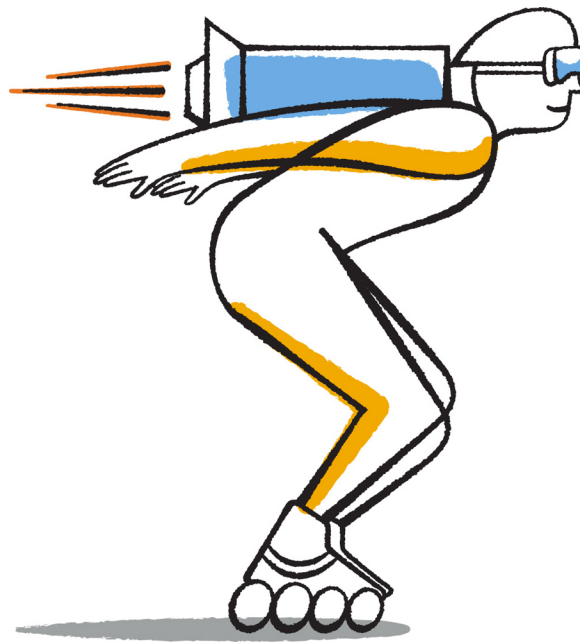




Updated for 8.3.1

## Clustered Data ONTAP® 8.3

### Express Setup Guide for 25xx Systems



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## Deciding whether to use this guide

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This guide describes how to quickly set up your FAS25xx series storage system for the first time, from opening the box to setting up the cluster in a NAS or SAN environment, using best practices and without a lot of background detail.

You should use this guide if you want to set up your system in the following way:

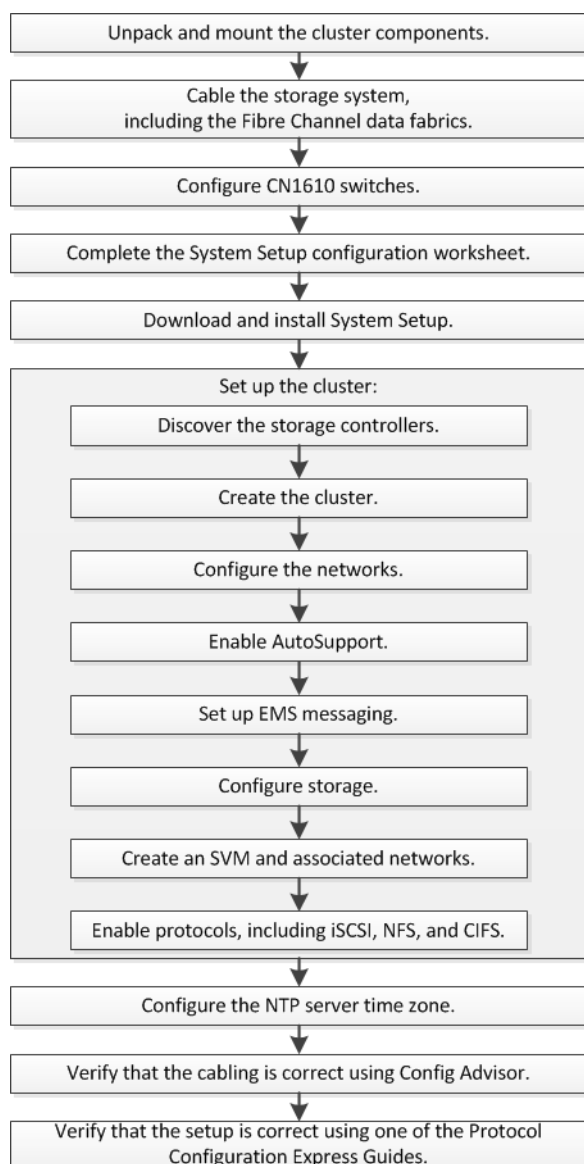
- You want to use best practices, not explore every available option.
- You do not want to read a lot of conceptual background.
- You want to set up a two-node switchless or four-node switched cluster.
- You want to use System Setup 3.1 or later, not the Data ONTAP command-line interface or an automated scripting tool.
- You are setting up your storage system for the first time and not upgrading.
- You want to use Config Advisor to verify that your cabling is correct.
- You are not setting up FCoE.
- You want System Setup to configure the node management ports for redundancy.
- You want System Setup to automatically configure the service processor network.
- You want System Setup to partition all disks using root-data partitioning.

If these assumptions are not correct for your situation, you should see the following resources:

- [\*Clustered Data ONTAP 8.3 Software Setup Guide\*](#)
- [\*Clustered Data ONTAP 8.3 Upgrade and Revert/Downgrade Guide\*](#)
- [\*Installation and Setup Instructions FAS2520 Systems\*](#)
- [\*Installation and Setup Instructions FAS2552 Systems\*](#)
- [\*Installation and Setup Instructions FAS2554 Systems\*](#)
- [\*NetApp Hardware Universe\*](#)
- [\*SAS Disk Shelves Universal SAS and ACP Cabling Guide\*](#)

## FAS25xx setup workflow

Setting up a 25xx system involves cabling the physical components and setting up the cluster software. You should then configure your protocols and verify that the system is operating.



## Unpacking the components

As you unpack the cluster components, it is important to track which disk shelves go with which storage controllers. Keeping track of this information and locating the disk shelves with their storage controllers simplifies cabling and ensures that each controller has its root volume and Data ONTAP software.

The factory labels the disk shelves with the storage controller to which they should connect.

## Locating the disk shelves for each controller

Before mounting the components, you must locate the external disk shelves that belong to each controller. The FAS25xx series comes with the root volume preinstalled on an internal drive instead of on a separate disk shelf.

### Before you begin

The components must not be in the rack or cabinet so that you can see the labels on the top of the component chassis.

