EMC VNXe

About Cisco UCS Director for EMC VNXe

Cisco UCS Director supports EMC VNXe storage accounts.

Note See the Compatibility Matrix for all supported VNXe versions.

For a VNXe account, you can manage the following:

• Storage Pools

• Host Initiators

• Logical Unit Numbers (LUNs)

The reports for VNXe accounts also include details on all of these items, and on storage processors, ports, meta LUNs, hosts, ports, and disk devices.

For a VNXe account, you can manage the following:

• Filesystems

• Common Internet File Servers (CIFS) servers

• Common Internet File Servers (CIFS) shares

• Network File System (NFS) exports

• DNS Domains

The reports available for VNXe accounts include system overview summaries.

Adding an EMC VNXe Account

Step 1   Choose **Administration** > **Physical Accounts**.

Step 2   On the **Physical Accounts** page, click **Physical Accounts**.

Step 3   Click **Add**.

Step 4   On the **Add Account** screen, complete the following fields:

Name	Description
Pod drop-down list	Choose the pod for this account. The pod can be one of the following types: • **Default Pod** • **Generic** • **VSPEX** • **Vblock**
Category drop-down list	Choose **Storage**.
Account Type drop-down list	Choose **EMC VNXe**.

Step 5   Click **Submit**.

Step 6   On the second **Add Account** screen, complete the following fields:

Name	Description
Account Name field	A unique name for this account.
Description field	A description of this account.
Server IP Address field	The IP address of the VNXe server.
Use Credential Policy checkbox	Check if you want to use a credential policy for this account rather than enter the username and password information manually.
Credential Policy drop-down list	If you checked **Use Credential Policy**, choose the credential policy that you want to use from this drop-down list. This field is only displayed if you choose to use a credential policy.
Username field	The username that this account uses to access the VNXe server. This username must be a valid account in the server. This field is not displayed if you chose to use a credential policy.

Name	Description
Password field	The password associated with the specified VNXe server username. This field is not displayed if you chose to use a credential policy.
Protocol drop-down list	The protocol must be **https**.
Port field	The port to be used to access the VNXe server. The default port is 443.
Connection Timeout (Seconds) field	The length of time in seconds that Cisco UCS Director will wait to establish a connection to the VNXe server before timing out. The default value is 45 seconds. The valid values are from 0 to 1800. An empty field or a value of 0 is interpreted as an infinite timeout.
Socket Read Timeout (Seconds) field	The length of time in seconds that Cisco UCS Director will wait for data from the VNXe server before timing out. The default value is 120 seconds. The valid values are from 0 to 1800. An empty field or a value of 0 is interpreted as an infinite timeout.
Contact field	The email address that you use to contact the administrator or other person responsible for this account.
Location field	The location of the contact.

Step 7   Click **Submit**.

Cisco UCS Director tests the connection to the VNXe server. If that test is successful, it adds the VNXe account and discovers all infrastructure elements in the storage system that are associated with that account. This discovery process and inventory collection cycle takes few minutes to complete.

The polling interval configured on the **System Tasks** screen on the **Administration** > **System** page specifies the frequency of inventory collection. For more information about configuring the polling interval, see the *Cisco UCS Director Network Devices Management Guide*.

Management Overview

VNXe is managed through the use of reports that are available within UCS Director. The following sections show how each report is used to manage each function within VNXe.

System Summary Report

The System Summary report displays the following details about the VNXe device:

- Pod Name

- Account Name

- Server Address

- Model

- Software Version

- Name

- Serial Number

- MAC Address

- Connection Status

Storage Processors Report

A Storage Processor is a hardware component that provides the processing resources for performing storage operations, such as creating, modifying and monitoring storage resources. Every VNXe storage system has two storage processors.

The report contains the following information:

- Name

- Model

- BIOS Firmware Revision

- Post Firmware revision

- Serial Number

- Part Number

- Service Mode

- SAS Expander Version

Disk Groups Report

In VNXe, physical disks are grouped into three groups:

- Extreme Performance

- Performance

- Capacity

This report provides the following information:

- Name

- Part Number

- Useable Disk Capacity

- Total Disk Capacity

- Tier Type

- Disk Technology

- Total Disks

- Free Disks

Storage Pools Report

A storage pool is a homogeneous or heterogeneous grouping of physical disks with each tier being disks of similar type and speed. A homogenous storage pool is a single tier pool using one type of disk. A heterogeneous storage pool consists of multiple tiers using different types of disks.

