

# Dell EMC™ PowerMax™ eNAS Quick Start Guide

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For Dell EMC PowerMax and VMAX All Flash

REVISION 01

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# PREFACE

As part of an effort to improve its product lines, Dell EMC periodically releases revisions of its software and hardware. Therefore, some functions described in this document might not be supported by all versions of the software or hardware currently in use. The product release notes provide the most up-to-date information on product features.

Contact your Dell EMC technical support professional if a product does not function properly or does not function as described in this document.

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## Note

This document was accurate at publication time. New versions of this document might be released on Dell EMC Online Support (<https://support.emc.com>). Check to ensure that you are using the latest version of this document.

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## Purpose

This document explains how to configure and manage Embedded NAS on VMAX and PowerMax arrays.

## Audience

This document is intended for the storage administrators who need to configure and manage eNAS.

## Related documentation

The following Dell EMC publications provide additional information:

- *Dell EMC PowerMax eNAS File Auto Recovery with SRDF/S*  
This document describes how to install and use File Auto Recovery to failover/move eNAS Virtual Data Movers from source eNAS systems to destination eNAS systems using SRDF/S.
- *Dell EMC PowerMax Embedded NAS Release Notes*  
This document describe the new features and identifies any known functionality restrictions and performance issues that may exist with the current version and your specific storage environment.
- *Dell EMC Unisphere for PowerMax Installation Guide*  
This document describes how to install Dell EMC Unisphere for PowerMax.
- *Dell EMC Unisphere for PowerMax Release Notes*  
This document describe the new features and identifies any known functionality restrictions and performance issues that may exist with the current version and your specific storage environment.

## Special notice conventions used in this document

Dell EMC uses the following conventions for special notices:



**Indicates a hazardous situation which, if not avoided, will result in death or serious injury.**

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**⚠ WARNING**

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

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**⚠ CAUTION**

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

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**NOTICE**

Addresses practices not related to personal injury.

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**Note**

Presents information that is important, but not hazard-related.

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**Typographical conventions**

Dell EMC uses the following type style conventions in this document:

**Table 1** Typographical conventions used in this content

<b>Bold</b>	Used for names of interface elements, such as names of windows, dialog boxes, buttons, fields, tab names, key names, and menu paths (what the user specifically selects or clicks)
<i>Italic</i>	Used for full titles of publications referenced in text
Monospace	Used for: <ul style="list-style-type: none"> <li>• System code</li> <li>• System output, such as an error message or script</li> <li>• Pathnames, filenames, prompts, and syntax</li> <li>• Commands and options</li> </ul>
<i>Monospace italic</i>	Used for variables
<b>Monospace bold</b>	Used for user input
[ ]	Square brackets enclose optional values
	Vertical bar indicates alternate selections - the bar means “or”
{ }	Braces enclose content that the user must specify, such as x or y or z
...	Ellipses indicate nonessential information omitted from the example

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**Where to get help**

Dell EMC support, product, and licensing information can be obtained as follows:

**Product information**

Dell EMC technical support, documentation, release notes, software updates, or information about Dell EMC products can be obtained at <https://support.emc.com> (registration required) or <https://www.dellemc.com/en-us/documentation/vmax-all-flash-family.htm>.

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- Support by Product — Dell EMC offers consolidated, product-specific information on the Web through the Dell EMC Online Support site. The Support by Product web pages (<https://support.EMC.com/products>) offer quick links to Documentation, White Papers, Advisories (such as frequently used Knowledgebase articles), and Downloads, as well as more dynamic content, such as presentations, discussion, relevant Customer Support Forum entries, and a link to Dell EMC Live Chat.
- Dell EMC Live Chat — Open a Chat or instant message session with an Dell EMC Support Engineer.

**Your comments**

Your suggestions help us improve the accuracy, organization, and overall quality of the documentation. Send your comments and feedback to:

[VMAXContentFeedback@emc.com](mailto:VMAXContentFeedback@emc.com)



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## TABLES

# CHAPTER 1

## Getting started

This chapter provides information that you should know prior to configuring Embedded NAS (eNAS) on a storage array.

