Installing drives

If the drives shipped separately from the enclosure, install them in the enclosure now. If the drives are already installed in the enclosure, you are ready to install the bezel.

Installing a drive

About this task

NOTE: If you are installing multiple drives in a system that is powered up, wait at least 10 seconds before sliding the next drive into position.

NOTE: Drives must be installed from left-to-right starting with the first available slot.

Steps

1. Align the drive with the guides in the slot.
2. With the latch fully opened, gently push the drive into the slot.
   The latch begins to rotate downward when it meets the enclosure.
3. Push the orange button until the drive is fully seated in the slot.
4. Push the latch down until it locks into place.

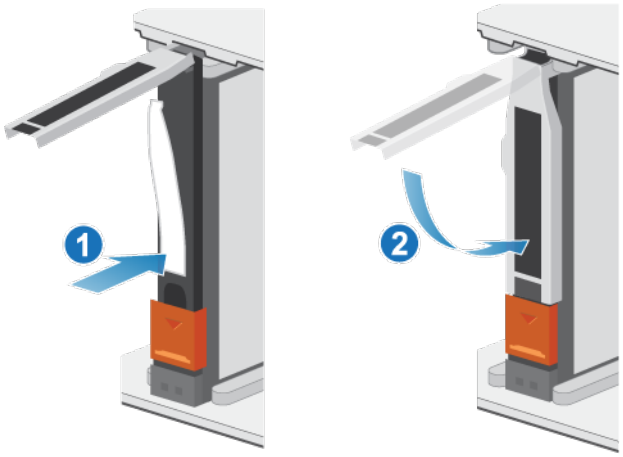


Figure 45. Installing a drive

The activity light flashes to indicate that the spin-up sequence has begun.

Installing the front bezel

Prerequisites

CAUTION: If the protective plastic strip is present on the front of the bezel, it must be removed before placing the system into operation. Failure to remove the protective plastic strip will cause the system to overheat.

About this task

Refer to Installing the bezel while performing the procedure that follows.

Steps

1. If present, remove the protective plastic strip from the front of the bezel.
2. Align the bezel with the enclosure.
3. Gently push the bezel into place on the cabinet until it latches.

4. If the bezel has a key lock, lock the bezel with the provided key.

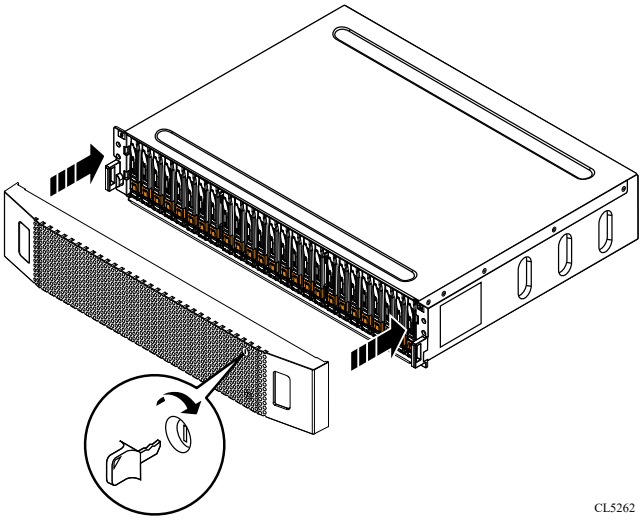


Figure 46. Installing the bezel

2

Base enclosure service procedures

The base enclosure contains customer-replaceable components. Follow these procedures to safely replace a failed component.

NOTE: Review the information in Safety precautions for handling replaceable units before handling replaceable parts.

Topics:

Replace a faulted drive in the base enclosure

Take the following actions to remove a faulted drive and install the replacement drive into the base enclosure.

Identify a faulted drive from PowerStore Manager

Before you replace a drive, ensure that you have identified its location within the system. Using PowerStore Manager, you can identify and locate a faulted drive.

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance that includes the drive that you need to replace.
3. On the **Components** card, under **Drives**, expand **BaseEnclosure** and select the faulted drive.
   Faulted parts appear in red in the image of the system, and report a status of `Faulted` in the **State** field.
4. Click **Blink LED**.
   The amber fault light on the drive starts blinking.

Remove a faulted 2.5" drive

Steps

1. Locate the drive with the blinking amber LED fault light.
2. If you are removing an NVMe NVRAM drive, push the latch cover up.

