client Networks

This feature allows you to configure multiple client networks and VLANs for the clients to mount NFS exports or CIFS shares. The primary client network must be configured as part of the clusterization process with a minimum of one client network. You can create multiple subnets after the deployment. When a client secondary network is configured, all the controller specific IP addresses must be applied during an attach and add-pair for the controllers being attached and added respectively. The add-pair and attach state machines will be modified to configure the controller IP addresses associated with each of those controllers for each of the client secondary networks.

Additional client network provisioning can be performed after clusterization. However, secondary client networks cannot be provisioned prior to clusterization. The primary client network can be modified but cannot be deleted. The secondary client network can be deleted as well as modified.

NAS Thin Clones

Creating thin clones on a NAS container creates a writable copy of a NAS container. The thin clone NAS container is created from a snapshot of the original NAS container. This is useful to test against non-production data sets in a test environment without impacting the production environment. Most operations that can be performed on NAS containers can also be performed on cloned NAS containers, such as resizing, deleting, and configuring CIFS shares, NFS exports, snapshots, NDMP, and so on.

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Thin-cloned containers are always thin-provisioned. There is no equivalent of a thick clone. No space is consumed by the clone NAS container until data stored within it is modified.

Network Performance Statistics

As of this release, you can retrieve the following current and past network performance statistics. These statistics are available using the CLI only. This feature applies to the following three categories of statistics:

- Cluster Network Statistics
- Controller Network Statistics
- Controller Load-balancing Statistics

For each category, the statistics are available for these time periods:

1. Now (current)
2. Day (Last 24 hours)
3. Week (Last 7 days)
4. Month (Last month)
5. Year (Last year)

Refer to the Group Manager CLI Reference Manual for more detailed information and for the listing of the new commands for this feature.

NFS Export Security Options

This feature controls security for NFS. By default all the security methods are enabled on NFS exports. You can now select one of the following security methods for the NFS-Export that you created:

- UNIX Style
- Kerberos v5 (Kerberos Authentication only)
- Kerberos v5 integrity (Kerberos authentication and Integrity)
- Kerberos v5 privacy (Kerberos Authentication, Integrity and Privacy)

Secured LDAP

This release supports secured Lightweight Directory Access Protocol (LDAP). NAS clusters can be configured to authenticate UNIX/Linux clients using LDAP for access to NFS exports. Either an LDAP server or Active Directory can support the LDAP database, and the desired configurations are specified at the CLI level. Several configurations are supported:

- Anonymous Bind—The connection from the NAS cluster to the LDAP server(s) is not authenticated. The data is sent in plain text.
- Authenticated Bind—The connection from the NAS cluster to the LDAP server(s) is authenticated, using a username and password. When this authentication method is specified, anonymous LDAP is disabled.
- LDAP over TLS—When Transport Layer Security (TLS) is enabled, the connection from the NAS cluster to the LDAP server(s) is authenticated and encrypted.
- Extended-Schema—A new optional token was added to support extended schema when using LDAP with Active Directory. Extended-Schema is disabled by default.

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3 System Limits and Compatibility

This section includes information about limitations and compatibility requirements.

Note: FluidFS systems provide access services through the ports listed in the *FS Series Appliances FluidFS NAS Support Matrix*, which can be downloaded from eqsupport.dell.com.

NAS Cluster Configuration Limits

Table 1 describes the supported configuration limits for a NAS cluster.