**NOTICE**

Read this document in its entirety before attempting to set up eNAS. If you need assistance with setting up eNAS, contact your Sales representative to purchase the Service Offering provided by Professional Services (PS-BAS-SYMNAS). Note that a failed attempt to configure eNAS will require custom assistance by Professional Services.

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Topics include:

- [Prerequisites](#).....14
- [Components used in a system with eNAS](#) ..... 15
- [Configuration information](#)..... 16

## Prerequisites

Before starting the configuration process, complete the following tasks:

- Obtain the WWN of the lowest numbered Front End Adapter (FA) in the configuration from the Dell EMC customer support engineer. This WWN has, by default, the ACLX device and needs to be part of the Fibre Channel (FC) zone along with the control host in order to discover the storage devices.
- Install Solutions Enabler and Unisphere for PowerMax. The software and documentation for these applications is available on Dell EMC Online Support (<https://support.emc.com>).
- Verify that your Dell EMC support representative has configured the VMAX and PowerMax systems to call home with EMS Secure Remote Services (ESRS).
- Gather and record configuration information using the Setup worksheets, as described in [Configuration information](#) on page 16.

## Components used in a system with eNAS

The following terminology is used throughout this document:

- **Management Module Control Station (MMCS):** Used by Dell EMC Customer Support to configure eNAS, if necessary.
- **Network Address Translation (NAT) Gateway:** Used to configure the external IP address of the Control Station.
- **Control Station (CS):** Provides management functions to the file-side components referred to as Data Movers.
- **Data Mover (DM):** Clients communicate with a Data Mover using either/both NFS and CIFS/SMB protocols. Clients are physically connected to the Data Mover through I/O modules on the storage array that are assigned to the Data Mover. The Data Mover accesses the client data by way of an internal interface to the storage array on which the Data Mover resides.

## Configuration information

Before starting the configuration process, it is recommended that you complete the following worksheets. Because you will use this information later when you run the Setup Wizard for File, the worksheets are organized by wizard page:

- [Begin Setup worksheet](#)
- [Set Up Data Mover Network Services worksheets](#)
- [Create File System worksheet](#)
- [Create a CIFS Share worksheet](#)
- [Create DM Network Interface worksheet](#)
- [Create VDM Network Interface worksheet](#)

### Begin Setup worksheet

Use the following information to configure the Control Station.

<b>Control Station Host name</b>	Pre-allocated during eNAS installation. This value should not change.
<b>IP Address of DNS Servers</b>	Pre-allocated during eNAS installation. This value should not change.
<b>Network Time Protocol (NTP) Servers</b>	----- ----- ----- -----
<b>Control Station Time Zone</b>	-----
<b>Optional Software License Purchased</b>	<b>Check those applicable</b>
<b>NFS Protocol</b>	N.A.
<b>CIFS Protocol</b>	N.A.
<b>SnapSure</b>	N.A.
<b>ReplicatorV2</b>	N.A.
<b>File-level Retention</b>	N.A.

### Set Up Data Mover Network Services worksheets

The information collected below will be used to configure networking for DMs. Collect information for each DM in the system, except for the standby DM since it inherits network services from the primary DM when a failover is done.



Data Mover (server\_2) network services

DNS Domain Name 1	----- --
DNS Servers for that domain	----- -- ----- -- ----- --
DNS Domain Name 2	----- --
DNS Servers for that domain	----- -- ----- -- ----- --
DNS Domain Name 3	----- --
DNS Servers for that domain	----- -- ----- -- ----- --
Protocol (checkbox)	<___ > UDP <___ > TCP
NIS Domain Name	----- --
NIS Servers	----- -- ----- -- ----- --

Data Mover (server\_3) network services

DNS Domain Name 1	----- --
DNS Servers for that domain	----- -- ----- -- ----- --
DNS Domain Name 2	----- --
DNS Servers for that domain	----- -- ----- -- ----- --
DNS Domain Name 3	----- --
DNS Servers for that domain	----- -- ----- -- ----- --
Protocol (checkbox)	<___ > UDP <___ > TCP
NIS Domain Name	----- --
NIS Servers	----- -- ----- -- ----- --