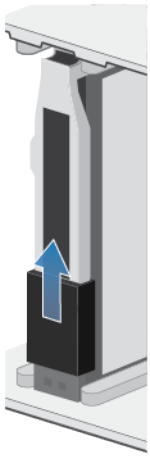


Figure 47. Pushing the latch cover up

3. Push down the orange button to release the latch.
4. Remove the drive from the slot.

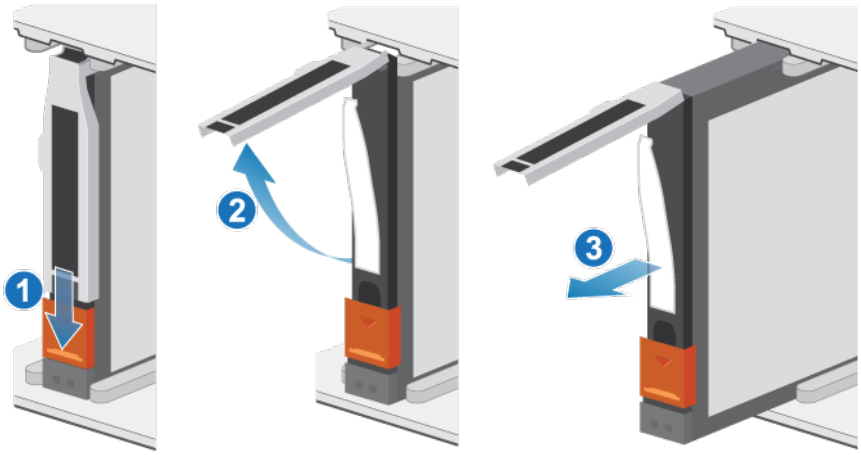


Figure 48. Removing a 2.5" drive

5. Place the drive on a static-free surface.

Install a 2.5" drive

About this task

NOTE: If you are installing multiple drives in a system that is powered up, wait at least 10 seconds before sliding the next drive into position.

NOTE: NVMe SSD and NVMe SCM drives must be installed from left-to-right starting with the first available slot.

NOTE: NVMe NVRAM drives are used for system caching and can only be installed in the last four slots (21 through 24) of the base enclosure. In configurations that only use two NVMe NVRAM drives, slots 21 and 22 must remain empty.

Steps

1. Align the drive with the guides in the slot.
2. With the latch fully opened, gently push the drive into the slot.
   The latch begins to rotate downward when it meets the enclosure.

3. Push the orange button until the drive is fully seated in the slot.
4. Push the latch down until it locks into place.

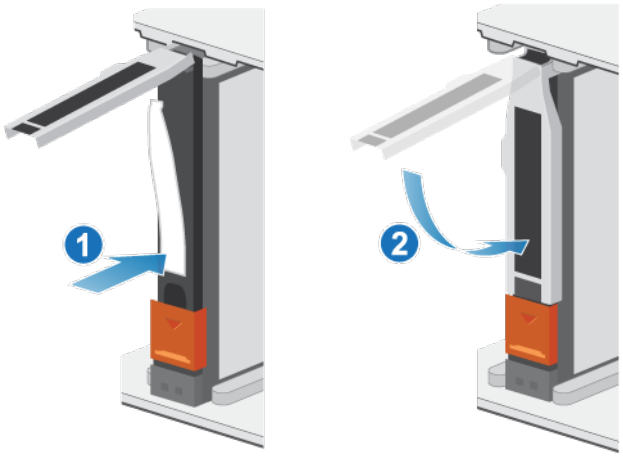
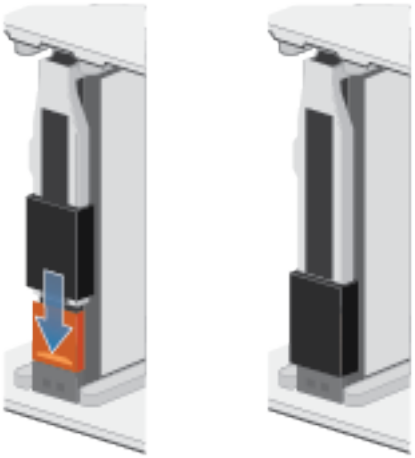


Figure 49. Installing a 2.5" drive

5. If you are installing an NVMe NVRAM drive, push the latch cover into place.



The activity light flashes to indicate that the spin-up sequence has begun.

Verify the operation of a replacement drive

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance where you replaced the drive.
3. On the **Components** card, under **Drives**, expand **BaseEnclosure** and select the drive.
   The status of the replacement drive should read `Healthy`. If the status is still `Faulted`, wait a few minutes and refresh PowerStore Manager. If the status does not change, ensure that the drive is correctly seated, or contact your service provider.
4. Click **Stop Blink LED**.

Return a faulted part

About this task

For US customers, return defective material within five business days. For International customers, return defective material within 10 business days. The materials required to return your defective part are supplied with the good part shipment.

Steps

1. Package the faulted part in the shipping box that contained the replacement part.
2. Ship the failed part to your service provider as described in the instructions that were included with the replacement part.
3. For more information about returning customer-replaceable parts:
   a. Open PowerStore Manager.
   b. Click **Settings** on the upper right of the screen.
   c. Click **General Support**.
   d. Under **Drives, Power Supplies, and Other Parts**, click **Return Part**.
   e. If your screen does not show the Return Part link, contact your service provider for instructions.

Add a new drive to the base enclosure

Take the following actions to add a new drive to the base enclosure.

CAUTION: Do not add drives to powered off systems. For details, see Dell knowledge base article 000187118.

Removing the front bezel

Steps

1. If the bezel has a lock, insert the key that shipped with your enclosure into the lock, and turn the key to unlock the bezel.
2. Press the two latch buttons on the bezel surface to release the bezel from the cabinet.
3. Pull the bezel off the cabinet and put it on a clean, static-free surface.