Table 1: NAS Cluster Configuration Limits¹

Attribute	Single-Appliance Cluster	Dual-Appliance Cluster
Maximum NAS reserve size	509TB	509TB
Minimum NAS reserve size	512GB	1024GB
Maximum file size	10TB	10TB
Maximum local users	100	100
Maximum local groups	100	100
Files/directories in a cluster	64 billion	64 billion
File/directory name length	255 bytes ² per path component ³	255 bytes ² per path component ³
Containers in a cluster	1024	1024
Minimum container size	20MB	20MB
Maximum container size	Available NAS reserve	Available NAS reserve
Snapshots per container	1024	1024
Snapshots in a cluster	10,000	10,000
Snapshot schedules for a container	512	512
Snapshot schedules in a cluster	1024	1024
NFS exports in a cluster	1024	1024
CIFS shares in a cluster	1024	1024
CIFS active client connections in a cluster	10,000	20,000
Maximum quota rules per NAS container (user quotas)	1000	1000
Maximum quota rules per cluster (user quotas)	1000	1000
Maximum number of containers enabled for replication	100	100
Maximum number of active container replications in progress (the rest are queued)	10 outgoing and 20 incoming	10 outgoing and 20 incoming
Maximum replication partners	16	16
Number of NAS controllers in replication source and destination clusters	Each NAS cluster in the replication partnership must contain the same number of NAS controllers.	Each NAS cluster in the replication partnership must contain the same number of NAS controllers.

¹The limits shown for files and directories, containers, NFS exports, CIFS shares, and container snapshots are the maximum supported limits. The group will not prevent you from exceeding a limit, and will not warn you when you reach or exceed a limit.

² Fewer characters are accepted for this field if you enter the value as a Unicode character string, which takes up a variable number of bytes, depending on the specific character.

³ Full path length limitation is imposed by the client OS and/or protocol implementation.

Initial NAS Cluster Valid Configurations

Table 2 describes the configurations allowed during initial configuration.

Table 2: Initial Valid Configurations

Cluster	Controller Pair 1	Controller Pair 2
Two-controller	FS7500	Not applicable
Two-controller	FS7600	Not applicable
Two-controller	FS7610	Not applicable
Four-controller	FS7500	FS7500
Four-controller	FS7500	FS7600
Four-controller	FS7600	FS7600
Four-controller	FS7610	FS7610

Note: You must configure all SAN IP addresses on each controller before you upgrade to FS Series firmware version 3.3.

Valid Add-Controller Pairs

Table 3 describes the configurations allowed during initial configuration.

Table 3: Valid Add-Controller Pairs

Existing Controller Pair 1	Controller Pair 2
FS7500	FS7500
FS7500	FS7600
FS7600	FS7600
FS7600	FS7500
FS7610	FS7610

Supported Upgrade Paths

When updating the NAS controllers on FS Series appliances, you must follow the supported upgrade path shown in Table 4. The first column lists the starting versions and the second column lists the recommended versions to which they can be updated.

Note: The notation used in the table refers to all releases of a given revision. For example, 1.0.x refers to versions 1.0.425, 1.0.424, and 1.0.402.

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Table 4: Supported Firmware Upgrade Path

Starting Version	Supported Upgrade Path
3.0.920760	3.0.update
3.0.911021	3.0.920760
3.0.910390	3.0.920760
3.0.8690	3.0.920760
2.0.7680	3.0.920760
2.0.7630	2.0.7680, 3.0.920760
2.0.7170	2.0.7680, 3.0.920760
2.0.6740	2.0.7680, 3.0.920760
2.0.6220	2.0.7680
2.0.4720	2.0.7680
v1.0.x	Later 1.0.x releases and 2.0.x

FluidFS_Replication

Table 5 describes the supported FluidFS Replication feature.

Table 5: FluidFS Replication

Attribute	Single and Dual Appliance Clusters
Maximum number of replication partners	16
Number of NAS controllers in replication source and destination clusters	Each NAS cluster in the replication partnership must contain the same number of NAS controllers.
Maximum number of containers enabled for replication	100
Maximum number of active container replications in progress (the rest are queued)	10 outgoing and 20 incoming
Single NAS container to single NAS container	Yes
Single NAS container to multiple NAS containers	No
Cascading replication of single container	No

Note: Replication partners must have the same number of appliances, for example, the same number of FluidFS controllers. Replication partners can differ in network interface speeds (1Gb/10Gb). The target partner must be running an equal or later version of FluidFS.

Table 6 lists the supported source-to-target configurations.