### Software Data Mover (server\_4) network services

DNS Domain Name 1	----- --
DNS Servers for that domain	----- -- ----- -- ----- --
DNS Domain Name 2	----- --
DNS Servers for that domain	----- -- ----- -- ----- --
DNS Domain Name 3	----- --
DNS Servers for that domain	----- -- ----- -- ----- --
Protocol (checkbox)	<___ > UDP <___ > TCP
NIS Domain Name	----- --
NIS Servers	----- -- ----- -- ----- --

### Create File System worksheet

Use following information to create a file system:

Read/Write Data Mover	<___ > server_2 <___ > server_3 <___ > server_4
Volume Management	<___ > Manual Volume Management <___ > Storage Pool
Storage Pool	-----
Volume Type for Manual Volume Management	<___ > Meta <___ > Stripe <___ > Slice
Disk Volumes for Manual Volume Management	-----

File System Name	-----
File System Size (megabytes)	-----
Slice Volumes?	<___ > Yes <___ > No
Deduplication Enabled?	<___ > Yes <___ > No
File-level Retention?	<___ > Off <___ > Enterprise <___ > Compliance
Auto Extend Enabled	<___ >
Virtual Provisioning Enabled	<___ >
High Water Mark (ranges from 50-99; defaults to 90)	-----
Maximum Capacity (MB)	-----
Hard limit for user storage (megabytes)	-----
Soft limit for user storage (megabytes)	-----
Hard limit for user files (number of files)	-----
Soft limit for user files (number of files)	-----
Group Storage Hard limit (megabytes)	-----
Group Storage Soft limit (megabytes)	-----
Group Files for Hard limit for user files (megabytes)	-----
Group Files for Soft limit for user files (megabytes)	-----
Enforce Hard Limits?	<___ > Yes <___ > No
Grace Period for Storage (number of days)	-----
Grace Period for Files (number of days)	-----
Log Type	<___ > Common <___ > FS (Default)

## Create a CIFS Share worksheet

Use the following information to create a CIFS Share. Make a copy of the worksheet for each CIFS share you create.

**Note**

Using VDM-based CIFS shares and servers will enable future expansion using SRDF/S.

Data Mover	<___ > server _2
	<___ > server _3
	<___ > server _4
Interfaces Used by CIFS server	----- --- ----- ---
CIFS Server Type	Windows NT4 <___ > Windows 2000/2003/2008 <___ >

	<p>Standalone &lt;____ &gt;</p> <ul style="list-style-type: none"> <li>• Windows Domain ----- -----</li> <li>• Computer Name (Windows) ----- -----</li> <li>• NetBIOS Name (Optional) ----- -----</li> <li>• Aliases (Optional) ----- -----</li> <li>• Local Users (Optional) ----- -----</li> <li>• Administrator password (obtain from customer) ----- -----</li> <li>• Join the Domain?</li> <li>• ----- -----</li> <li>Domain Admin Username (Windows) ----- -----</li> <li>• Domain Admin Password (Windows) ----- -----</li> <li>• Organizational Unit (Windows) ----- -----</li> <li>• NetBIOS Name (Required for Window NT4, optional for Windows) ----- -----</li> </ul>
CIFS Server Names (aliases)	<p>----- -- ----- --</p>
CIFS Server Name	<p>----- --</p>
CIFS Share Name	<p>----- --</p>
Share path name	<p>----- --</p>

Comment (Optional description)	----- --
User Limit (Optional)	----- --

## Create DM Network Interface worksheet

Use the following information to configure individual network interfaces for the Data Movers. It can also be used to create virtual network devices: Link aggregation (LACP), and Ethernet Channel.

**Note**

If your network uses variable-length subnets, ensure that you are using the correct subnet mask. Your network should not use the 172.16.172.17 and 172.18 subnets as they are used for internal networking by the array.