Creating a Storage Pool

Step 1	Choose **Physical** > **Storage**.
Step 2	On the **Storage** page, choose the pod.
Step 3	On the **Storage** page, click **Storage Accounts**.
Step 4	Click the row with the VNXe device on which you want to create a storage pool, and click **View Details**.
Step 5	Click **Storage Pools**.
Step 6	Click **Create**.
Step 7	On the **Create Storage Pool** screen, complete the following fields:

Name	Description
Name field	The storage pool name. If not specified, the name is autogenerated.
Description field	The description of the storage pool.
Extreme Performance Tier check box **Performance Tier** check box **Capacity Tier** check box	At least one tier must be configured by selecting the check box
RAID Type drop-down list	Choose the **RAID Type**. This can be one of the following: **RAID 5** **RAID 6** **RAID 1/0**

Name	Description
Stripe Width drop-down list	Choose the number of disks for the **Raid Type**. The options are: **4+1** **8+1** **12+1** **Maximum Capacity**
Disks Groups field	Choose a Disk Group from the list.
Number of Disks field	The number of disks to be used for this storage pool.
Alert Threshold field	Specify the alert threshold.
Enable FAST Cache check box	Check to enableFAST Cache, or else continue with disable option.
Enable FAST VP Schedule check box	Check to enable FAST VP Schedule, or else continue with disable option.

Step 8 Click **Submit**.

Modifying a Storage Pool

Step 1 Choose **Physical** > **Storage**.

Step 2 On the **Storage** page, choose the pod.

Step 3 On the **Storage** page, click **Storage Accounts**.

Step 4 Click the row with the VNXe device that contains the storage pool you want to modify, and click **View Details**.

Step 5 Click **Storage Pools**.

Step 6 Click the row with the storage pool that you want to modify.

Step 7 Click **Modify**.

Step 8 On the **Modify Storage Pool** screen, you can modify the following fields:

Name	Description
Name field	The storage pool name. Name can be modified. If not specified, the name is auto generated.
Description field	The description of the storage pool.
Alert Threshold field	Specify the alert threshold.

Name	Description
Enable FAST Cache check box	Check to enable FAST Cache.
Enable FAST VP Schedule check box	Check to enable FAST VP Schedule.

Step 9   Click **Submit**.

Expanding a Storage Pool

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device that contains the storage pool you want to expand, and click **View Details**.

Step 5   Click **Storage Pools**.

Step 6   Click the row with the storage pool that you want to expand.

Step 7   Click **Expand**.

Step 8   On the **Expand Storage Pool** screen, you can change the following fields to expand the storage pool capacity:

Name	Description
Extreme Performance Tier check box **Performance Tier** check box **Capacity Tier** check box	At least one tier must be configured by selecting the checkbox.
RAID Type drop-down list	Choose the **RAID Type**. This can be one of the following: **RAID 5** **RAID 6** **RAID 1/0**
Stripe Width drop down list	Choose the number of disks for the **Raid Type**. The options are: **4+1** **8+1** **12+1** **Maximum Capacity**

Name	Description
Disks Groups field	Choose a Disk Group from the list.
Number of Disks field	The number of disks to be used for this storage pool.
Enable FAST Cache check box	Check to enable FAST Cache.
Enable FAST VP Schedule check box	Check to enable FAST VP Schedule.

Step 9   Click **Submit**.

File Systems Report

A file system represents set of storage resources that provide network file storage. VNXe establishes a file system, either CIFS or NFS, that Windows users or Linux/UNIX hosts can connect to and use for file-based storage. Shares within the file system draw from the total storage that is allocated to the file system.

The File Systems report provides the following information:

- Name of the file system
- Storage Pool
- Type
- Total Capacity
- Used Capacity
- Protocols
- Description
- Thin Enabled
- Tiering Policy
- Deduplication

Creating a File System

Note Before you create a file system, at least one NAS server must exist on the storage system.

Step 1 Choose **Physical** > **Storage**.

Step 2 On the **Storage** page, choose the pod.

Step 3 On the **Storage** page, choose the pod.

Step 4 On the **Storage** page, click **Storage Accounts**.

Step 5 Click the row with the VNXe device on which you want to create a file system, and click **View Details**.

Step 6 Click **File Systems**.

Step 7 Click **Create**.

Step 8 On the **Create File System** screen, complete the following fields:

Name	Description
Storage Pool field	Select the storage pool from the list.
Name field	Name the file system.
Protocol drop-down list	Choose NFS or CIFS from the drop-down list.
NAS Server field	Select the NAS Server from the list.
Size field	Specify a size for the file system.
Capacity Units drop-down list	Choose MB, GB, or TB from the drop-down list.
Description field	File system description.
Tiering Policy drop-down list	Choose from the following in the drop-down list: Start High Then Auto-Tier Auto-Tier Highest Available Tier Lowest Available Tier
Thin check box **FLR Enabled** check box **Enable Deduplication** check box	Check as appropriate.

Step 9 Click **Submit**.