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Table 6: Source-to-Target Configuration

		Target					
		FS7500 1 Appliance	FS7600 1 Appliance	FS7610 1 Appliance	FS7500 2 Appliances	FS7600 2 Appliances	FS7610 2 Appliances
S o u r c e	FS7500 1 Appliance	Yes	Yes	Yes	No	No	No
	FS7600 1 Appliance	Yes	Yes	Yes	No	No	No
	FS7610 1 Appliance	Yes	Yes	Yes	No	No	No
	FS7500 2 Appliances	No	No	No	Yes	Yes	Yes
	FS7600 2 Appliances	No	No	No	Yes	Yes	Yes
	FS7610 2 Appliances	No	No	No	Yes	Yes	Yes

Source Code Availability

FS Series NAS appliances do not ship with source code as part of the solution. You can obtain the source code for the Linux GPL portions of the FS Series NAS appliances by contacting your Dell EqualLogic Customer Support representative. Any features or items that do not fall under the Linux GPL are not available and are considered intellectual property owned by Dell Inc.

Supported Short-Range SFP+ Transceivers for FS7610 Optical Connectivity

The short-range SFP+ transceivers that are available as part of the FS7610 offering are designed specifically to interoperate with the interface card installed in the FS7610 appliance. Other externally sourced optical transceivers should not be used. Contact your Dell Sales Support representative if you want to procure the supported short-range SFP+ transceiver and cables for optical connectivity (see [Table 7](#)).

Table 7: Ordering Information

Item	Length	Customer Kit Part Number
SFP+ Transceiver	Not applicable	WJT37

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Item	Length	Customer Kit Part Number
Optical Cable	1 m	M6969
	3 m	M6970
	5 m	R6364
	10 m	T6479
	30 m	T6483
	50 m	M6971

Supported NDMP Backup Applications

The NAS cluster solution is certified to work with the following DMAs:

- Symantec® BackupExec 2010 revision 5204 Service Pack 3
- Symantec BackupExec 2012 revision 1798 Service Pack 2
- Symantec NetBackup 7.x
- CommVault® Simpana 9.x
- IBM® Tivoli 6.3
- Dell Quest® Netvault 8.6x, 9.0x
- EMC Network 8.x

Refer to the DMA documentation for the minimal revision/service pack supporting Dell FluidFS systems.

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4 Known Issues and Limitations

The following known issues and limitations apply to Dell EqualLogic FS Series firmware version 3.0.update. For information about known issues and limitations from other releases, see the *Release Notes* for those versions. For issues and limitations pertaining to host operating systems and iSCSI initiators, refer to the *Dell EqualLogic PS Series Storage Arrays iSCSI Initiator and Operating System Considerations* document.

New NAS Functionality Is Not Compatible With Virtual Storage Manager Versions Earlier Than 3.5.3.

The new NAS-related features introduced in PS Series firmware version 7.0 are not compatible with existing Host Integration Tools (HIT) kits Virtual Storage Manager (VSM) versions earlier than 3.5.3. These NAS features will be supported with VSM version 3.5.3 and later.

Note: The block-related functionality in firmware version 7.0 is not affected by this issue and is backward compatible with all VSM versions 3.5.x.

Configuration, Installation, and Upgrades

The following topics provide information about configuration, installation, and upgrades.

- NDMP is enabled by default. Before version 3.0, users had the ability to enable and disable the NDMP service. Starting with version 3.0, NDMP is always enabled. Users cannot disable it. Even if you had disabled NDMP in a version prior to version 3.0, when you upgrade to version 3.0, NDMP will be enabled and you will not be able to disable it.
- Version 3.0 introduces some new local built-in groups: Backup Operators, Users, Local Users, Nobody_ group. If you had groups with these same names in versions prior to version 3.0, those groups will be automatically renamed during the upgrade to version 3.0.
- Firmware v2.0 update to v3.0 will fail if the NetBIOS name and the cluster name are not exactly the same. The following error will be displayed: `Service Pack installation failed: NetBIOS name of the system differs from cluster name. This configuration is no longer supported. Please re-join Active Directory with the same NetBIOS name as the cluster name.`
- Replication tasks from NAS appliances running v3 maintenance release (3.0.910390) to NAS appliances running the original v3 firmware release (3.0.8690) will fail due to a change in the replication protocol. Replication from NAS appliances with the original firmware to NAS appliances with this latest maintenance release will work correctly.
Dell recommends first upgrading your destination cluster to the latest v3 release, followed immediately by upgrading your source cluster.