Remove a drive filler module

Steps

1. Insert your finger into the cutout on the drive filler module.
2. Pull the filler module out of the slot.

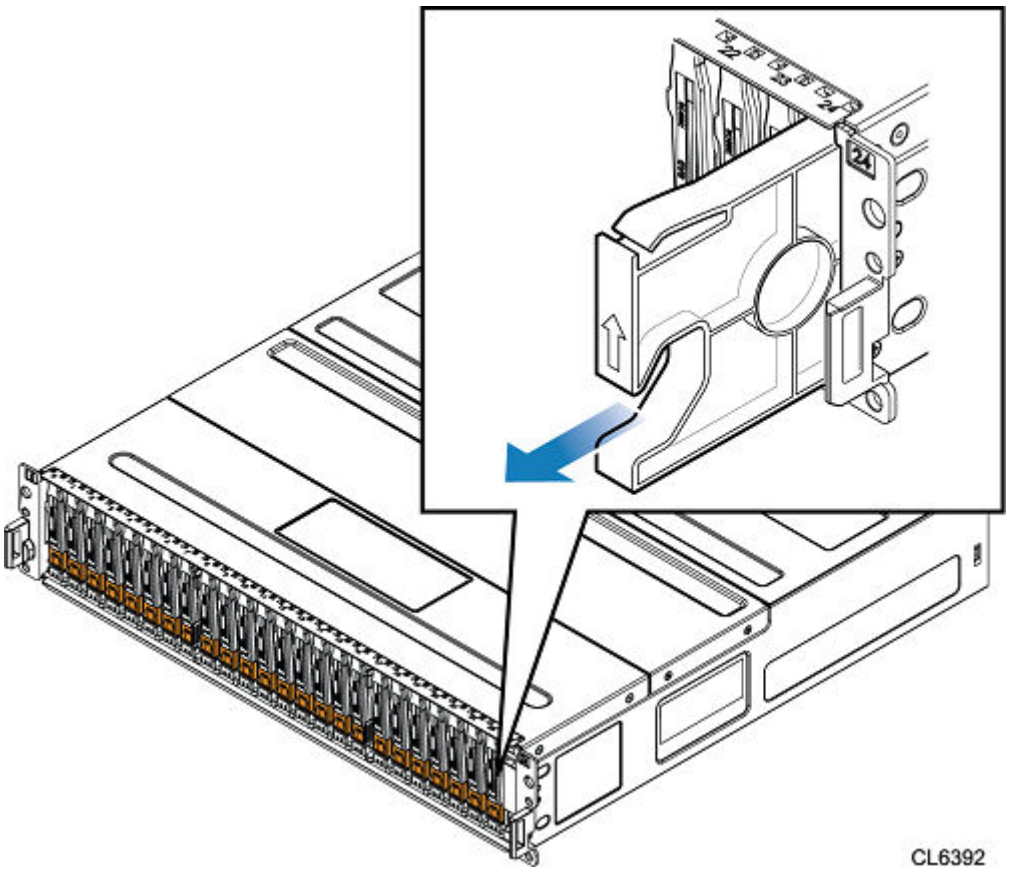


Figure 50. Removing a drive filler module

Install a 2.5" drive

About this task

NOTE: If you are installing multiple drives in a system that is powered up, wait at least 10 seconds before sliding the next drive into position.

NOTE: NVMe SSD and NVMe SCM drives must be installed from left-to-right starting with the first available slot.

NOTE: NVMe NVRAM drives are used for system caching and can only be installed in the last four slots (21 through 24) of the base enclosure. In configurations that only use two NVMe NVRAM drives, slots 21 and 22 must remain empty.

Steps

1. Align the drive with the guides in the slot.
2. With the latch fully opened, gently push the drive into the slot.
   The latch begins to rotate downward when it meets the enclosure.
3. Push the orange button until the drive is fully seated in the slot.
4. Push the latch down until it locks into place.

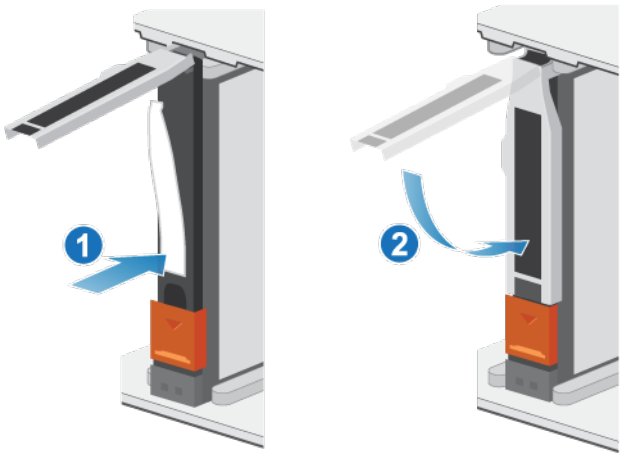
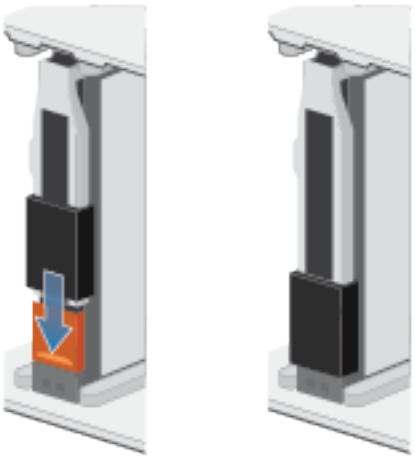


Figure 51. Installing a 2.5" drive

5. If you are installing an NVMe NVRAM drive, push the latch cover into place.



The activity light flashes to indicate that the spin-up sequence has begun.