Modifying a File System

Step 1	Choose **Physical** > **Storage**.
Step 2	On the **Storage** page, choose the pod.
Step 3	On the **Storage** page, choose the pod.
Step 4	On the **Storage** page, click **Storage Accounts**.
Step 5	Click the row with the VNXe device on which you want to modify file system, and click **View Details**.
Step 6	Click **File Systems**.
Step 7	Click the row with the file system that you want to modify, and choose **Modify**.
Step 8	On the **Modify File System** screen, the following fields can be changed:

Name	Description
Size field	Specify a size for the file system.
Capacity Units drop-down list	Choose MB, GB, or TB from the drop-down list.
Description field	File system description.
Tiering Policy drop-down list	Choose from the following in the drop-down list: Start High Then Auto-Tier Auto-Tier Highest Available Tier Lowest Available Tier
Thin check box **FLR Enabled** check box **Enable Deduplication** check box	The check boxes that were checked when the file system was created will be displayed.

Step 9	Click **Submit**.

NFS Shares Report

Shares represent mount points through which users or hosts can access file system resources. Each share is associated with a single file system and inherits the file system protocol (CIFS or NFS) established for that file system.

This report provides the following information:

- Name

- File System

- Path

- Default Access

- Read Only

- No Access Hosts

- Read Only Hosts

- Read Write Hosts

- Root Access Hosts

- Description

- Tag

Creating an NFS Share

Step 1	Choose **Physical** > **Storage**.
Step 2	On the **Storage** page, choose the pod.
Step 3	On the **Storage** page, click **Storage Accounts**.
Step 4	Click the row with the VNXe device on which you want to create an NFS share, and click **View Details**.
Step 5	Click **NFS Shares**.
Step 6	Click **Create**.
Step 7	On the **Create NFS Share** screen, complete the following fields:

Name	Description
File System field	Select the file system from the list.
Path field	Local path to a location within the file system.
Name field	Type a name for the share.
Description field	Type a description of the share.
Default Access drop-down list	Choose the default access for the share. The options are: **No Access** **Read-Only** **Read/Write** **Read/Write, allow Root**
No Access Hosts field	Choose a Host or Hosts from the list.
Read Only Access Hosts field	Choose a Host or Hosts from the list.

Name	Description
Read Write Access Hosts field	Choose a Host or Hosts from the list.
Root Access Hosts field	Choose a Host or Hosts from the list.

Step 8   Click **Submit**.

Modifying an NFS Share

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device on which you want to modify an NFS share, and click **View Details**.

Step 5   Click **NFS Shares**.

Step 6   Click the row with the NFS share that you want to modify and choose **Modify**.

Step 7   On the **Modify NFS Share** screen, the following fields can be modified:

Name	Description
Description field	Type a description of the share.
Default Access drop down	Choose the default access for the share. The options are: **No Access** **Read-Only** **Read/Write** **Read/Write, allow Root**
No Access Hosts field	Choose a Host or Hosts from the list.
Read Only Access Hosts field	Choose a Host or Hosts from the list.
Read Write Access Hosts field	Choose a Host or Hosts from the list.
Root Access Hosts field	Choose a Host or Hosts from the list.

Step 8   Click **Submit**.

Create an NFS Datastore

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device on which you want to create an NFS datastore, and click **View Details**.

Step 5   Click **NFS Shares**.

Step 6   Click the row with the NFS share on which you want to create an NFS datastore and choose **Create Datastore**.

Step 7   On the **Create NFS Datastore** screen, complete the following fields:

Name	Description
Host Node field	Choose the host node or nodes from the list.
Datastore Name field	Type a name for the Datastore.
Access Modedrop-down list	Choose **Read/Write** or **Read Only**.
Success Criteria drop-down list	Choose **Mount successful at least on one host** or **Mount successful on all the hosts**.

Step 8   Click **Submit**.

LUNS Report

LUN storage resources provide hosts with access to general-purpose block-level storage through network-based iSCSI or Fibre Channel (FC) connections. With LUN storage, you can manage addressable partitions of block storage resources so that host systems can mount and use these resources (LUNs) over FC or IP connections.

This report provides the following information:

- Name
- Storage Pool
- Type
- Total Capacity
- Used Capacity
- WWN
- Description
- Thin Enabled

- Tiering Policy

- Default Node

- Current Node

- Tag

Creating a LUN

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device on which you want to create the LUN, and click **View Details**.

Step 5   Click **LUNs**.

Step 6   Click **Create**.

Step 7   On the **Create LUN** screen, complete the following fields:

Name	Description
Storage Pool field	Select the storage pool from the list.
Name field	Type a name for the LUN.
Size field	Specify the size of the LUN
Capacity Units drop-down list	Select from the drop-down list: **MB** **GB** **TB**
Description field	Type a description of the LUN.
Default Node drop-down list	Select the default node from the drop-down list: **Auto** **SP A** **SP B**
Tiering Policy drop down	Choose the tiering policy. The options are: **Start High then Auto-Tier** **Auto-Tier** **Highest Available Tier** **Lowest Available Tier**

Name	Description
Thin check box	Check to enable.
LUN Access Hosts field	Choose a Host or Hosts from the list.
Snapshot Access Hosts field	Choose a Host or Hosts from the list.
LUN and Snapshot Access Hosts field	Choose a Host or Hosts from the list.