### About this task

Each external disk shelf has a sticker on the top of its chassis that lists the serial number of the controller to which the shelf connects. The sticker also lists the stack number for configurations with more than one stack of disk shelves per controller.

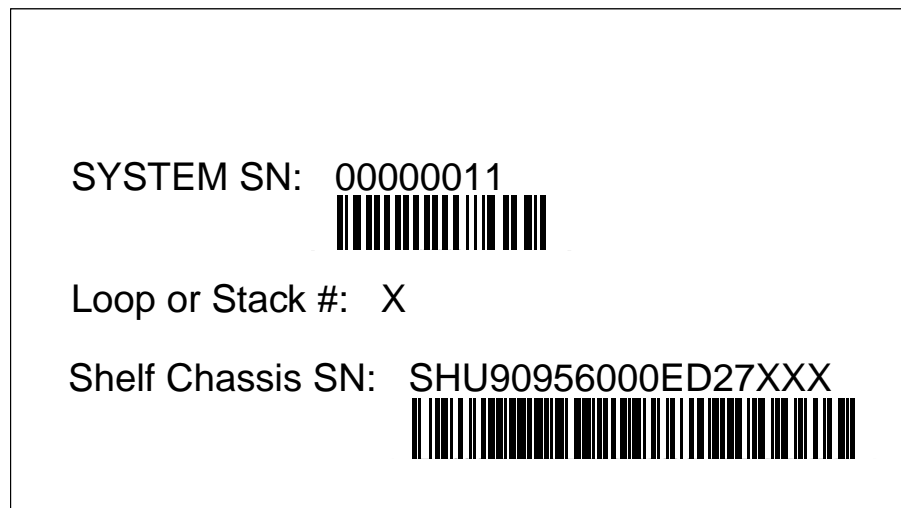
### Steps

1. As you unpack the external disk shelves and storage controllers, check the labels on the top of each chassis.

The SYSTEM SN is the identifier of the storage controller and the Shelf Chassis SN is the identifier of the disk shelf.

2. Using the label information, group or mark the external disk shelves and controllers so that you can cable the disk shelves to the correct storage controllers after the components are mounted.

The following illustration shows an example of the label for external disk shelves:



## Mounting the components

You should mount the components in the rack or cabinet in the recommended configurations to simplify cabling and service access.

### Switched and switchless configurations

The following configurations are valid:

- Two-node or four-node switched clusters

Always include the cluster interconnect, and optionally include management switches. For SAN access, optionally include FC switches.

- Two-node switchless clusters

Do not include cluster interconnect or management switches. For SAN access, optionally include FC switches.

**Note:** If you ordered the cluster in NetApp cabinets, the components are already mounted.

Root aggregates and volumes are created on partitions of some of the internal drives regardless of whether you ordered the cluster in a NetApp cabinet.

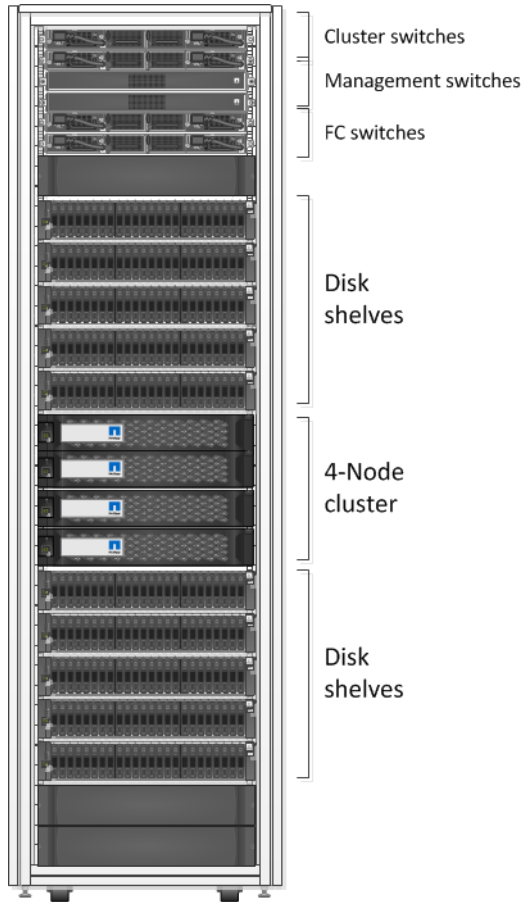
Each disk shelf has a label on the top of its chassis that lists the storage controller to which that disk shelf connects. Note that the label is not visible after mounting.

### Typical configuration

The cabinet contains the switches (if applicable), the disk shelves, and the controllers. The components are installed as follows:

- Cluster switches, always at the top
- Optional management switches
- Optional FC switches
- Disk shelves, first HA pair
- Two to four nodes
- Disk shelves, second HA pair

Blank plates are installed to cover any empty spaces in the cabinet:



## Cabling the 25xx system

Correctly cabling the system enables the components to communicate with each other and with the rest of your storage environment in both normal and failure conditions.

### Labeling the cables

You should label the cables to simplify future expansion and to make troubleshooting of the cluster easier. You can use the binder of labels that is included in the accessories box.

#### About this task

You can label the cables at any time during the installation process.

#### Steps

1. Using the labels in the binder supplied, label each end of each cable as required by your environment.  
You do not need to label the power cables.
2. Save the binder containing any remaining labels for future expansion of the cluster.



## Cabling the alternate control path and SAS disk shelf ports on storage systems with no external storage

The alternate control path (ACP) enables you to separate the control path from the data path, which increases reliability and simplifies troubleshooting. By cabling the serial-attached SCSI (SAS) ports, you can enable each controller in the HA pair to access its own disks and the disks of its partner controller.