Data Mover Number	Device name or virtual device name	IP address	Netmask	Maximum Transmission Unit (MTU) (optional)	Virtual LAN (VLAN) identifier (optional)	Devices (optional)

## Create VDM Network Interface worksheet

Use the following information to configure individual network interfaces for the Virtual Data Movers. It can also be used to create virtual network devices: Link aggregation (LACP), Fail Safe Network (FSN), and Ethernet Channel.

Virtual Data Mover Number	Device name or virtual device name	IP address	Netmask	Maximum Transmission Unit (MTU) (optional)	Virtual LAN (VLAN) identifier (optional)	Devices (optional)

# CHAPTER 2

## eNAS configuration

This chapter explains how to configure eNAS online operations.

Topics include:

- [Logging into Dell EMC Unisphere \(for VNX\)](#)..... 24
- [Enabling Link and Launch](#)..... 25
- [Enabling alerts](#)..... 27
- [Setting up the storage environment](#)..... 28
- [Setting up the control station](#)..... 29

## Logging into Dell EMC Unisphere (for VNX)

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### Note

Before using Unisphere (for VNX) with a Java version 9 on the client system, it is recommended that you follow the KB article (<https://support.emc.com/kb/514816>).

---

### Procedure

1. Use the following URL to open Dell EMC Unisphere (for VNX) **https://<control\_station>**

where <control\_station> is the hostname or IP address of the Control Station.

2. If a security alert appears about the array's security certificate, click **Yes** to continue.

If Dell EMC Unisphere (for VNX) is unable to validate the certificate, the software displays a certificate warning for that array. You can choose to accept the certificate for this session only or always, or you can reject the certificate. If you reject the certificate, you will not be able to log in to the array and the session ends. You will not be able to manage the array. Browser certificate acceptance dialog boxes vary from browser to browser. Later in the installation, an SSL certificate is created for the Control Station. This dialog box will not occur again.

3. In the login dialog box, type your username and password.

The default username and password is **nasadmin**. For security purposes, use unique credentials. You can change the password in Dell EMC Unisphere (for VNX) (**Settings > Security > User Management**).

4. In the login dialog box, select Scope to specify the scope of the arrays to be managed. The following options are available:
  - **Global**(default) indicates that all arrays in the storage domain and any remote domains can be managed. Global scope also indicates that the specified username is interpreted as a global user and is checked against the storage domain global user database
  - **Local** indicates that only the targeted array can be managed. Local scope also indicates that the specified username is interpreted as a local user and is checked against the targeted array's local user database.
5. Click **Login**.

When your user credentials are successfully authenticated, you can use Dell EMC Unisphere (for VNX) to manage eNAS. Dell EMC Unisphere (for VNX) uses these same credentials to log into each array in the domain.

If these credentials cannot be authenticated for a particular array, Dell EMC Unisphere (for VNX) adds the array to the system list as "not logged in." You can then log in by selecting the array and clicking Login on **All Systems > System List or All Systems > Domains** or selecting **Login** from the right-click menu in the **Select System** dialog box.



## Enabling Link and Launch

Link and Launch is a feature that establishes session-based credentials that enable you to link to and launch Unisphere for PowerMax windows within Dell EMC Unisphere (for VNX).