Step 8   Click **Submit**.

Modifying a LUN

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device on which you want to modify a LUN, and click **View Details**.

Step 5   Click **LUNs**.

Step 6   Click the row with the LUN that you want to modify, and choose **Modify**.

Step 7   On the **Modify LUN** screen, the following fields can be modified:

Name	Description
Size field	Specify the size of the LUN
Capacity Units drop-down list	Select from the drop-down list: **MB** **GB** **TB**
Description field	Type a description of the LUN.
Default Node drop-down list	Select the default from the drop-down list: **Auto** **SP A** **SP B**

Name	Description
Tiering Policy drop-down list	Choose the tiering policy. The options are: **Start High then Auto-Tier** **Auto-Tier** **Highest Available Tier** **Lowest Available Tier**
Thin check box	Check to enable.
LUN Access Hosts field	Choose a Host or Hosts from the list.
Snapshot Access Hosts field	Choose a Host or Hosts from the list.
LUN and Snapshot Access Hosts field	Choose a Host or Hosts from the list.

Step 8   Click **Submit**.

Creating a VMFS Datastore

A VMFS datastore can be created from a LUN using the **Associate LUN As Datastore** action.

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device on which you want to create a VMFS datastore, and click **View Details**.

Step 5   Click **LUNs**.

Step 6   Click the row with the LUN from which you want to create a VMFS datastore, and choose **Create Datastore**.

Step 7   On the **Associate LUN As Datastore** screen, complete the following fields:

Name	Description
Host Node field	Choose the host node or nodes from the list. **Note** V-Center account are added under Virtual Accounts to show the Host node list.
Datastore Name field	Type a name for the datastore.
Initiator Type drop-down list	Choose **ISCSI or FCP**.

Name	Description
VDC Name drop-down list	Choose from list.
Success Criteria drop-down list	Choose **Mount successful at least on one host** or **Mount successful on all the hosts**.

Step 8   Click **Submit**.

Hosts Report

Host configurations are logical connections through which hosts or applications can access storage resources. Before a network host can access storage, define a configuration for it and associate it with a storage resource. \

VNXe supports the following types of host configurations:

- Individual host configurations: Specify access to storage resources on a host-by-host basis.
- Subnet and netgroup configurations: Configure access to storage resources for multiple hosts or network segments.
- VMware host configurations: Configure access to storage resources for individual ESX server hosts or groups of ESX servers managed by a common vCenter Server.

The Hosts report provides the following information about each host:

- Name
- Type
- OS Type
- Description

Creating a Host

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device on which you want to create a host, and click **View Details**.

Step 5   Click **Hosts**.

Step 6   Click **Create**.

Step 7   On the **Create Host** screen, complete the following fields:

Name	Description
Host Type drop-down list	Select the host type from the drop-down list.
Name field	Enter the name of the host.
Description field	Enter a description of the host.
OS Type field	Enter the OS type.

Step 8   Click **Submit**.

Modifying a Host

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device that contains the host you want to modify, and click **View Details**.

Step 5   Click **Hosts**.

Step 6   Click the row with the host you want to modify, and click **Modify**.

Step 7   On the **Modify Host** screen, the following fields can be changed:

Name	Description
Name field	Name of the host.
Description field	Enter a description of the host.
OS Type field	Enter the OS type.

Step 8   Click **Submit**.

Host Initiators Report

Initiators are endpoints from which iSCSI sessions originate. Any host bus adapter (HBA) can have one or more initiators registered on it. Each initiator is uniquely identified by its worldwide name (WWN or IQN).

The Host Initiators report provides the following information:

- Initiator Name
- Type
- Is Bound
- ISCSI Type
- Host
- Node WWN
- Port WWN
- CHAP Secret Enabled

The **Host Initiators Report** is located under the **Hosts** screen.

Creating a Host Initiator

VNXe supports iSCSI and FC initiators. The following information is required:

- WWN of FC Host Bus Adapter of the host
- ISCSI initiators
    - IQN of the iSCSI HBA on the host

○ CHAP username and CHAP secret (optional)

Step 1	Choose **Physical** > **Storage**.
Step 2	On the **Storage** page, choose the pod.
Step 3	On the **Storage** page, click **Storage Accounts**.
Step 4	Click the row with the VNXe device on which you want to create the host initiator, and click **View Details**.
Step 5	Click **Hosts**.
Step 6	Click the row with the host on which you want to create the host initiator, and click **View Details**.
Step 7	Click **Host Initiators**.
Step 8	Click **Create**.
Step 9	On the **Add Host Initiator** screen, complete the following fields:

Name	Description
Initiator Type drop-down list	Choose ISCSI or FC from the drop-down list.
IQN or WWN field	Specify the IQN for ICSCI access or the WWN for FC access.
CHAP User Name field	Specify the Chap User Name.
CHAP Secret field	Specify the Chap Secret.

| **Step 10** | Click **Submit**. |

Modifying a Host Initiator

For ISCSI initiators, CHAP information can be modified.