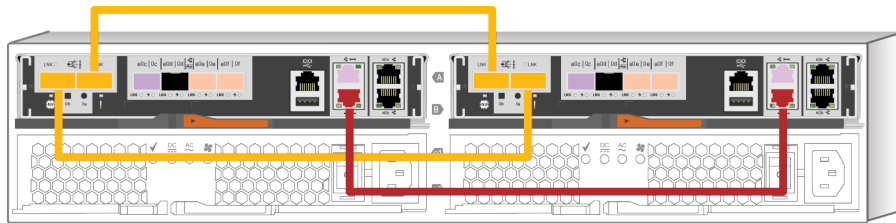
### About this task

The ACP cabling uses standard CAT6 Ethernet cables.

### Steps

1. Connect the ACP port on controller 1 to the ACP port on controller 2.
2. Connect the square SAS port on controller 1 to the circle SAS port on controller 2.
3. Connect the circle SAS port on controller 1 to the square SAS port on controller 2.

### Example



## Cabling the disk shelf alternate control path ports


The alternate control path (ACP) uses the ACP ports on the disk shelves to connect to the storage controllers. Having a control path that is separate from the data path increases reliability and simplifies troubleshooting.

### About this task

The ACP cabling uses standard CAT6 Ethernet cables.

### Steps

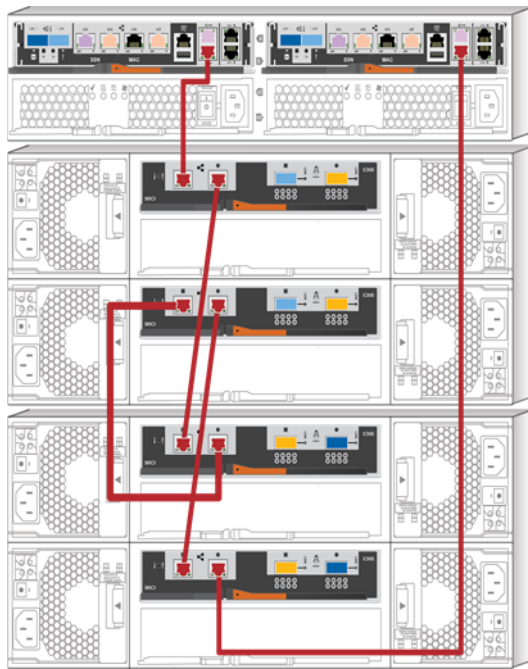
1. Connect the private management port e0P of controller 1 in an HA pair to the ACP port with the square symbol on the first disk shelf.

The e0P port is labeled with a wrench and padlock symbol (  ).

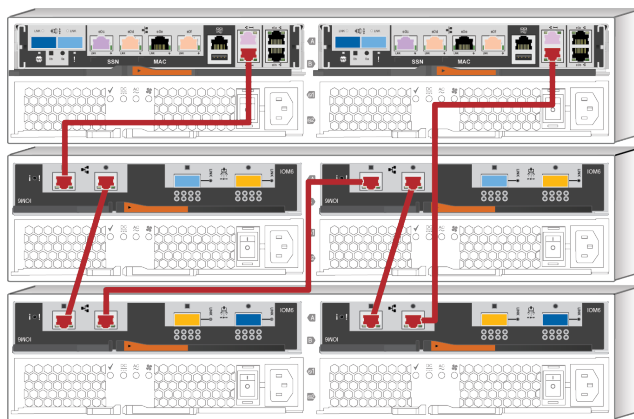
2. Connect the ACP port with the round symbol to the next ACP port with a square symbol.  
Continue in a daisy chain until all ACP ports for the shelves used by the HA pair are connected.
3. Connect the final ACP port with the round symbol to the private management port e0P of controller 2 in the HA pair.
4. Repeat for the other HA pairs in the cluster.

**Example**

The following diagram displays the ACP cabling for DS4246 disk shelves.



The following diagram displays the ACP cabling for DS2246 disk shelves.

**Related information**

[\*SAS Disk Shelves Universal SAS and ACP Cabling Guide\*](#)

**Cabling the disk shelf SAS data ports**

By cabling the serial-attached SCSI (SAS) ports, you can enable each controller in the HA pair to access its own disks and the disks of its partner controller.

**Before you begin**

You must have located and marked which disk shelves go with each storage controller.

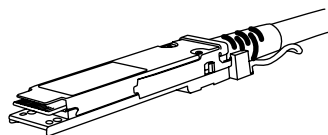
### About this task


Disk shelf cabling is always isolated within the HA pair that owns the disks. Disk shelves are never connected to other HA pairs in the cluster.

QSFP to QSFP SAS cables are used to connect disk shelves together and to connect disk shelves to the SAS ports on the controller.

**Attention:** It is possible to insert the QSFP connector incorrectly (upside down). The connector can slide in and even appear to click into place. However, the latch cannot engage unless the connector is inserted correctly. After inserting the cable, pull on the connector to ensure that it is latched.

For disk shelf I/O modules and controller onboard SAS ports, the cables must be inserted with the bottom of the connector facing down, as shown in the following image. The bottom of the connector is slightly longer than the top, and the latch release is typically on the bottom.



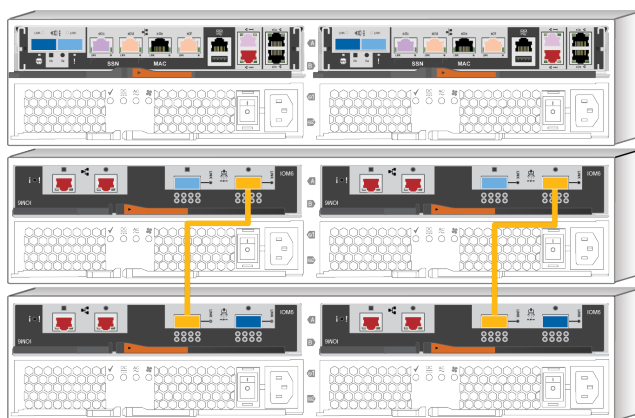
SAS ports on both controllers and disk shelves are indicated by the  SAS symbol.