Verify the operation of an added drive

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance where you added the drive.
3. On the **Components** card, under **Drives**, expand **BaseEnclosure** and select the drive.
   The status of the drive should read `Healthy`. If the status is still `Faulted`, wait a few minutes and refresh PowerStore Manager. If the status does not change, ensure that the drive is correctly seated, or contact your service provider.

Replace an AC power supply

Take the following actions to remove the faulted power supply and install the replacement power supply into the system.

Identify a faulted power supply from PowerStore Manager

Before you replace a power supply, ensure that you have identified its location within the system. Using PowerStore Manager, you can identify and locate a faulted power supply.

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance that includes the power supply that you need to replace.
3. On the **Components** card, under **Rear View**, expand **BaseEnclosure**.
4. Expand the node that includes the power supply, and then select **PSU0**.
   Faulted parts appear in red in the image of the system, and report a status of `Faulted` in the **State** field.

Base enclosure power supply LEDs

Use the fault LEDs to identify the faulted part.

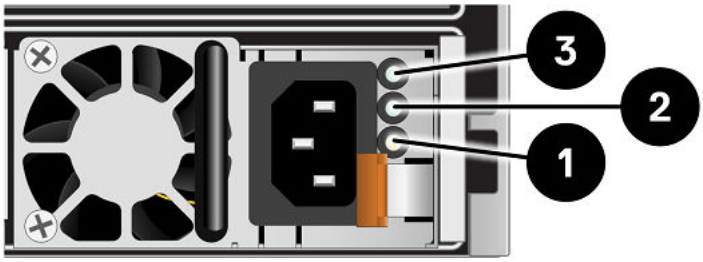


Figure 52. Base enclosure power supply LEDs

Table 3. Base enclosure AC power supply LEDs

LED	Location	State	Description
Fault	1	Solid amber	Power supply or backup fault. Check cable connection.
		Off	No fault.
Supply output status	2	Green	Outputs are normal.
		Off	Outputs are faulted or disabled.
AC power (input)	3	Green	AC power is on.
		Off	AC power is off. Verify source power.

Remove a power supply

About this task

There are two power supplies. The power supplies are installed in the top and bottom nodes, and the top power supply is installed upside-down. This procedure works for removing either power supply, however, the direction in which the retention bail and release handle are pressed is reversed for the upside-down power supply.

NOTE: You do not need to power down the system to remove a power supply.

Steps

1. Rotate the power cable retention bail to the left (to the right for the upside-down power supply). Remove the power cable from the power supply.

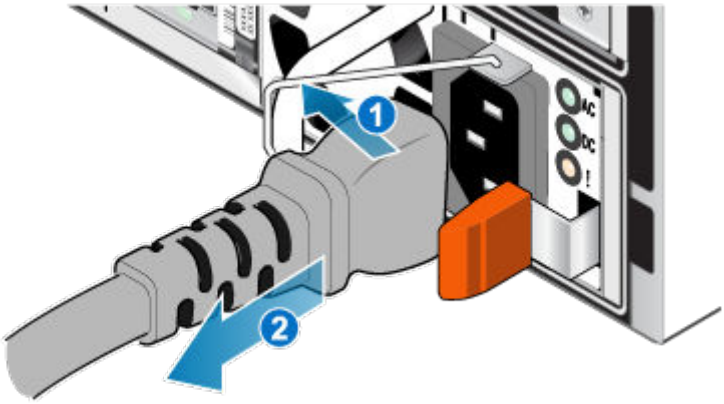


Figure 53. Removing the power cable

2. Push and hold the orange release tab to the left (to the right for the upside-down power supply) and grasp the power supply by its handle. Remove the power supply by pulling it from the node.

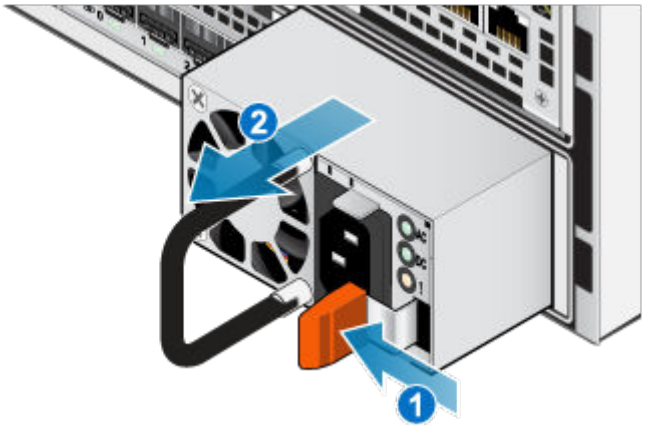


Figure 54. Removing a power supply

Install a power supply

About this task

The power supplies are installed in the top and bottom nodes, meaning that the top power supply is installed upside-down. This procedure works for installing either power supply.