Do Not Swap Controllers Between NAS Clusters or Within a Cluster

After you have configured a NAS cluster using FS7600 or FS7610 appliances, do not move the NAS controllers outside of the FS7600 or FS7610 appliances. Do not move or swap the controllers from one slot to another.

If you must remove a controller for maintenance, contact your Dell EqualLogic Customer Service representative to complete the appropriate procedure.

Do not use trailing spaces in local and group username

Trailing spaces in the local and group user names are rejected when using the GUI, but can be entered using the CLI. Trailing spaces are not recommended.

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Modification Of Caching Policy On Share Folder Is Not Supported

If you use the MMC snap-in to modify the caching policy on shared folders, the revised settings do not take effect even though no errors are displayed.

509TB NAS Cluster Installation Might Fail During the Format NAS Reserve Stage

Under rare circumstances, a 509TB NAS cluster installation might fail during the format NAS reserve stage at 80%. If the installation fails, the following error message is displayed: `Volume ID not ready on controller cannot perform read write test`. If this failure occurs, retry the operation.

Do Not Create A Directory With Only Spaces

Path names of only spaces are erroneously allowed while creating the directory. For example, `/joe/ /mktg`.

Do Not Create CIFS or NFS Directory With // Or With All Spaces

The CLI allows users to create the CIFS/NFS directory with consecutive slashes, which is an illegal path.

Creating CIFS Share If Antivirus Has Exclude Directory Fails

If antivirus is configured with exclude directory, creating a CIFS share fails with the error: `The folder on the NAS container does not exist`.

Workaround: Create the share without exclude directory. Then, go to the CIFS share and create the directory you want to exclude from antivirus, and then go back and specify the directory to exclude in the user interface.

Multiple ACLs are not supported in the Group Manager GUI at this time

You can define multiple NFS Exports using the CLI, however, the GUI does not show these ACLs and does not allow you to modify them.

Cannot delete the User Mapping If the Original NIS Server Configuration Is Removed

If you configure a NIS server then create a user mapping, you will not be able to delete the user mapping even after you remove the NIS server. If you re-add the NIS server, you will still not be able to delete the user mapping.

When creating a tag or tag pair using the CLI, do not use spaces or quotation marks in the value or in the tag name

If you attempt to create a tag or tag pair with a value that contains spaces or quotation marks, the following error displays: `Error: Too many parameters`. When you put a quoted string with an embedded space in it after an equal sign, the CLI doesn't parse the quoted string as a single parameter.

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Hardware

NAS Hardware View Shows Incorrect Ethernet Port Location

In the Group Manager GUI NAS Hardware view, the Ethernet port numbering is not shown correctly for FS7600 controllers in the rearview panel. Refer to the *FS7600 Hardware Owner's Manual* for the correct Ethernet port-numbering information.

Attach Operation Fails On A 4-Controller FS7500

On a 4-controller FS7500 appliance, an attach operation fails with the error `One or More of NAS Appliance controllers are not available`. Make sure both controllers are powered on. If the operation fails, make sure all controllers are powered on and retry.

File Systems and Shares

The following topics provide information about NAS file systems and shares.

Cannot Rename Appliance During Cluster Configuration

You cannot rename an FS7600 or FS7610 appliance during cluster configuration. Wait until configuration is completed and then rename the appliance.

Default Antivirus Exclude Path Is No Longer Supported

The Default AV Exclude Path feature is no longer supported. Any default antivirus exclude path that you had set in previous versions will be lost.

Console Displays an Inaccurate (failed) Message when the Controller is in Standby Mode

A console (KVM), though not required, might be connected to the controller when it is in standby mode. When this situation occurs, the following message is displayed on the console: `Press: "I" - re-Install standby controller [FAILED]`. This message is inaccurate, and can be ignored. The message will not be displayed after the clusterization process completes.

Creating a Container With a CIFS Share That Already Exists Fails

On the replication partner, if you create a container with a CIFS share and use a container name that already exists, enabling read-only access on the replica container fails, but no indication of the failure is returned. An event is generated in the event log indicating that the failure was due to a duplicate share name.