### Steps

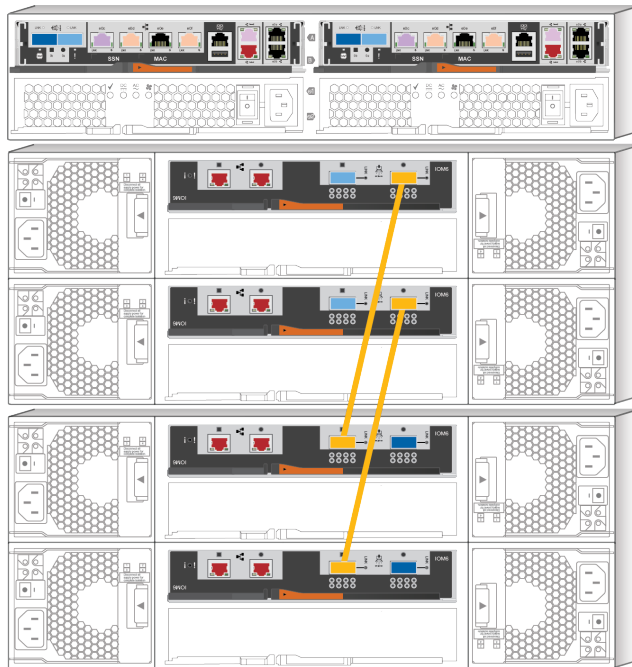
1. If your system has more than one disk shelf per stack, start with the first stack of disk shelves and cable the I/O modules of the stacks to each other:
  - a. Connect the IOM A SAS port with the circle symbol from the first shelf to the IOM A SAS port with the square symbol on the second shelf.
  - b. Continue connecting IOM A ports on the remaining disk shelves in the stack, from the ports with a circle symbol to the ports with a square symbol.
  - c. Connect the IOM B SAS port with the circle symbol from the first shelf to the IOM B SAS port with the square symbol on the second shelf.
  - d. Continue connecting IOM B ports on the remaining disk shelves in the stack, from the ports with a circle symbol to the ports with a square symbol.

### Example

The following example displays the DS2246 disk shelf cabling:



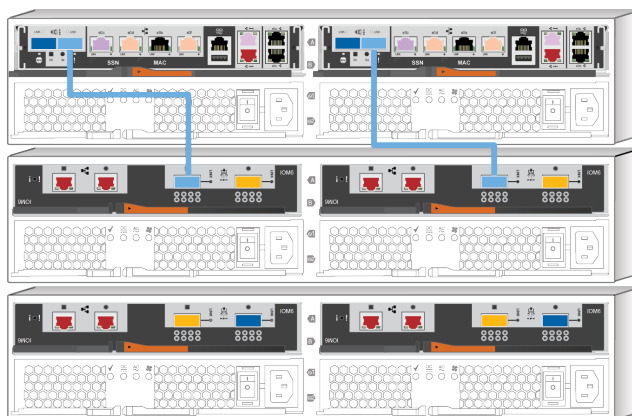
The following example displays the DS4246 disk shelf cabling:



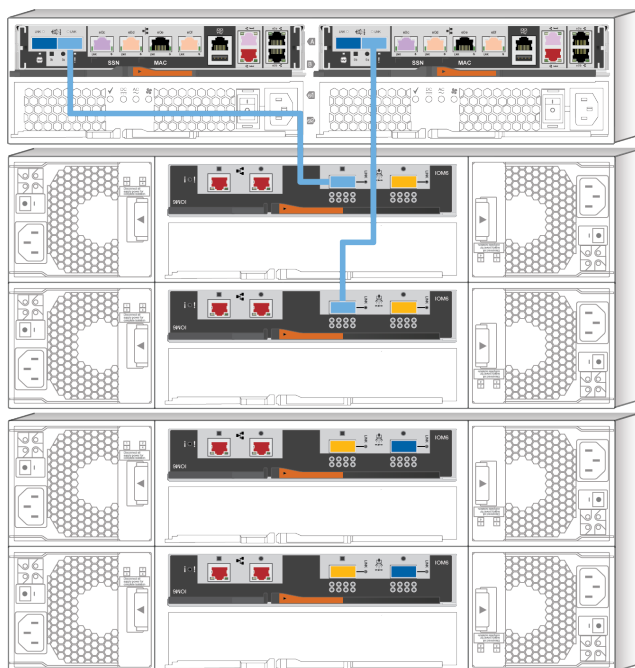
2. Connect the first set of controller-to-shelf SAS cables.
  - a. Connect the controller 1 SAS port with the circle symbol (0a) to the SAS port with the square symbol on the first disk shelf in the first stack.
  - b. Connect the controller 2 SAS port with the circle symbol (0a) to the SAS port with the square symbol on the second disk shelf in the first stack.

### Example

The following example displays the first set of controller-to-shelf cabling with DS2246 disk shelves:



The following example displays the first set of controller-to-shelf cabling with DS4246 disk shelves:



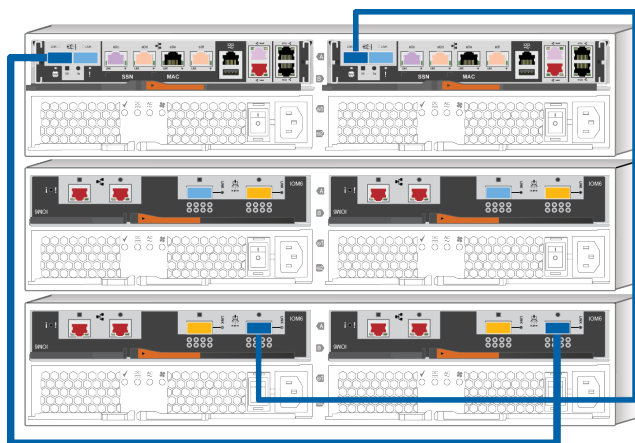
### 3. Connect the last set of controller-to-shelf SAS cables.