### Procedure

1. Ensure that the Unisphere for PowerMax host is configured and accessible through Solutions Enabler. The `/nas/symcli/bin/symcfg list -applications` command lists the Unisphere for PowerMax host (if configured and accessible).
2. Point the browser to the Unisphere for PowerMax host and log in as an administrative user.
3. Click **Settings** and select **Management > Link and Launch**.
4. Click **Create** to open the **Register Launch Client** dialog box.
5. Type a unique **Client ID**. Client IDs can be up to 75 alphanumeric characters.
6. Type a Password to associate with the client ID. Passwords can be up to 75 alphanumeric characters.
7. Retype the password to confirm it, and click **OK**.
8. Click **Settings** and select **Users and Groups > Local Users**.
9. Click **Create** to open the **Create local user** dialog box.
10. Type a unique username, description, and password.
11. Select the role as **Admin** and set Database storage analyzer to **Read only** and click **Ok**.
12. Point the browser to the Dell EMC Unisphere (for VNX) host (CS 0 IP address) and log in as **root** with **Scope** set to **Local**.
13. Navigate to **Storage**, and in the Configure **Unisphere for PowerMax** task list, click **Register Unisphere for PowerMax**.
14. In **Configure Unisphere PowerMax Credentials** specify the following information:
  - a. ID - Select the system ID.
  - b. Unisphere for PowerMax - Select the IP address of the Unisphere for PowerMax host.
  - c. Client ID - Type the ID that was previously created on the Unisphere for PowerMax host.
  - d. Client Password - Type the password that was previously created on the Unisphere for PowerMax host.
15. Click **Ok**.
16. Certification verification window appears, click **Ok** to save the certificate on client's computer.

When you have registered the Dell EMC Unisphere (for VNX) session on the Unisphere for PowerMax, you can click the Properties, Dashboard, Alerts, Performance, or Provision Storage buttons to access the corresponding Unisphere for PowerMax windows.

17. Click **File Dashboard**.

The error message `The eNAS on Symmetrix has not been authenticated` appears on the first time access to the File Dashboard.

- a. Click Ok.
- b. Click **Open Authentication dialog**.
- c. **Enter Credentials** window appears, and type the eNAS credentials to authenticate .

---

**Note**

Log out of Unisphere for PowerMax windows by using the logout button otherwise, you must wait a minute between launches from Dell EMC Unisphere (for VNX) and Unisphere for PowerMax windows. For registration, web browser should be opened with administrator privileges as it is required to store the certificate to Java keystore.

---

## Enabling alerts

To view file storage alerts in the Unisphere for PowerMax **File Dashboard**, you must first enable them:

### Procedure

1. Open Unisphere for PowerMax.
2. From the system selector, select **All Symmetrix**, and then select **Home > Administration > Alert Policies**.

The **Alert Policies** list view displays.

3. Select one or more policies and click **Enable**. File-related policies display **File** as the type.

## Setting up the storage environment

Before the eNAS-enabled arrays can be used by client systems to store data, you must create file systems, shares, and exports. Depending on the environment, you also may have to create users and groups. The Setup Wizard for File in Dell EMC Unisphere (for VNX) guides you through the process.

### Before you begin

To facilitate the process, it is recommended that you complete the [Setup worksheets](#) before launching the wizard.

To setup the storage environment:

### Procedure

1. Log into Unisphere (for VNX).
2. On the **Systems** view, under **Wizards**, click **Setup Wizard for File**.

The **Setup Wizard for File** appears.

It contains the following pages:

- **Begin Setup** configures the Control Station, with the Control Station host name, Control Station DNS settings, Control Station NTP and time zone, system licenses. You must be logged in as the root user to complete this step. The information for the Control Station host name and DNS Servers were pre-allocated during eNAS installation. These should not change.
- **Set Up Data Mover** (Skip this page; a default primary and secondary default configuration is provided by eNAS).
- **Set Up DM Networks Services** configures the Domain Name System (DNS) settings and Network Information Service (NIS) settings for the Data Movers. You must set up the network services for each Data Mover in the system, except for the standby Data Mover since it inherits network services from the primary DM when a failover is done.
- **Set Up DM Network Interface** requires the IP address, Maximum Transmission Unit (MTU) value, and Virtual LAN Identifier (VLAN ID) for the network interface. The device list is automatically populated with all the physical interfaces available to the Data Mover. Repeat this step as necessary to create multiple interfaces.
- **Create a File System** enters the file system name and the file system size. The storage pool used to allocate storage for the file system are the pools which have been created in Unisphere for PowerMax and assigned to eNAS. Only the storage pools with available space appear in the table. Repeat this step as necessary to create multiple file systems.
- **Create a CIFS Share** enters the share name and share properties.
- **Overview/Results** allows you to review the proposed changes and submit them to the system.

