Before You Begin

Unpack Storage Center Equipment
A Dell EMC SCv3000 series storage system includes:
- Documentation
- Storage system
- Front bezel
- Rack rails
- Power cables (2)
- USB cables (2)

Develop a Configuration Plan
Before installing the storage hardware, develop a configuration plan where you can record host server information, switch information, and network information.

Record System Information
- System management IPv4 address for Storage Center
- IPv4 address of the MGMT port on each storage controller
- Domain name
- DNS server address

Consider Plans for Multipath/Failover
Redundancy is provided by fault domains, which allow alternate paths if a path fails. Fault domains are determined by the number of independent fabrics. Each switch carries a separate fault domain. If a port fails, any port within the same fault domain takes over for the failed port.

Dell EMC recommends using multipathing, so that volumes are mapped to ports in more than one fault domain.

More Information
For operating system, host bus adapter (HBA), and switch requirements, refer to the Dell Storage Compatibility Matrix located in the Knowledge Base at www.dell.com/support.

Fault domains provide fault tolerance at the storage controller level. Dell EMC recommends using redundant cabling to avoid a single point of failure.

1. Identify the protocol being used to connect the host servers to the disk array.
2. Refer to the diagram below that corresponds to the proper protocol. These cabling guidelines ensure the configuration has redundancy and failover capability.

Cable the Host Servers to the Storage System
Fault domains provide fault tolerance at the storage controller level. Dell EMC recommends using redundant cabling to avoid a single point of failure.

1. Install the NIC or iSCSI HBAs in the host servers.
2. Connect each host server to both switches.
   - Connections shown in orange belong to fault domain 1.
   - Connections shown in blue belong to fault domain 2.
3. Connect fault domain 1 (in orange) to switch 1.
   - Top storage controller: port 1 to switch 1
   - Top storage controller: port 3 to switch 1
   - Bottom storage controller: port 1 to switch 1
   - Bottom storage controller: port 3 to switch 1
4. Connect fault domain 2 (in blue) to switch 2.
   - Top storage controller: port 2 to switch 2
   - Top storage controller: port 4 to switch 2
   - Bottom storage controller: port 2 to switch 2
   - Bottom storage controller: port 4 to switch 2

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4. Connect fault domain 2 (in blue) to switch 2.
   - Top storage controller: port 2 to switch 2
   - Top storage controller: port 4 to switch 2
   - Bottom storage controller: port 2 to switch 2
   - Bottom storage controller: port 4 to switch 2

Mount the Chassis and Optional Enclosures

Install the Bezel

Connect to Management Network

The Ethernet management port provides access to the Storage Center and is used to send emails, alerts, SNMP traps, and support data.

1. Connect the Ethernet management port on the top storage controller to the Ethernet switch.
2. Connect the Ethernet management port on bottom storage controller to the Ethernet switch.
Cable the Backend

To add capacity to your storage system, you can connect SCv300, SCv320, or SCv360 expansion enclosures to an SCv3000 series storage system.

**NOTE:** The system is installed without expansion enclosures, do not interconnect the back-end SAS ports on the storage controller.

### Cable SCv300 or SCv320 Expansion Enclosures

To connect SCv300 or SCv320 expansion enclosures to the storage system:

- **Chain 1: A Side (Orange)**
  1. Connect port 1 on the top storage controller to port 1 on the top EMM of the first expansion enclosure.
  2. Connect the remaining expansion enclosures in series from port 2 to port 1 using the top EMMs.
  3. Connect port 2 on the top EMM of the last expansion enclosure to port 2 on the bottom storage controller.

- **Chain 1: B Side (Blue)**
  1. Connect port 1 on bottom storage controller to port 1 on the bottom EMM of the first expansion enclosure.
  2. Connect the remaining expansion enclosures in series from port 2 to port 1 using the bottom EMM.
  3. Connect port 2 on the bottom EMM of the last expansion enclosure to port 2 on the top storage controller.

### Cable SCv360 Expansion Enclosures

To connect SCv360 expansion enclosures to the storage system:

- **Chain 1: A Side (Orange)**
  1. Connect port 1 on the top storage controller to port 1 on the left EMM of the first expansion enclosure.
  2. Connect the remaining expansion enclosures in series from port 3 to port 1 using the left EMMs.
  3. Connect port 3 on the left EMM of the last expansion enclosure to port 2 on the bottom storage controller.

- **Chain 1: B Side (Blue)**
  1. Connect port 1 on bottom storage controller to port 1 on the right EMM of the first expansion enclosure.
  2. Connect the remaining expansion enclosures in series from port 3 to port 1 using the right EMM.
  3. Connect port 3 on the right EMM of the last expansion enclosure to port 2 on the top storage controller.