Step 1	Choose **Physical** > **Storage**.
Step 2	On the **Storage** page, choose the pod.
Step 3	On the **Storage** page, click **Storage Accounts**.
Step 4	Click the row with the VNXe device that contains the host intiator you want to modify, and click **View Details**.
Step 5	Click **Hosts**.
Step 6	Click the row with the host that contains the host intiator you want to modify, and click **View Details**.
Step 7	Click **Host Initiators**.
Step 8	Click the row with the host intiator you want to modify.
Step 9	Click **Modify**.
Step 10	On the **Modify Host Initiator** screen, the following fields can be modified:

Name	Description
CHAP User Name field	Specify the Chap User Name.
CHAP Secret field	Specify the Chap Secret.

Step 11   Click **Submit**.

Registering a Host Initiator

The "Register" action can be used to manually connect an initiator to its host.

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device that contains the host intiator you want to register, and click **View Details**.

Step 5   Click **Hosts**.

Step 6   Click the row with the host that contains the host intiator you want to register, and click **View Details**.

Step 7   Click **Host Initiators**.

Step 8   Click the row with the host intiator you want to register.

Step 9   Click **Register**.

Step 10   On the **Register Host Initiator** screen, click **Submit**.

Unregistering a Host Initiator

The "Unregister" action can be used to remove connected initiator paths.

Step 1	Choose **Physical** > **Storage**.
Step 2	On the **Storage** page, choose the pod.
Step 3	On the **Storage** page, click **Storage Accounts**.
Step 4	Click the row with the VNXe device that contains the host intiator you want to unregister, and click **View Details**.
Step 5	Click **Hosts**.
Step 6	Click the row with the host that contains the host intiator you want to unregister, and click **View Details**.
Step 7	Click **Host Initiators**.
Step 8	Click the row with the host intiator you want to unregister.
Step 9	Click **Unregister**.
Step 10	On the **Unregister Host Initiator** screen, click **Submit**.

Host Luns Report

The Host Luns report shows information about the relationship between the LUNs and the hosts.

The Host Luns report contains the following information:

- LUN Name

- Host

- Host LUN Identifier (HLU)

- Type

- Read Only

- Snapshot

The **Host Luns Report** is located under the **Hosts** screen.

Host Initiator Paths Report

The Host Initiator Paths report shows initiator available paths.

The Host Initiator Paths report contains the following information:

- Initiator Name

- Is Logged On

- Registration Type

- Ethernet Port

- FC Port

The **Host Initiators Paths Report** is located under the **Hosts** screen.

Host IP Ports Report

The Host IP Ports report shows the information about host connections.

The report contains the following information:

- Address

- Type

- Subnet Mask

- Host

The **Host IP Ports Report** is located under the **Hosts** screen.

Creating a Host IP Port

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device on which you want to create the host IP port, and click **View Details**.

Step 5   Click **Hosts**.

Step 6   Click the row with the host on which you want to create the host IP port, and click **View Details**.

Step 7   Click **Host IP Ports**.

Step 8   Click **Create**.

Step 9   On the **Create Host IP Port** screen, complete the following fields:

Name	Description
Network Address field	Enter the IP address or network name for the port.

Step 10   Click **Submit**.

Modifying a Host IP Port

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device contains the host IP port you want to modify, and click **View Details**.

Step 5   Click **Hosts**.

Step 6   Click the row with the host that contains the host IP port you want to modify, and click **View Details**.

Step 7   Click **Host IP Ports**.

Step 8   Click the row with the host IP port you want to modify.

Step 9   Click **Modify**.

Step 10   On the **Modify Host IP Port** screen, the following fields can be changed:

Name	Description
Network Address field	Enter the new IP address or network name for the port.

Step 11   Click **Submit**.

FC Ports Report

The FC ports report shows the available Fiber Channel ports information.

The report contains the following information:

- Name
- Storage Processor
- WWN
- Current Speed
- Requested Speed
- Available Speeds
- SFP Supported Speeds

Ethernet Ports Report

The Ethernet Ports report shows Ethernet port configuration information.

The report contains the following information:

- Name

- Storage Processor

- Current Speed

- Requested Speed

- Supported Speeds

- Port Number

- MAC Address

File Interfaces Report

The File Interfaces report contains information about network interfaces in the VNXe system. These interfaces control access to Windows (CIFS) and UNIX/Linux (NFS) file storage.