---

### Note

For more information on using the wizard, refer to its online help.

---

# Setting up the control station

To setup the control station:

## Procedure

1. Log into the control station with the following credentials:
    - Username: nasadmin
    - Password: nasadmin
- 

## Note

Dell EMC recommends that you change these credentials once you have finished setting up the control station. You can change the credentials in Unisphere (for VNX) (**Settings > Security > User Management**).

---

The **Begin Setup** wizard displays. The **Control Station Hostname** should be pre-populated with the hostname that was provided during eNAS installation

2. Complete the wizard steps. For field descriptions, refer to the wizard online help.



# CHAPTER 3

## eNAS management

This chapter introduces the software components used to manage and replicate an eNAS environment.

Topics include:

- [Unisphere for PowerMax](#)..... 32
- [Unisphere \(for VNX\)](#)..... 34
- [eNAS File Auto Recovery](#)..... 35

## Unisphere for PowerMax

Unisphere for PowerMax is a web-based application for configuring and managing VMAX and PowerMax storage systems. Unisphere for PowerMax and Unisphere for VMAX V8.0.1 and higher includes the following features to support integrated file services (eNAS):

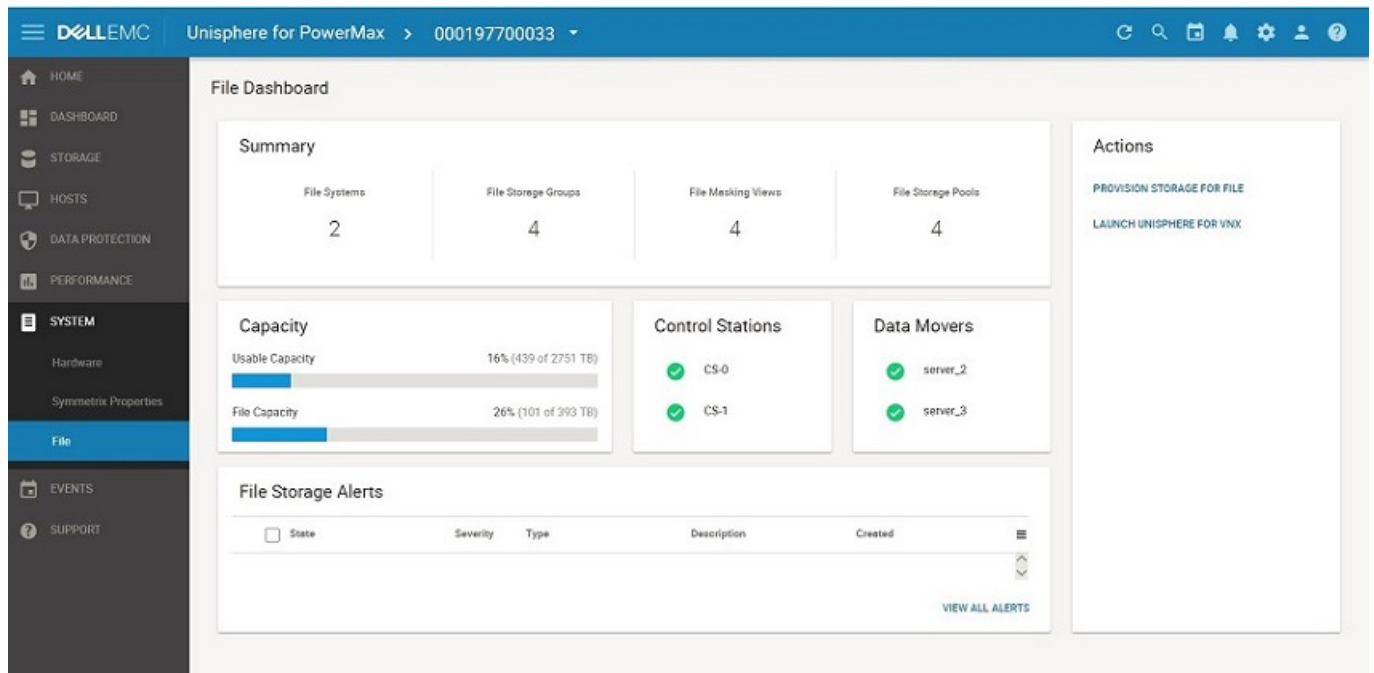
- **File Dashboard** — Provides a central location from which to monitor and manage eNAS storage.
- **Provision Storage for File Wizard** — Allows Storage Administrators to provision VMAX and PowerMax storage to eNAS data movers.