Steps

1. Align the power supply with the slot in the node.
2. Push the power supply into the node until it clicks into place.

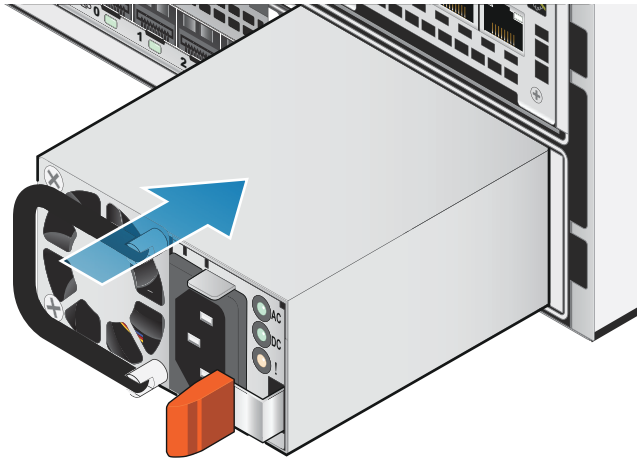


Figure 55. Installing a power supply

3. Connect the power cable to the power supply and secure the cord with the retention bail at the connector.

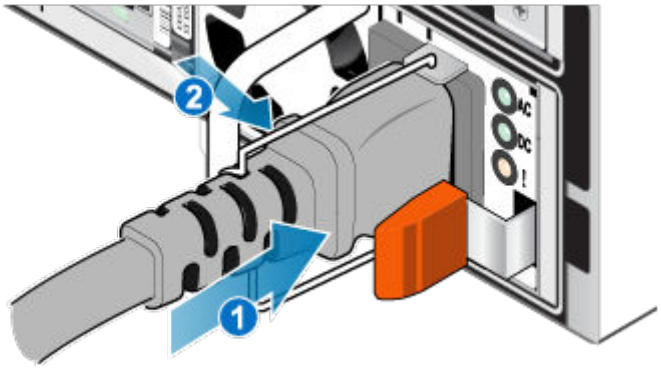


Figure 56. Inserting the power cable

Verify the operation of a replacement power supply

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance where you replaced the power supply.
3. On the **Components** card, under **Rear View**, expand **BaseEnclosure**.
4. Expand the node that includes the power supply, and then select **PSU0**.

   The status of the replacement power supply should read `Healthy`. If the status is still `Faulted`, wait a few minutes and refresh PowerStore Manager. If the status does not change, ensure that the power supply is correctly seated, or contact your service provider.

Return a faulted part

About this task

For US customers, return defective material within five business days. For International customers, return defective material within 10 business days. The materials required to return your defective part are supplied with the good part shipment.

Steps

1. Package the faulted part in the shipping box that contained the replacement part.

2. Ship the failed part to your service provider as described in the instructions that were included with the replacement part.
3. For more information about returning customer-replaceable parts:
   a. Open PowerStore Manager.
   b. Click **Settings** on the upper right of the screen.
   c. Click **General Support**.
   d. Under **Drives, Power Supplies, and Other Parts**, click **Return Part**.
   e. If your screen does not show the Return Part link, contact your service provider for instructions.

Replace an embedded module

Take the following actions to remove the faulted embedded module and install the replacement embedded module into the system.

Before you begin

CAUTION: Before starting this procedure, use the PowerStore Manager Hardware view and Alerts view to verify that the appliance and peer node are healthy with no outstanding alerts. If multiple nodes need to be removed while performing this procedure, repeat this verification for each affected node before proceeding to remove the next node. If necessary, contact your service provider before starting the replacement procedure.

Identify a faulted embedded module from PowerStore Manager

Before you replace an embedded module, ensure that you have identified its location within the system. Using PowerStore Manager, you can identify and locate a faulted embedded module.

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance that includes the embedded module that you need to replace.
3. On the **Components** card, under **Rear View**, expand **BaseEnclosure**.
4. Expand the node that includes the embedded module, and then select **EmbeddedModule**.
   Faulted parts appear in red in the image of the system, and report a status of `Faulted` in the **State** field.

Embedded module LEDs

Use the fault LEDs to identify the faulted part.

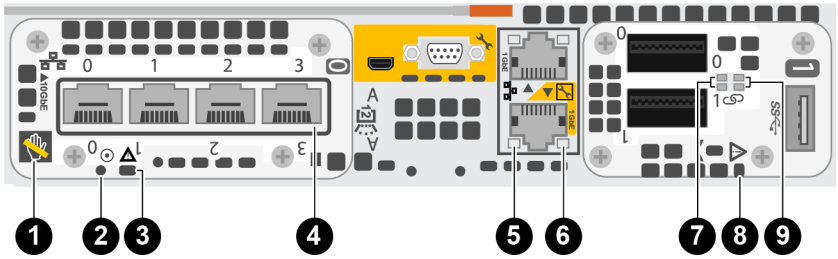


Figure 57. Embedded module LEDs

Table 4. Embedded module LEDs

LED	Location	State	Description
Unsafe to remove	1	White	Do not remove the node. Improper removal could cause data loss.