#### Example

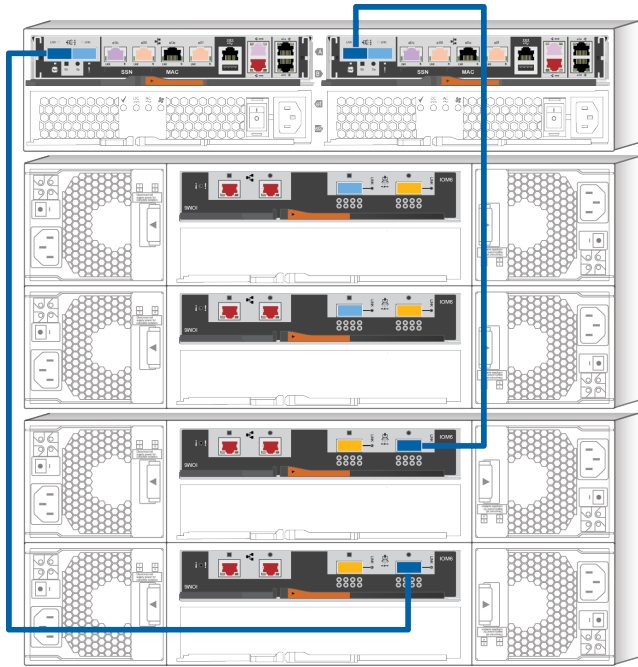
- Connect the controller 1 SAS port with the square symbol (0b) to the SAS port with the circle symbol on the last disk shelf in the first stack.
- Connect the controller 1 SAS port with the square symbol (0b) to the SAS port with the circle symbol on the next-to-last disk shelf in the first stack.

#### Example

The following example displays the last set of controller-to-shelf cabling with DS2246 disk shelves:



The following example displays the last set of controller-to-shelf cabling with DS4246 disk shelves:



4. Repeat all steps for the other HA pairs in the cluster.

**Related information**

[SAS Disk Shelves Universal SAS and ACP Cabling Guide](#)

**Cabling the private cluster interconnect for FAS25xx systems**

The private cluster interconnect enables the cluster nodes to communicate with each other and to move data within the cluster. The private cluster interconnect uses dedicated 10 GbE switches.

**About this task**

The private cluster interconnect uses either 10 GbE copper cables or SFP modules and optical cables. The required cables are supplied with the system.

The CN1610 switch is not supported with the FAS2520.

**Step**

1. Cable the private cluster interconnect, depending on your configuration.

If you have this configuration...	Then do this...
Two-node or four-node switched FAS2552 or FAS2554 series	<ol style="list-style-type: none"><li>a. Connect port e0e of the first storage controller to port 1 of the top cluster switch.</li><li>b. Connect port e0f of the first storage controller to port 1 of the bottom cluster switch.</li><li>c. Repeat for the other storage controllers in the cluster. Connect the second controller to port 2 of each switch, the third controller to port 3, and so on.</li></ol>

If you have this configuration...	Then do this...
Two-node switchless FAS2552 or FAS2554 series	<ol style="list-style-type: none"> <li>a. Connect port e0e of the first storage controller to port e0e of the second storage controller.</li> <li>b. Connect port e0f of the first storage controller to port e0f of the second storage controller.</li> </ol>
FAS2520 (two-node switchless configuration only)	<ol style="list-style-type: none"> <li>a. Connect port e0d of the first storage controller to port e0d of the second storage controller.</li> <li>b. Connect port e0f of the first storage controller to port e0f of the second storage controller.</li> </ol>

## Cabling the FAS25xx storage controller management ports


Cabling the storage controller management ports enables you to manage the cluster using the CLI or System Manager, after you have set up the cluster using System Setup. The private cluster switch management ports enable you to manage the switches.

### About this task

You can connect the controller and cluster switch management ports to existing switches in your network or to new dedicated network switches, such as NetApp CN1601 cluster management switches.

Cabling the management ports also enables System Setup to discover storage controllers when static node-management IP addresses are used.

### Steps

1. To cable the node management ports:
  - a. Connect port e0m of the first storage controller in HA pair to the first CN1601 switch.  
 Port e0m is the management port and is labeled with a wrench symbol ().
  - b. Connect port e0m of the second storage controller in the HA pair to the second CN1601 switch.
  - c. Repeat for the other HA pairs in the cluster.  
 The FAS2520 supports a two-node cluster only.
2. To cable the cluster management ports:
  - a. Connect port e0a of the first storage controller to the second CN1601 switch.
  - b. Connect port e0a of the second storage controller to the first CN1601 switch.
  - c. Repeat for the other HA pairs in the cluster.  
 The FAS2520 supports a two-node cluster only.
3. Connect the management port of the first private cluster switch to the CN1601 switch.
4. Connect the management port of the second private cluster switch to the other CN1601 switch.

## Cabling the private cluster ISLs for NetApp CN1610 switches

The four Inter-Switch Links (ISLs) between the two private cluster interconnect switches enable high availability of the cluster network.