Creating a File Interface

Step 1	Choose **Physical** > **Storage**.
Step 2	On the **Storage** page, choose the pod.
Step 3	On the **Storage** page, click **Storage Accounts**.
Step 4	Click the row with the VNXe device on which you want to create a file interface and click **View Details**.
Step 5	Click **File Interfaces**.
Step 6	Click **Create**.
Step 7	On the **Create File Interface** screen, complete the following fields:

Name	Description
Select NAS Server field	Select the NAS Server from the list.
Ethernet Port field	Select the Ethernet Port from the list.
IP Address field	Specify an IP Address.
Gateway field	Specify a Gateway.
Net Mask field	Specify a Net Mask.
Prefix Length field	Specify a Prefix length.
VLAN ID field	Specify a VLAN ID.

Name	Description
Configuration drop-down list	Choose one of the following options from the drop-down list: • Global • Override • Local

Step 8   Click **Submit**.

Modifying a File Interface

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device that contains the file interface you want to modify and click **View Details**.

Step 5   Click **File Interfaces**.

Step 6   Click the row with the file interface you want to modify.

Step 7   Click **Modify**.

Step 8   On the **Modify File Interface** screen, the following fields can be modified:

Name	Description
Ethernet Port field	Select the Ethernet Port from the list.
IP Address field	Specify an IP Address.
Gateway field	Specify a Gateway.
Net Mask field	Specify a Net Mask.
Prefix Length field	Specify a Prefix Length.
vlan ID field	Specify a vlan ID.

Step 9   Click **Submit.**

ISCSI Nodes Report

The ISCSI nodes report shows information about available Ethernet ports that can be used for creating a ISCSI interface.

The report contains the following information:

- Name
- Ethernet Port
- Alias

ISCSI Interface Report

The ISCSI interface is necessary in order to access LUNs from Hosts through ISCSI access.

The report contains the following information:

- Port
- Port IQN
- IP Address
- Subnet Mask
- IP Protocol Version
- Prefix Length
- VLAN ID

Creating an ISCSI Interface

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device on which you want to create the ISCSI interface and click **View Details**.

Step 5   Click **ISCSI Interfaces**.

Step 6   Click **Create**.

Step 7   On the **Create ISCSI Interface** screen, complete the following fields:

Name	Description
ISCSI Node field	Select the ISCSI Node from the list.
IP Address field	Specify the IP address.
Subnet Mask field	Specify the Subnet Mask.

Name	Description
IPv6 Prefix Length field	Specify the IPv6 Prefix Length.
Gateway field	Specify the Gateway.
VLAN ID field	Specify the VLAN ID.

Step 8   Click **Submit**.

Modifying an ISCSI Interface

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device that contains the ISCSI interface you want to modify, and click **View Details**.

Step 5   Click **ISCSI Interfaces**.

Step 6   Click the row with the ISCSI interface you want to modify.

Step 7   Click **Modify**.

Step 8   On the **Modify ISCSI Interface** screen, the following fields can be modified:

Name	Description
IP Address field	Specify the IP address.
Subnet Mask field	Specify the Subnet Mask.
IPv6 Prefix Length field	Specify the IIPV6 Prefix Length.
Gateway field	Specify the Gateway.
VLAN ID field	Specify the VLAN ID.

Step 9   Click **Submit**.

Fast Cache Report

The FAST Cache is a large capacity secondary cache that uses SAS Flash disks to improve system performance by extending the storage system's existing caching capacity. You can configure individual storage pools to use the FAST Cache. When you do this, all storage resources created in those pools use the FAST Cache.

The report contains the following information:

- Name
- Description
- Number of Disks
- Free Capacity (GB)
- Total Capacity (GB)
- Raid Level
- Disk Type

Disk Report

Disks report shows the following information about available disks:

- Name
- Usuable Capacity (GB)
- Total Capacity (GB)
- Model
- Tier Type
- Disk Group
- Storage Pool
- WWN
- Manufacturer
- Disk Technology

Storage Pool FAST VP Report

The Storage Pool FAST VP report shows information about FAST VP settings for the selected storage pool.

The report contains the following information:

- Storage Pool
- Schedule Enabled
- Data Relocation State
- Data Relocation Type
- Data Relocation Rate
- Data Relocated (GB)
- Data Moving Up (GB)

• Data Moving Down (GB)

• Data Moving Within Tier (GB)

• Last Start Time

• Last End Time

Start Data Relocation

Data can be relocated using the "Start relocation" action.

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device with the storage pool on which you want to start data relocation and click **View Details**.

Step 5   Click **Storage Pools**.

Step 6   Click the row with the storage pool on which you want to start data relocation and click **View Details**.

Step 7   Click **Fast VP**.

Step 8   Click the row with the storage pool.

Step 9   Click **Start Relocation**.

Step 10   On the **Start Data Relocation** screen, complete the following fields:

Name	Description
Data Relocation Rate drop-down list	Choose one of the following from the drop-down list: • High • Medium • Low

Step 11   Click **Submit**.

Stop Data Relocation

Step 1 Choose **Physical** > **Storage**.

Step 2 On the **Storage** page, choose the pod.

Step 3 On the **Storage** page, click **Storage Accounts**.