Table 4. Embedded module LEDs (continued)

LED	Location	State	Description
		Off	Safe to remove the node when the node has been properly prepared.
Node power	2	Green	Node is on (main power).
		Green blinking	Node is initializing a serial over LAN session.
		Off	Node is off.
Node fault	3	Amber	Fault has occurred.
		Blue	Node in Degraded Mode.
		Amber or blue blinking	System is booting.
		Blue and amber alternating (green for 3 seconds)	System uninitialized. A management IP address has not been assigned.
		Blue and amber alternating at one second intervals	Node in Service Mode.
Port link	4	Green	Link up with high speed.
		Amber	Link up with degraded speed.
		Off	Link down.
Ethernet port activity	5	Amber blinking	Port activity.
		Off	No port activity.
Ethernet port link	6	Green	Link established.
		Off	No link established.
2-port 100GbE card port link	7	Green	Link established.
		Off	No link established.
Embedded module fault	8	Amber	Embedded module has faulted.
		Off	No fault has occurred, normal operation.
2-port 100GbE card port activity	9	Green blinking	Port activity.
		Off	No port activity.

Power down the node

Power down the node as described in Power control procedures.

Remove a faulted embedded module

Steps

1. Label and disconnect all cables that are attached to the embedded module.

   CAUTION: Do not pull the node from the base enclosure. Pulling the node from the base enclosure disrupts the system cache.

2. Push the orange tab on the embedded module to release the lever.

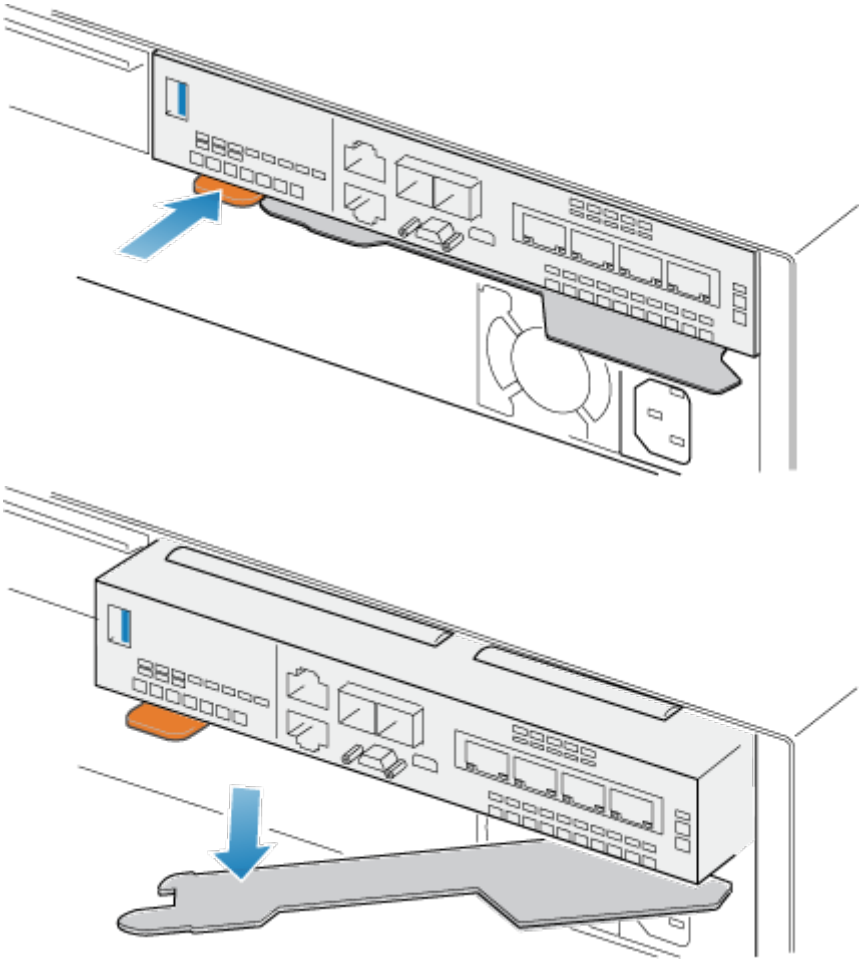


Figure 58. Releasing the lever on the embedded module

3. Pull the release lever away from the system. The embedded module releases from the system as you pull the lever.

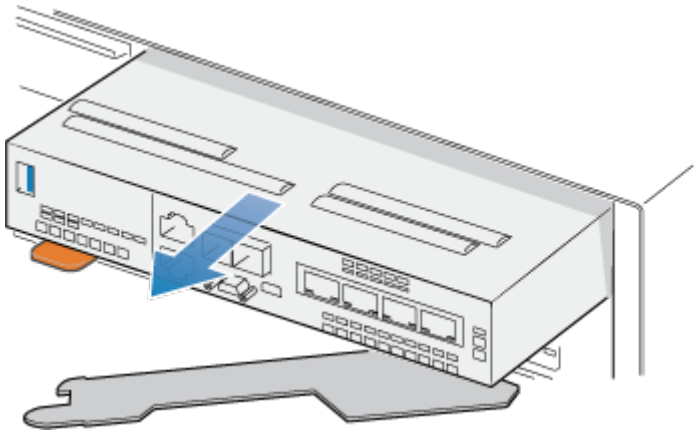


Figure 59. Removing the embedded module from the system

4. Remove the embedded module from the slot.

Transfer the 4-port card

If you are replacing the embedded module, remove the 4-port card from the old embedded module and install it into the new embedded module. Do not transfer the 4-port card while replacing a node.