After Configuring a Cluster, The User Interface Might Not Respond For 1-2 Minutes

If this issue occurs, the interface will be operational again and respond in a minute or two.

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Do Not Resize a NAS Cluster During RAID Reconstruction

While an EQL array is undergoing a RAID reconstruction, NAS resize fails with `Internal error occurred`. Contact your support provider.

NAS Containers

The following topics provide information about NAS container issues.

NAS Container Snapshot Warning Threshold Display Error

For NAS containers with snapshot reserve warning thresholds below 10%, the warning threshold value is not properly displayed. This issue is caused by a rounding error in an internal process, and does not apply to warning thresholds set above 10%.

Erroneous Message When Exceeding NFS Mounts Per Container Limit of 1024

The maximum number of mounts per container supported is 1024. If you try to mount an NFS export and exceed the 1024 limit, the following error is generated: `RPC: Unable to receive RPC: Port mapper failure - RPC: Timed out`. This issue is related to a buffer size limit of 32KB. The mount operation itself will succeed, but you will not be able to list the exports.

Incomplete Error Message Displays When Special Character “[“ Is Used In Container Name

If you use the special character open bracket in a container name, the following error message is displayed: `Name:character". "[" and "]" characters are not supported characters and may cause this message to be displayed`.

Cannot Resize Container Even If Space Is Available

User cannot resize a container to a total size greater than the remaining NAS reserve pool space, despite enough space being available for the resize. After changing the value of the container, the OK button stays dimmed.

Workaround: To provide enough space to accommodate this operation, use the CLI to resize the container or the reserve.

“ALL” Users With IP=*. *.*.* is No Longer Allowed for NFS Access Permissions

If you create NAS containers with access permissions "ALL" and IP address *.*.*, the following error is generated: `There must be an access limitation to the IP address when selecting All Users`.

Networking

The following topics provide information about networking issues.

Active Directory Join With Preferred DC Set Might Fail

Performing an Active Directory join with a preferred DC set from the GUI using both a name and IP address with DNS configured for the cluster might fail with the following error: `Could not resolve preferred DC name, % Error - Could not resolve preferred DC IP`. If this issue is encountered, then use the CLI.

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Clusterization Fails With Misleading Error Message

If you attempt to create a cluster with a port that is not properly connected to a switch, the following message is displayed: `A network interface in the NAS appliance is not connected. The system can work in this state, but with reduced performance and high-availability. If you select retry or continue, the same message is displayed again.`

If this issue occurs, correct the port configuration and try again.

Conflicting IP Address Not Displayed in the Event Log

During NAS configuration, if a conflicting IP address is detected, (for example, an IP address already allocated by another host), the conflicting IP address is not displayed in the event log. If this issue occurs, review your configuration, disable the conflicting IP address on the other host, and retry the operation. You will be able to modify the IP addresses used in your NAS configuration after the successful completion of the NAS configuration.

Do Not Modify BIOS or Any Other Internal FS Series Controller Settings

Do not modify the BIOS on an FS series controller or modify any other internal NAS controller settings. In other words, do not install a BIOS other than what is supported.

Unclear Error When Internal Network and SAN Network Are Not In the Same VLAN

When using an FS7500 series appliance, if your internal network is not on the same VLAN as your SAN network, the following error is displayed: `Unable to access other Controller interface in appliance with standard frames from local Controller interface.`

Make Sure the SAN Network Is Dedicated and Isolated From Any Other Network in the Environment.

If the SAN and client networks overlap, changing a network configuration results in the following error: `Server is busy.`

NAS Cluster Creation Failure Due to Incorrect MTU Size

The SAN and internal network switching infrastructure must support an MTU size of at least 9000 bytes, plus the associated network protocol overhead. Some switch manufacturers include overhead in their MTU setting value and others do not.

Note: Dell PowerConnect® switches must be configured to a minimum of 9216 MTU to accept frames of size 9000 MTU and the associated overhead bytes. For switches from vendors other than Dell, refer to the switch documentation for details.

If you attempt to create a NAS cluster and your network is not capable of handling the required MTU size, the NAS cluster creation will fail. In that case, you must delete the NAS cluster, change the frame size on the switches to a higher value (which might require you to restart the switches), and start again.