Step 4 Click the row with the VNXe device with the storage pool on which you want to stop data relocation and click **View Details**.

Step 5 Click **Storage Pools**.

Step 6 Click the row with the storage pool on which you want to stop data relocation and click **View Details**.

Step 7 Click **Fast VP**.

Step 8 Click the row with the storage pool.

Step 9 Click **Stop Relocation**.

Step 10 On the **Stop Data Relocation** screen, click **Submit** .

Storage Pools Storage Tiers Report

The Storage pool Tiers report shows information about tiering configurations of selected storage pools.

The report contains the following information:

- Name
- Storage Pool
- Raid Type
- Stripe Width
- Free Capacity (GB)
- Total Capacity
- Used Capacity
- Data Moving Up (GB)
- Data Moving Down (GB)
- Data Moving Within Tier (GB)

Jobs Report

The Jobs Report lists all requests initiated in the system. It's used to check the progress of the request and the results.

The report contains the following information:

- ID

- Job Name

- Method Name

- Start Time

- Elapsed Time

- State Change

- Submit Time

- Progress%

- Current State

FAST VP Report

Fully Automated Storage Tiering for Virtual Pools (FAST VP) enables the system to retain the most frequently accessed or important data on fast, high-performance disks. FAST VP moves the less frequently accessed and less important data to lower-performance, cost-effective disks.

The report shows the details about FAST VP settings such as its Status, scheduled days, amount of data moved to high performance/capacity tiers, amount of data within the tier, etc.

Storage Tier Report

If FAST VP is installed on your system, you can create tiered storage pools, which consist of multiple disk types, such as Flash disks and SAS disks. Using a tiered pool optimizes disk utilization.

The report contains the following information:

- ID

- Tier Type

- Total Space (GB)

- Free Space (GB)

- Total Disks

- Unused Disks

- Tag

IP Interfaces Report

This report shows the IP Interfaces available and their IP Address, Subnet Mask, and what Ethernet Port on which each interface is running.

The report contains the following information:

- ID

- IP Address

- Netmask

- IP Protocol

- Prefix Length

- Ethernet PortID

- Tag

CIFS Server Report

It shows the details about the CIFS Server such as the file interface associated with it and its domain.

The report contains the following information:

- Name

- NAS Server

- WorkGroup

- File Interface

- NetBIOS Name

- Domain

- Organization

- SMBCA Support

- SMB MultiChannel

- SMB Protocol

- Tag

Creating a CIFS Server

Step 1	Choose **Physical** > **Storage**.
Step 2	On the **Storage** page, choose the pod.
Step 3	On the **Storage** page, click **Storage Accounts**.
Step 4	Click the row with the VNXe device on which you want to create the CIFS server, and click **View Details**.
Step 5	Click **CIFS Server**.
Step 6	Click **Create**.
Step 7	On the **Create CIFS Server** screen, complete the following fields:

Name	Description
Select NAS Server field	Select the NAS from the list.
NetBios Name field	Specify the NetBios name.
WorkGroup field	Specify a workgroup.
Local Admin Password field	Enter the Local Admin password.

Step 8   Click **Submit**.

Modifying a CIFS Server

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device that contains the CIFS server you want to modify, and click **View Details**.

Step 5   Click **CIFS Server**.

Step 6   Click the row with the CIFS server you want to modify.

Step 7   Click **Modify**.

Step 8   On the **Modify CIFS Server** screen, you can modify the following fields:

Name	Description
NetBios Name field	Specify the NetBIOS name.
WorkGroup field	Specify a workgroup.
Local Admin Password check box	Enter the Local Admin password.

Step 9   Click **Submit**.

CIFS Share Report

The report provides information about Common Internet File System (CIFS) shares in the storage system. The system uses Active Directory to authenticate user and user group access to the share.

The report contains the following information:

- ID

- CIFS Share Name

- Type

- Path

- Creation Time

- Continuous Availability

- CIFS Encrypted

- Read-Only?

- Modified Time

- File System

- CIFS Share Description

Creating a CIFS Share

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device on which you want to create the CIFS share, and click **View Details**.

Step 5   Click **CIFS Share**.

Step 6   Click **Create**.

Step 7   On the **Create CIFS Share** screen, complete the following fields:

Name	Description
File System field	Select the File System from the list.
Path field	Specify a path to a location in the file system.
Name field	Specify a name for the share.
Description field	Specify a description for the share.
CIFS Server field	Select a server from the list.
Is Read Only check box	When checked, enables read-only.
Is Encryption Enabled check box	When checked, enables CIFS encryption.
Is Continuous Availability Enabled check box	When checked, enables Continuous Availability.
Is Access Entry Enabled check box	When checked, enables Access Level Permissions.

Step 8   In the **Create CIFS Shares** dialog box, click **Submit.**

Modifying a CIFS Share

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device that contains the CIFS share you want to modify, and click **View Details**.

Step 5   Click **CIFS Share**.