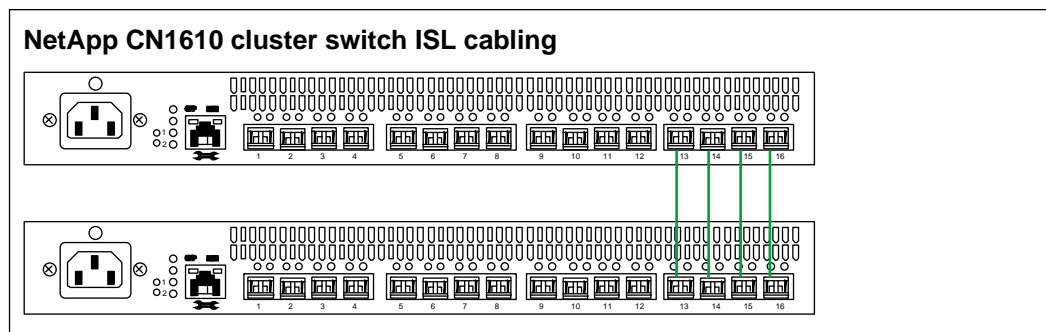
### About this task

The ISLs use 10 GbE copper cables. The required cables are supplied with the system.

### Steps

1. Connect port 13 of the top cluster switch to port 13 of the bottom cluster switch.
2. Repeat for ports 14 through 16.

There are four ISLs.



### Related information

[Clustered Data ONTAP 8.3 Network Management Guide](#)

## Cabling the Ethernet data networks

Ethernet ports on the storage controllers enable data traffic for NFS and CIFS. In a SAN environment, Ethernet ports also enable iSCSI initiators in your hosts to connect to the iSCSI targets in the storage controller using cables that you supply.

### About this task

You must connect to two or more separate networks for high availability. The specific controller ports you use depend on the controller model, bandwidth requirements, and the network speed and media. You can use more ports or faster ports for higher bandwidth.

Onboard UTA2 ports can be configured as either Ethernet or FC. Before cabling, verify that the ports are configured for Ethernet.

### Steps

1. Cable one or more Ethernet ports from the first storage controller to an Ethernet switch in your data network.
2. Cable one or more Ethernet ports from the first storage controller to a different Ethernet switch in your data network.
3. Repeat these steps for the other storage controllers in the cluster.
4. Record which storage controller ports connect to which switch ports in your network.



**Related information**

[Clustered Data ONTAP 8.3 Network Management Guide](#)

[Clustered Data ONTAP 8.3 SAN Administration Guide](#)

**Cabling the Fibre Channel data fabrics**

The FC ports on the storage controllers enable FC initiators in your hosts to connect to the FC targets in the storage controller using cables that you supply. You can also use the FC ports to connect to backup devices, such as tape drives.

**About this task**

You should use two or more separate fabrics for high availability. The specific ports you use depend on the controller model.

FC ports might default to initiator mode. For FC ports used as targets, you can change the port's type and mode from initiator to target after the node is running by using the `system node hardware unified-connect modify` command.

Onboard UTA2 ports can be configured as either Ethernet or FC, but you must use UTA2 ports to use FC. Before cabling, verify that the ports are configured for FC and have the correct SFP+ optical module installed. See the Hardware Universe for information about model numbers for SFP+ optical modules.

The FAS2520 does not have any onboard UTA2 ports and does not support FC.

**Steps**

1. Cable one or more FC ports from the first storage controller to an FC switch in your SAN.
2. Cable one or more FC ports from the first storage controller to an FC switch in a different SAN fabric.
3. Repeat these steps for the other storage controllers in the cluster.

**Related information**

[Clustered Data ONTAP 8.3 SAN Configuration Guide](#)

[Clustered Data ONTAP 8.3 SAN Administration Guide](#)

[NetApp Hardware Universe](#)

**Cabling the power supplies**

The power supplies provide the electrical power needed to operate the system. The storage components should connect to two independent power sources.

**About this task**

The supplied cables should fit the power receptacles in typical enclosures for your country. You might need to provide different cables.

All power supplies must be connected to a power source.

**Steps**

1. Connect the first power supply of each cluster component to the first power source in the enclosure or rack.
2. Connect the second power supply of each cluster component to a second power source in the enclosure or rack.

## Powering on switches and disk shelves

You should power on management and cluster switches, and disk shelves before running System Setup. Because System Setup prompts you to turn on your storage controllers, you should not power them on until prompted

### Steps

1. Power on the management switches.
2. Power on the cluster switches.  
You can set passwords and configure the switches for alerts after running System Setup.
3. Power on the disk shelves.
4. Inspect the disk shelf IDs to ensure that the factory set IDs are unique to each disk shelf in the storage system.

## Configuring CN1610 cluster interconnect switches

You should configure the cluster interconnect switch before use so that the switch can communicate over the management interface. Configuring the cluster interconnect switch includes setting a password, configuring the management network, and enabling the switch to send email alerts if an issue arises.

### Steps

1. Log in to the switch as admin and set a password.

#### Example

```
User:admin
Password:
(CN1610) >password
Enter old password:
Enter new password:*****
Confirm new password:*****

Password Changed!
```

2. Configure the switch management port address and hostname.

#### Example

```
(CN1601) >enable
Password:
(CN1601) #network protocol none
(CN1601) #network parms <<var_mgmt_switch_IP1>>
<<var_clustermgmt_netmask>> <<var_clustermgmt_gateway>>
(CN1601) #hostname <<var_clustername>>-sw03
```

3. Verify the configuration.

**Example**

```
(CN1601) #show network
Interface Status..... Up
IP Address..... 10.x.x.x
Subnet Mask..... 255.255.255.0
Default Gateway..... 10.x.x.x
IPv6 Administrative Mode..... Enabled
IPv6 Prefix is ..... fe80::2a0:98ff:fe4b:
8aa0/64
Burned In MAC Address..... 00:A0:98:4B:8A:A0
Locally Administered MAC address..... 00:00:00:00:00:00
MAC Address Type..... Burned In
Configured IPv4 Protocol..... None
Configured IPv6 Protocol..... None
IPv6 AutoConfig Mode..... Disabled
Management VLAN ID..... 1
```