### File Storage dashboard

The **File Storage** dashboard provides a central place from which to monitor and manage eNAS. It provides access to the following file-related tasks:

- View Capacity details
- View and manage block and file assets
- Display the mapping of file systems to storage groups
- Provision storage for file systems
- View Data Mover health status
- View File Storage alerts
- Link and Launch to Dell EMC Unisphere for VNX

**Figure 1** Unisphere for PowerMax File Storage dashboard



The information and features of the **File Storage** dashboard are organized into the following panels:



- **Summary**—Displays the file systems associated with the file storage groups, the file storage groups associated with the file systems, and the masking views associated with the file storage groups.
- **Capacity**—Displays information on the free versus total capacity of the file storage groups, and the free versus total capacity for the file systems associated with the file storage groups.
- **Most Consumed Capacity**—Displays the file storage pools with the most consumed capacity.
- **Common Tasks**—Links to common file-related storage tasks.
- **Control Stations**—Displays the name and status of the control stations.
- **Data Movers**—Displays the name and status of the control station's data movers.
- **File Storage Alerts**—Details all alerts associated with the eNAS instance (file systems, storage groups, masking views).

---

#### Note

For more information on the **File Storage** dashboard, refer to its online help.

---

## Provision Storage for File wizard

The **Provision Storage for File** wizard in Unisphere for PowerMax guides you through the process of provisioning VMAX and PowerMax storage to eNAS datamovers. This process involves setting Service Level Objectives and Dynamic Host I/O Limits on the storage groups. Volumes added to file-based storage groups will be discovered during normal storage discovery (Diskmark) and mapped to their corresponding storage pools on the VNX:

- Devices in Storage Group with Service Level Objectives **and or or** Dynamic Host I/O Limits set to corresponding system mapped pools
- Devices in Storage Group with no Service Level Objectives and Dynamic Host I/O Limits set to system defined pool called `symm_dsl`

Diskmark also updates the properties for pools and file systems with changes that occur after the storage group is created. For example, when a Service Level Objective changes.

To access the wizard:

1. Select the storage system from the system selector.
2. Select **System > System Dashboard**.
3. In the **Summary** panel, click **File Dashboard**.
4. If prompted, type the username and password you use to access the eNAS control station, and click **OK**.
5. In the **Common Tasks** panel, click **Provision Storage for File** to open the **Provision Storage for File** wizard.

---

#### Note

For more information on the Provision Storage for File wizard, refer to its online help.