### Connect Power Cables

**CAUTION:** Make sure that the power switches are in the OFF position before connecting the power cables.

1. Connect the power cables to both power supply/cooling fan modules in the storage system chassis.
2. Use the velcro straps to secure the power cables to the storage system chassis.
3. Plug the other end of the power cables into a grounded electrical outlet or a separate power source such as an uninterrupted power supply (UPS) or a power distribution unit (PDU).

### Power on Storage System Components

1. Power on any network switches, routers, or other standalone components.
2. Power on any expansion enclosures that might be a part of the system.
3. Power on the storage system by turning on both power supply/cooling fan modules.

### Discover and Configure the Storage Center

The Unisphere web interface provides access to the setup wizards. The wizards help you remotely discover and configure storage systems.

**To access the Initialize Storage Center wizard from the Data Collector**

1. Open a web browser.
2. Type the address of the Data Collector in the browser using the following format: `https://Data Collector host name or IP address:3033/`
3. Type the user name and password of a Data Collector user in the User Name and Password fields.
4. Click Log In.

**To access the Initialize Storage Center wizard by connecting directly to a Storage Center**

1. Open a web browser.
2. Type the service tag or IP address of the Storage Center in the browser using the following format: `https://Storage Center service tag or IP address/`
3. Type Admin in the User Name field.
4. Type the password in the Password field.
5. Click Log In.

**NOTE:** The Storage Center must be installed on a DHCP-enabled network.

**CAUTION:** Do not power off the storage system until it is discovered with the Dell Storage Manager Client. During the initial power up, the storage system might take up to twenty minutes to boot completely.

### Connect the Power Cables

**CAUTION:** Make sure that the power switches are in the OFF position before connecting the power cables.

1. Connect the power cables to both power supply/cooling fan modules in the storage system chassis.
2. Use the velcro straps to secure the power cables to the storage system chassis.
3. Plug the other end of the power cables into a grounded electrical outlet or a separate power source such as an uninterrupted power supply (UPS) or a power distribution unit (PDU).

### Attach the Host Servers

Refer to the Dell EMC Storage Compatibility Matrix for a list of supported iSCSI network adapters.

#### Windows and Linux Hosts

- Install the iSCSI HBAs or network adapters, install the drivers, and make sure that the latest supported BIOS is installed.
- Install the iSCSI HBAs or network adapters dedicated for iSCSI traffic in the host servers.
- Install supported iSCSI HBA drivers and make sure that the latest supported firmware.
- Use the iSCSI cabling diagrams to cable the host servers to switches. Connecting host servers directly to the storage system without using Ethernet switches is not supported.
- Assign IP addresses to each switch for each switch for each switch.
- Make sure to assign the correct IP addresses to the HBAs or network adapters. Assigning IPs to the wrong ports can cause connectivity issues.
- **NOTE:** If using jumbo frames, enable and configure jumbo frames on all devices in the data path.

#### VMware ESXi Hosts

- Install the iSCSI HBAs or network adapters (NICs) and make sure that the latest supported BIOS is installed.
- Install the iSCSI HBAs or NIC dedicated for iSCSI traffic in the ESXi hosts.
- Use the iSCSI cabling diagrams to cable the ESXi hosts to switches. Connecting ESXi hosts directly to the storage system without using Ethernet switches is not supported.
- Create a VMkernel port for each iSCSI HBA or NIC to be used for iSCSI.
- Assign IP addresses for each adapter port to the switch for each switch for each switch.
- **CAUTION:** Make sure to assign the correct IP addresses to the HBAs or network adapters. Assigning IPs to the wrong ports can cause connectivity issues.
- **NOTE:** If using jumbo frames, enable and configure jumbo frames on all devices in the data path: adapter ports, switches, and storage system.
- If using the software iSCSI initiator and the server has iSCSI offload, the iSCSI hardware initiator must be disabled.
- If using iSCSI HBAs, configure Network Port Binding to add the VMkernel ports to the iSCSI Storage Adapters. Do not bind NICs to the software initiator.
- If using software iSCSI initiator, add the Storage Center’s iSCSI target IPs to the Dynamic Discovery.

**Configure Host Access to a Storage Center**

1. For Windows and Linux servers, click the Configure this host to access a Storage Center wizard and log in to the Storage Center.
2. For VMware ESXi servers, click Configure VMware vSphere to access a Storage Center.

#### Notes, Cautions, and Warnings

- **NOTE:** Indicates important information that helps you make better use of your product.
- **CAUTION:** Indicates potential damage to hardware or loss of data and tells you how to avoid the problem.
- **WARNING:** Indicates a potential for property damage, personal injury, or death.