Remove a 4-port card

Steps

1. Remove the SFPs from the front of the embedded module.
2. Remove both air dams at the front of the embedded module by loosening the captive screws.
3. Push down the two blue tabs on the back of the 4-port card to release the 4-port card.

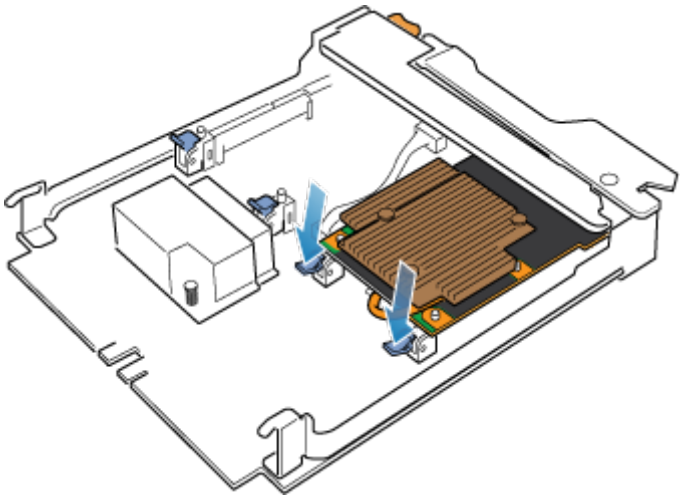


Figure 60. Opening the retaining tabs

4. Lift the 4-port card off the pegs, and pull the 4-port card away from the embedded module.

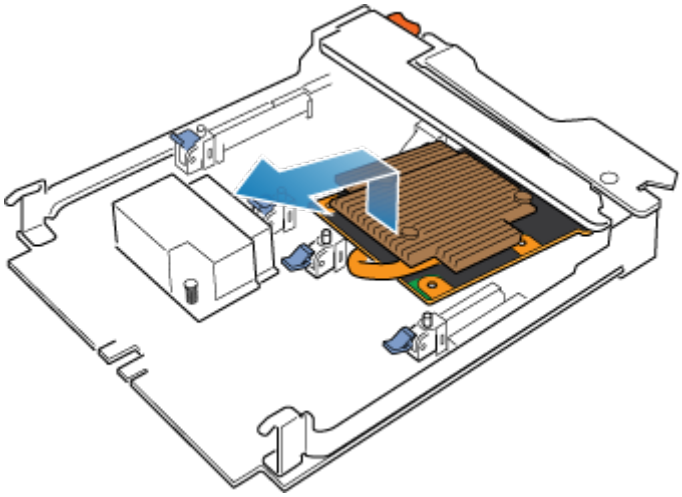


Figure 61. Removing the 4-port card

Install a 4-port card

Steps

1. Align the 4-port card in the embedded module so that the ports on the front line up with the slots on the front of the embedded module.

2. Align the white pegs beneath the holes on the 4-port card.

   CAUTION: Do not force the 4-port card into place. If the 4-port card does not smoothly seat, re-align the pegs and try again.