---

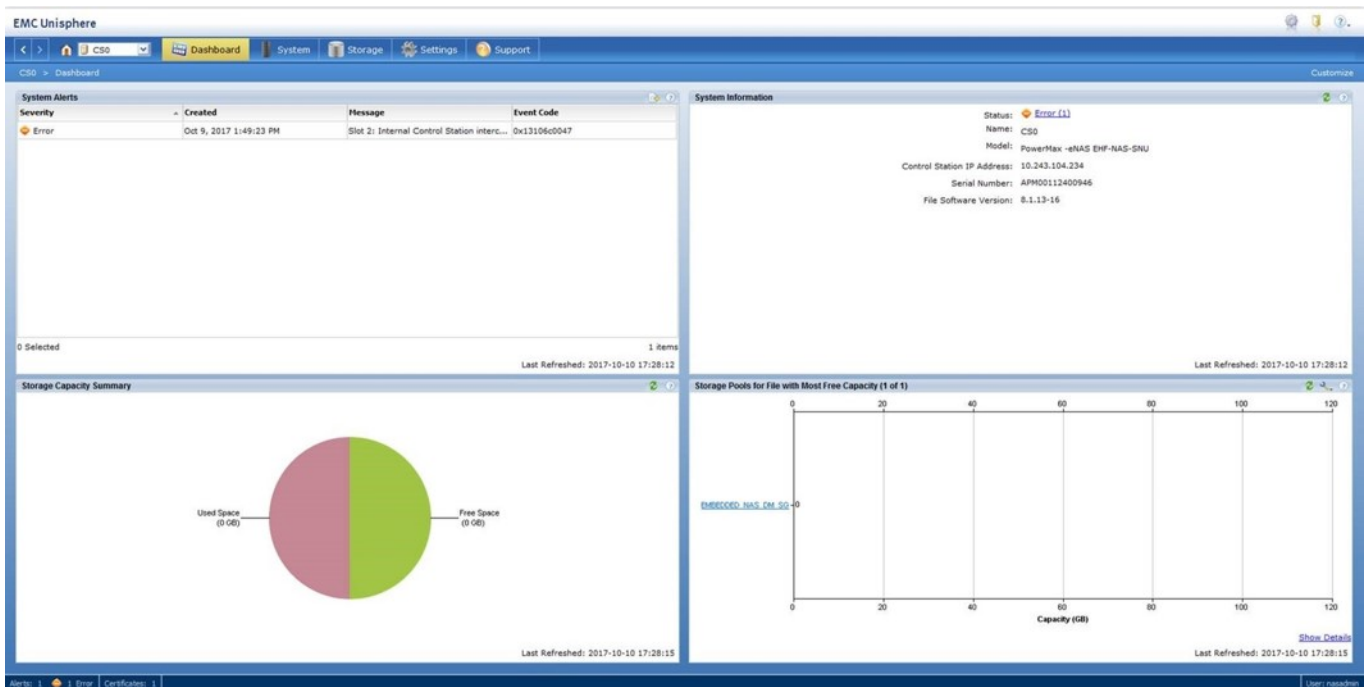
## Unisphere (for VNX)

Unisphere (for VNX) is the primary interface for managing eNAS. It provides access to all NAS active management tasks, such as share management, replication, and quotas.

Unisphere (for VNX) and Unisphere for PowerMax are linked using a context-sensitive link and launch feature, described in [Enabling Link and Launch](#) on page 25.

This is the same interface used for VNX OE File V8.1. For more information, refer to the VNX OE for File 8.1 documentation available on Dell EMC Online Support (<https://support.emc.com>).

**Figure 2** Unisphere (for VNX) Dashboard



### Note

For more information on Unisphere (for VNX), refer to its online help.

## eNAS File Auto Recovery

Introduced in HYPERMAX OS 5977.691.684, File Auto Recovery (FAR) allows you to manually failover or move a virtual Data Mover (VDM) from a source eNAS system to a destination eNAS system. The failover or move leverages block-level Symmetrix Remote Data Facility (SRDF) synchronous replication, so it invokes zero data loss in the event of an unplanned operation. This feature consolidates VDMs, file systems, file system checkpoint schedules, CIFS servers, networking, and VDM configurations into their own separate pools. This feature works for a recovery where the source is unavailable. For recovery support in the event of an unplanned failover, an option is provided to recover and clean up the source system and make it ready as a future destination.

The manually initiated failover and reverse operations can be performed using Dell EMC File Auto Recovery Manager (FARM). FARM allows you to automatically failover a selected sync-replicated VDM on a source eNAS system to a destination eNAS system. FARM also allows you to monitor sync-replicated VDMs and to trigger automatic failover based on Data Mover, File System, or IP network unavailability that would cause the NAS client to lose access to data.

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### Note

For information on FAR and FARM, refer to the *Dell EMC PowerMax Embedded NAS File Auto Recovery with SRDF/S* document available on Dell EMC Online Support (<https://support.emc.com>).

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