Step 6   Click the row with the CIFS share you want to modify.

Step 7   Click **Modify**.

Step 8   On the **Modify CIFS Share** screen, the following fields can be changed:

Name	Description
Description field	Specify a description for the share.
Is Read Only check box	When checked, enables read-only.
Is Encryption Enabled check box	When checked, enables CIFS encryption.
Is Continuous Availability Enabled check box	When checked, enables Continuous Availability.
Is Access Entry Enabled check box	When checked, enables Access Level Permissions.

Step 9   Click **Submit**.

DNS Server Report

The DNS Server Report shows the DNS Configuration and list of IP addresses that correspond to the name servers in the domain.

The report contains the following information:

- ID

- DNS Domain Name

- Origin

- Addresses

- Tag

Modifying a DNS Server

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device that contains the DNS server you want to modify, and click **View Details**.

Step 5   Click **DNS Server**.

Step 6   Click the row with the DNS server.

Step 7   Click **Modify**.

Step 8   On the **Modify DNS Server** screen, the following fields can be changed:

Name	Description
Addresses field	Specify an address.
Origin drop-down list	Choose the DNS IP origin.

Step 9   Click **Submit**

NAS Server Report

This report contains the following information:

Storage Pool

Name

Mode

Used Space (GB)

Home Node

Current Node

Replication Enabled

Default Unix User

Default Windows User

MultiProtocol Enabled

Current Unix Directory

Creating a NAS Server

Step 1	Choose **Physical** > **Storage**.
Step 2	On the **Storage** page, choose the pod.
Step 3	On the **Storage** page, click **Storage Accounts**.
Step 4	Click the row with the VNXe device on which you want to create the NAS server, and click **View Details**.
Step 5	Click **NAS Server**.
Step 6	Click **Create**.
Step 7	On the **Create NAS Server** screen, complete the following fields:

Name	Description
Storage Pool field	Select the storage pool from the list.
Name field	Name the file system.
Mode drop-down list	Choose Normal or Destination from the drop-down list.
Storage Processor field	Select the storage processor from the list.

Step 8	Click **Submit**.

Modifying a NAS Server

Step 1	Choose **Physical** > **Storage**.
Step 2	On the **Storage** page, choose the pod.
Step 3	On the **Storage** page, click **Storage Accounts**.
Step 4	Click the row with the VNXe device that contains the NAS server you want to modify, and click **View Details**.
Step 5	Click **NAS Server**.
Step 6	Click the row with the NAS server you want to modify.
Step 7	Click **Modify**.
Step 8	In the **Modify NAS Server** dialog box, the following fields can be changed:

Name	Description
Name field	Enter a new name for the server.

Step 9	Click **Submit**.

NFS Server Report

The NFS Server report shows the details about NAS Server instance with NFS protocol and file interfaces supporting it.

The report includes:

- Name
- NAS Server
- File Interface
- File Interface Name

Creating an NFS Server

You create the NFS server by specifying NAS Server running NFS protocol.

Step 1	Choose **Physical** > **Storage**.
Step 2	On the **Storage** page, choose the pod.
Step 3	On the **Storage** page, click **Storage Accounts**.
Step 4	Click the row with the VNXe device on which you want to create the NFS server, and click **View Details**.
Step 5	Click **NFS Server**.
Step 6	Click **Create**.
Step 7	On the **Create NFS Server** screen, complete the following fields:

Name	Description
Select the NAS Server field	Select the NAS server from the list.

Step 8	Click **Submit**.

Routes Report

The Routes report contains details about the Static IP Routes.

The report shows the following information:

- ID
- Destination

• Netmask

• Gateway

• Prefix Length

• IP Interface ID

• Interface IP Address

Creating a Route

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device on which you want to create the route, and click **View Details**.

Step 5   Click **Routes**.

Step 6   Click **Create**.

Step 7   On the **Create Route** screen, complete the following fields:

Name	Description
IP Interface field	Select the IP interface from the list.
Type drop-down list	Choose Default, Host, or Subnet from the drop-down list.
Destination field	Specify the destination to be connected.
Gateway field	Enter the gateway address if it is a default route.
Net Mask field	Enter the net mask.

Step 8   Click **Submit**.

Modifying a Route

Step 1   Choose **Physical** > **Storage**.

Step 2   On the **Storage** page, choose the pod.

Step 3   On the **Storage** page, click **Storage Accounts**.

Step 4   Click the row with the VNXe device that contains the route you want to modify, and click **View Details**.

Step 5   Click **Routes**.

Step 6   Click the row with the route you want to modify.

Step 7   Click **Modify**.

Step 8   On the **Modify Route** screen, you can modify the following fields:

Name	Description
Type drop-down list	Choose Default, Host, or Subnet from the drop-down list.
Destination field	Specify the destination to be connected.
Gateway field	Enter the gateway address if it is a default route.
Net Mask field	Enter the net mask.

Step 9   Click **Submit**.