**4. Configure DNS and network time synchronization.****Example**

```
(CN1601) #config
(CN1601) (Config)#ip domain name <<var_global_domain_name>>
(CN1601) (Config)#ip name server <<var_global_nameserver_IP1>>
<<var_global_nameserver_IP2>>
(CN1601) (Config)#ntp client mode unicast
(CN1601) (Config)#ntp server <<var_global_ntp_server_name1>>
(CN1601) (Config)#exit
(CN1601) #show ntp
```

**5. Configure email alerts.****Example**

```
(CN1610) #config
(CN1610) (Config)#mail-server <<var_mail_hosts_ip>>
(CN1610) (Mail-Server) #exit
(CN1610) (Config)#logging email 3
(CN1610) (Config)#logging email urgent 2
(CN1610) (Config)#logging email message-type both to-addr
<<var_storage_admin_email>>
(CN1610) (Config)#logging email from-addr <<var_storage_admin_email>>
(CN1610) (Config)#logging email message-type both subject "Alert from
<<var_clustername>>-sw01"
(CN1610) (Config)#exit
(CN1610) #show logging email config
(CN1610) #show mail-server all config
```

**6. Save the changes.****Example**

```
(CN1610) #write memory
(CN1610) #reload
```

**7. Repeat steps for the second switch.**

## Completing the System Setup configuration worksheet

The System Setup configuration worksheet enables you to record the values that you need to set up your cluster. If a default value is provided, you should use that value.

### About this task

You cannot restart System Setup so it is important to have complete information before beginning.

### Step

1. Download and complete the System Setup configuration worksheet.

Both the worksheet for Data ONTAP 8.2.x and 8.3 are contained in the PDF. You must use the Data ONTAP 8.3 portion of the worksheet.

*[System Setup for Clustered Data ONTAP Configuration Worksheet](#)*

## Downloading and installing System Setup

You must download and install System Setup before you can set up your cluster.

### About this task

You cannot restart System Setup, so it is important to have all of your information before beginning.

You should not power on your storage controllers until prompted by System Setup.

### Steps

1. Download System Setup 3.1 or later from the NetApp Support Site.

*[NetApp Downloads: System Setup for Windows](#)*

2. Install the software on your Windows client.
3. Cable the Windows client to the same management network as your controllers.

### Related information

*[NetApp Support](#)*

## Setting up the cluster using System Setup

You must use System Setup 3.1 or later to perform initial configuration of your cluster, including configuring your admin user authentication, creating cluster and node management interfaces, provisioning disks, creating SVMs, and configuring protocols.

### Steps

1. Launch System Setup.
2. Discover the storage controllers.

System Setup can take up to eight minutes to discover all nodes and configures cluster ports and cluster network interfaces, and validates intracluster switch networks and cluster switches.

If discovery fails, see the System Setup Release Notes.

## Example

☒ Discover normally    ☐ Search a range of IP addresses  
 Select this option if your storage system already has an IP address, such as from a DHCP server.

IP address range:  -

Discovered storage systems: Discovery complete

System Name	IP Address	Model	Version	Serial Number	Problems
701423	10.61.72.206	FAS8080	8.3.0	701423	
701422	10.61.72.207	FAS8080	8.3.0	701422	

3. Create the cluster.
4. Create and configure the management network.
  - a. Select the **Management** check box to create the cluster and node management network.
  - b. Select the **Service processor** check box to enable System Setup to assign service processor IP addresses.

Use this network for

☒ Management (3)  
     ☒ Cluster and node management  
     ☒ Service processor  
☐ SVM management and file access (1)  
     NFS, CIFS  
☐ iSCSI access (2)

- c. Select the management ports.

You should use ports e0M and e0a for node redundancy.

Node	e0M	e0a	e0b	e0c	e0d
smb-01	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
smb-02	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MTU:

The network with the management role cannot have an MTU size greater than 1500.

Management port:

Select a port for cluster and node management.

- d. Complete the management network information.
 

All IP addresses should use IPv4.
5. Click **Add Subnet** to create and configure additional data networks, including SVM management and file access, and iSCSI access.
 

You must define all IP addresses or address ranges used for this network.
6. Enable AutoSupport.
 

HTTPS is the default transport protocol.

7. Choose to receive critical alerts by email, SNMP trap, or Syslog Server.
8. Configure the storage.  
Dedicated disks are not required for root aggregates using root-data partitioning.
9. Create the initial data SVM and associated networks.
10. Enable protocols.  
System Setup does not configure FC protocol. If you use FC, you should configure it after completing System Setup tasks.
11. Verify the cluster configuration summary.

#### Related information

[NetApp Documentation: System Setup \(current releases\)](#)

## Synchronizing the system time across the cluster

Synchronizing the time ensures that every node in the cluster has the same time, and prevents CIFS and Kerberos failures.

#### Before you begin

A Network Time Protocol (NTP) server should be set up at your site.

#### About this task

You synchronize the time across the cluster by associating the cluster with one or more NTP servers.

#### Steps

1. Verify that the system time and time zone is set correctly for each node.  
All nodes in the cluster should be set to the same time zone.
  - a. Use the `cluster date show` command to display the current date, time, and time zone for each node.

#### Example

```
cluster1::> cluster date show
Node           Date           Time zone
-----
cluster1-01    01/06/2015 09:35:15 America/New_York
cluster1-02    01/06/2015 09:35:15 America/New_York
cluster1-03    01/06/2015 09:35:15 America/New_York
cluster1-04    01/06/2015 09:35:15 America/New_York
4 entries were displayed.
```

- b. Optional: Use the `cluster date modify` command to change the date or time zone for all of the nodes.