Replication

The following topics provide information about replication issues.

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Configuration Information Might Not Be Replicated Immediately to Replica Container

Replication of configuration information about CIFS shares and NFS exports from a NAS container to a replica container might be delayed for several minutes. This delay will have no effect on the replication of the data itself, but might affect your ability to access the data because you might have to re-create recent configuration updates. If you replicate immediately, the first replication might not have all the data, but subsequent replications will.

Container Name is Truncated to Add Numeric Identifier

The NAS replication container name field accepts names that are up to 229 bytes in length. However, if a source container name is longer than 225 bytes, the last few bytes will be deleted so that the system can add a 4-byte numeric identifier.

If the source container name includes Unicode characters and is longer than 225 bytes, the entire name string is replaced with the string `dest_` plus a 4-byte numeric identifier.

Replication Can Fail After Changing SAN Management IP on Replication Partners

If a NAS cluster has replication partners configured and you want to change SAN management IP addresses on more than one partner, you must change the SAN management IP addresses on one partner at a time. This requirement means that all the steps for changing SAN management IP addresses must be completed on one partner before making similar changes on another partner. The steps needed to make changes to SAN IP addresses include stopping the NAS cluster, changing the IP addresses, applying the changes, and starting the NAS cluster. Failure to follow these steps can lead to NAS replication issues that will need to be resolved by customer support.

Do Not Attempt to Fail Back to Primary While Resize Is In Progress

After initiating a 30+ TB NAS resize on the source cluster, if you attempt to fail back a temporarily promoted replica to the primary on the destination cluster while a resize operation is in progress, it fails with an `IPC timeout error`.

Data-reduction Schedule Cannot Be Created with Special Characters in the CLI

All ASCII and Unicode characters are allowed for replication and snapshot schedule names when using the GUI, but the CLI does not allow the following special characters: `(!@#%&^&*())`. If you enter these special characters in the CLI, the following error is generated: `Error: Missing Parameters`.

Snapshot Auto Delete Might Occur When There Is Only A Single Snapshot

If you have a single snapshot and delete the user data from the NAS container, the snapshot writes data to and consumes the snapshot reserve. The snapshot will then auto-delete itself and the container and snapshot reserve space will be reclaimed, leaving no snapshot to restore the user data from.

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Confusing Error on Replication Test Partnership Page

While using replication, on the test partnership page, if you test an IPv4 partner on a group configured for IPv6, the following error is displayed: `Internal Error, could not complete tests`. The intended error should be `unable to communicate` because both sides of the replication partnership must use the same IP version.

Replication Status Of Partner Down Does Not Change Even After Partner Is Back Online And Reachable

While running replication on schedules, several volumes have the replication status `partner down` when the partner goes down due to a network problem. When the partner comes back up, a few of the volumes might still have a `partner down` status.

Workaround: If the status is `partner down`, try to pause replication, then resume it.

User Interface

The following topics provide information about user interface issues.

Use Java 7 When Launching Group Manager

If you are using Java 6 and start Group Manager as an application, you will get a `java.lang.NullPointerException` error. Dell strongly recommends that you use Java 7 when launching Group Manager.

NAS Quota Usage is Not Displayed for Default Users or Groups

If NAS quota rules are in effect, the system will not display quota usage values for the default user or default group, or when the “each user in group” option is used. In these cases, quota usage is always displayed as zero. This behavior is visible in the Group Manager GUI’s Quotas panel and in the output of the `nas-cluster select clusterName container select containerName usingroup-quota show` CLI command. However, the system will show quota usage for all other groups and users.

Controller Status Might Need to Be Refreshed After Lead Powered On

If you manually power down the master controller and then power that controller back up, it takes two or three seconds for the controller to retake its position as master. In the meantime, some of the other controllers might appear in the Group Manager GUI to be in a transient state. If you refresh the GUI after the master controller has completely retaken the master position, the controller status displays correctly.

User Interface Shows Incomplete Or No Status Information For the Offline Controller Pair

If you are running a four-controller cluster configuration, and you shut down or power down two controllers that are paired together, the Group Manager GUI and CLI will show incomplete or no status information for the offline controller pair. This issue occurs because the offline pair, being completely down, cannot communicate its true status to the online pair.

Some Unicode Characters Are Not Recognized Correctly in EqualLogic CLI

Some Unicode characters are not recognized correctly in the Group Manager CLI, but are recognized in the Group Manager GUI. This issue can affect operations within the CLI, such as CIFS share name, NFS export name, Active Directory members, snapshot names, and other functions.

Steps Displayed in Wizards Can Change

In the Group Manager GUI, the steps listed in the wizards change based on system configuration and choices made while using the wizards. For example, when you first open a wizard, you might notice five steps. When you get to the second or third step, some of the subsequent steps disappear because they are not needed for the selections you made. All necessary steps are provided.

Group Manager GUI Allows Invalid Characters To Be Entered In the Snapshot Schedule Name

The Group Manager GUI allows invalid characters to be entered in the snapshot schedule name. Schedule names can be up to 63 characters, and are case insensitive. Valid characters include any printable Unicode character except for the following characters: ! " # \$ % & ' () * + , / ; < = > ? @ [\] ^ _ ` { | } ~. First and last characters cannot be a period, hyphen, or colon. Using characters that are not supported might cause a conflict between GUI and CLI operations.

CLI Might Fail When Creating or Deleting UNIX to Windows User Mapping

Creating or deleting UNIX to Windows user mapping sometimes fails when using the CLI. Use the GUI for this operation.

GUI JRE1.7.25 Files Missing Information At Application Startup

While updating a virtual machine (VM) to JRE v1.7.0_25-b16, a `java.net.ConnectException` error is generated. Although the error is generated, Group Manager startup will succeed.

Volumes

Consecutive Periods And Consecutive Spaces Not Allowed in Group Name

When creating a local user, if one of the additional groups specified has a space in the name, specifying multiple groups fails with the following error: `The first character must be alphanumeric, followed by alphanumeric, dash, underscore, period, or space characters. Consecutive periods and consecutive spaces are not allowed.`

Resize from 5TB to 509TB Fails

A resize from 5TB to 509TB fails at the format NAS reserve section of resize. If you click retry on the failure, the resize eventually completes and you are able to create a new container and use the new space.

Other Known Issues

The following topics provide information about issues that do not fall into a specific category.

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Operations Restricted When Member Pair is Degraded

If a NAS controller that is part of an intact member pair becomes unavailable (for example, because the member failed, has no power or is turned off, or is disconnected from the networks), the member pair status is degraded.

Although the NAS cluster is still operational and data is available to clients, you cannot perform configuration modifications until you detach the failed NAS controller from the pair.

Restored Data Might Not Show Up in the Explorer Window Immediately After the Restore Job Completes

When using the Simpana Commvault DMA, the client restores the data serially, one volume after another. The restored data in the shares might take some time to show up in the Internet Explorer window after the restore operation completes.

Do Not Perform an Add-Pair Operation While a RAID Conversion Is in Progress

If you perform an add-pair operation while a RAID conversion is in progress, the add-pair operation succeeds, but a communication issue makes it appear to hang at 0%.

Only Major/Warning Events Are Sent As SNMP Traps

At this time, no mechanism for filtering SNMP traps is available.

Data Reduction Schedule Generates A Spike In Write Data

When the data reduction schedule starts the optimization for the first time, it creates a dictionary file with the size of 32GB per controller. This file is created the first time only and will not affect performance after it is created.

Note: This feature is working as designed. Dell recommends that you schedule the start of optimization during a low usage time.

Controllers Report Incorrect Active Directory Status

When Active Directory (AD) is configured but the AD services are not running, the controllers report that AD status is optimal.

Hyper-V Is Not Supported

Hyper-V is not supported on NAS shares at this time.

Removing NAS from Domain Still Allows Domain User Current Session To Run With Full Privileges

If you remove the NAS cluster from the Active Directory domain, the user's active session continues to run with full privileges. Dell strongly recommends that you stop all active sessions to the NAS share after removing the NAS cluster from the Active Directory domain.