#### Example

This example changes the time zone for the cluster to be GMT:

```
cluster1::> cluster date modify -timezone GMT
```

2. Use the `cluster time-service ntp server create` command to associate the cluster with your NTP server.

#### Example

This example assumes that DNS has been configured for the cluster. If you have not configured DNS, you must specify the IP address of the NTP server:

```
cluster1::> cluster time-service ntp server create -server
ntp1.example.com
```

3. Verify that the cluster is associated with an NTP server:

```
cluster time-service ntp server show
```

#### Example

```
cluster1::> cluster time-service ntp server show
Server          Version
-----
ntp1.example.com  auto
```

## Using Config Advisor to verify cabling

You must download and install Config Advisor so that you can verify that your storage systems are cabled correctly.

### Downloading and installing Config Advisor

You must install the Config Advisor tool so that you can verify that your system is cabled correctly.

#### Before you begin

You must have a laptop that you can connect to the cluster.

#### About this task

If you need support for the Config Advisor tool, you must follow the procedure in the tool's online Help topic "Reporting issues in Config Advisor." The Config Advisor tool is not supported by the typical NetApp support process.

#### Step

1. Download the Config Advisor software and its documentation, and follow the installation instructions in the documentation.

[NetApp Downloads: Config Advisor](#)

### Verifying cabling

You can use the Config Advisor tool to verify that the cluster is cabled correctly.

#### About this task

If you require support for the Config Advisor tool, you must follow the procedure in the tool's online Help topic "Reporting issues in Config Advisor". The Config Advisor tool is not supported by the typical NetApp support process.

Additional verification of the system is completed as part of the protocol configuration process.

**Steps**

1. Connect the laptop that contains Config Advisor to the management network for the cluster.
2. Optional: Change the IP address of your laptop to an unused address on the subnet for the management network.
3. Start Config Advisor, and then select the profile **Clustered Data ONTAP**.
4. Select the cluster switch model.
5. Enter the requested IP addresses and credentials.
6. Click **Collect Data**.

The Config Advisor tool displays any problems found. If problems are found, you must correct them and run the tool again.

## Completing protocol configuration and verifying cluster setup

After System Setup enables protocols and creates a Storage Virtual Machine (SVM), you must complete the protocol configuration by using one or more of the protocol Express Guides. System Setup does not support FC, so to configure it and to verify FC cabling, you must use one of the FC Configuration Express Guides.

**Step**

1. Follow the instructions in one or more of the protocol Express Guides.
  - [\*Clustered Data ONTAP 8.3 CIFS and NFS Multiprotocol Configuration Express Guide\*](#)  
Describes how to quickly configure shared CIFS/SMB and NFSv3 client access to the same files contained in a new volume in either a new SVM or an existing SVM in clustered Data ONTAP 8.3.
  - [\*Clustered Data ONTAP 8.3 CIFS/SMB Configuration Express Guide\*](#)  
Describes how to quickly configure CIFS/SMB client access to files contained in a new volume in either a new SVM or an existing SVM in clustered Data ONTAP 8.3.
  - [\*Clustered Data ONTAP 8.3 NFS Configuration Express Guide\*](#)  
Describes how to quickly configure NFSv3 client access to files contained in a new volume in either a new SVM or an existing SVM in clustered Data ONTAP 8.3.
  - [\*Clustered Data ONTAP 8.3 iSCSI Configuration for Windows Express Guide\*](#)  
Describes how to quickly create a LUN in a Data ONTAP 8.3 cluster and connect it to a host running Windows Server 2008 or Window Server 2012 using iSCSI.
  - [\*Clustered Data ONTAP 8.3 iSCSI Configuration for ESX Express Guide\*](#)  
Describes how to quickly create a LUN in a Data ONTAP 8.3 cluster and connect it to a host running ESX 5.x using iSCSI.
  - [\*Clustered Data ONTAP 8.3 iSCSI Configuration for Red Hat Linux Express Guide\*](#)  
Describes how to quickly set up the iSCSI service on an SVM, provision a LUN, and make the LUN available using an iSCSI initiator on a Red Hat Linux host computer.
  - [\*Clustered Data ONTAP 8.3 FC Configuration for Windows Express Guide\*](#)  
Describes how to quickly create a LUN in a Data ONTAP 8.3 cluster and connect it to a host running Windows Server 2008 or Window Server 2012 using FC.



- [\*Clustered Data ONTAP 8.3 FC Configuration for ESX Express Guide\*](#)  
Describes how to quickly create a LUN in a Data ONTAP 8.3 cluster and connect it to a host running ESX 5.x using FC.
- [\*Clustered Data ONTAP 8.3 FC Configuration for Red Hat Linux Express Guide\*](#)  
Describes how to quickly set up the FC service on an SVM, provision a LUN, and make the LUN available using an FC HBA on a Red Hat Linux host computer.

## Where to find additional information

After you have finished initial setup, you can continue configuring the cluster using additional resources.

- [\*NetApp Documentation: Clustered Data ONTAP Express Guides\*](#)  
Specific express guides describe how to configure protocols and to verify setup.
- [\*Clustered Data ONTAP 8.3 Network Management Guide\*](#)  
Describes how to configure and manage physical and virtual network ports (VLANs and interface groups), LIFs using IPv4 and IPv6, routing, and host-resolution services in clusters; optimize network traffic by load balancing; and monitor the cluster by using SNMP.
- [\*Clustered Data ONTAP 8.3 Physical Storage Management Guide\*](#)  
Describes how to manage physical storage resources for FlexVol volumes and Infinite Volumes in clusters, including disks, RAID groups, and aggregates.
- [\*Clustered Data ONTAP 8.3 System Administration Guide\*](#)  
Describes general system administration of a cluster, including the CLI interface, cluster access, node management, Storage Virtual Machine (formerly Vserver) setup, user account management, event monitoring, and performance evaluation.
- [\*Clustered Data ONTAP 8.3 Cluster Management Using OnCommand System Manager\*](#)  
A printable version of System Manager online Help that describes how to configure, manage, and monitor storage objects and storage systems running clustered Data ONTAP.

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