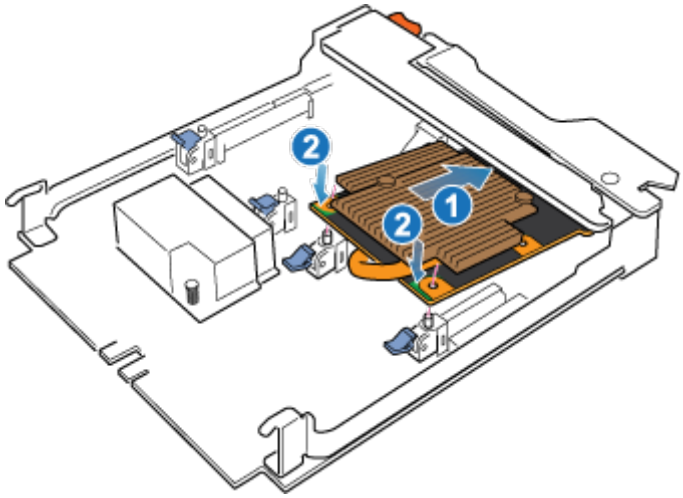


Figure 62. Seating the 4-port card

3. Gently push down on the upper-left circle on the 4-port card.
4. Push up on the blue tabs until they lock into place.

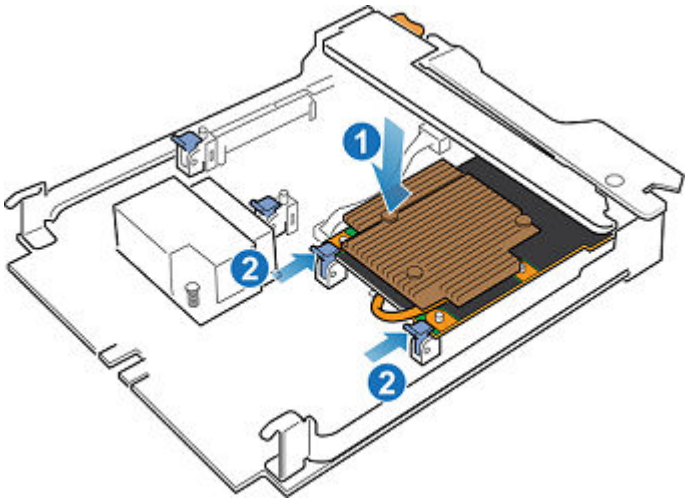


Figure 63. Locking the 4-port card into position

5. Replace both air dams and tighten the captive screws.
6. Install the SFPs into the embedded module.

Install an embedded module

Steps

1. Align the embedded module with the empty slot and carefully push it into the slot.

   As the embedded module is installed, the release lever rotates inward.

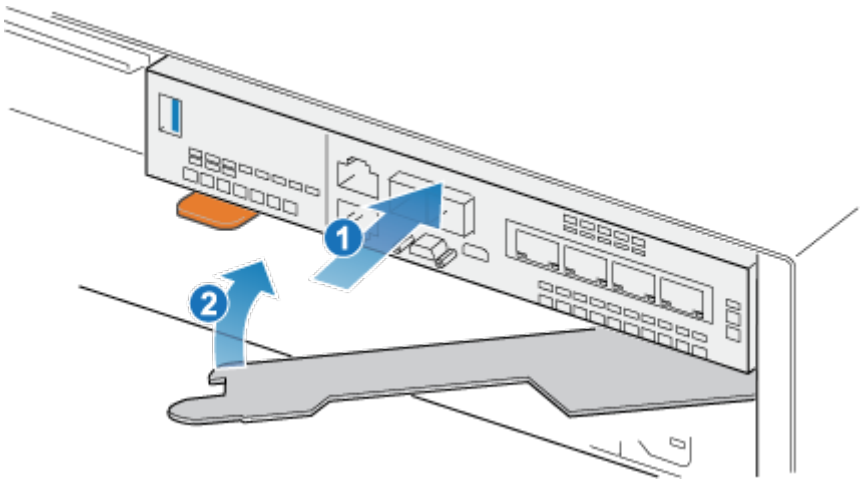


Figure 64. Installing the embedded module

2. When the embedded module is fully seated, push the release lever back into the system until the orange tab locks the lever in place.

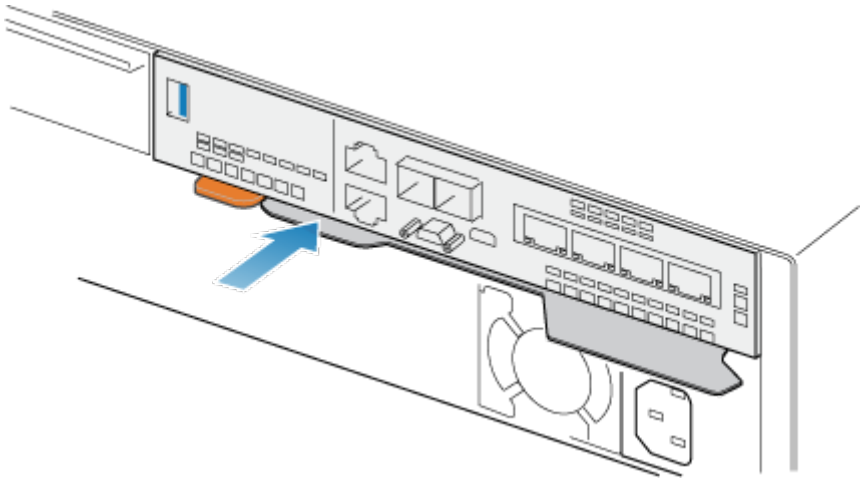


Figure 65. Locking the release lever

3. Connect each cable into the same port from which it was removed.

Power up the node

Power up the node as described in Power control procedures.

Verify the operation of a replacement embedded module

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance where you replaced the embedded module.
3. On the **Components** card, under **Rear View**, expand **BaseEnclosure**.
4. Expand the node that includes the embedded module, and then select **EmbeddedModule**.

   The status of the replacement embedded module should read `Healthy`. If the status is still `Faulted`, wait a few minutes and refresh PowerStore Manager. If the status does not change, ensure that the embedded module is correctly seated, or contact your service provider.

Return a faulted part

About this task

For US customers, return defective material within five business days. For International customers, return defective material within 10 business days. The materials required to return your defective part are supplied with the good part shipment.

Steps

1. Package the faulted part in the shipping box that contained the replacement part.
2. Ship the failed part to your service provider as described in the instructions that were included with the replacement part.
3. For more information about returning customer-replaceable parts:
   a. Open PowerStore Manager.
   b. Click **Settings** on the upper right of the screen.
   c. Click **General Support**.
   d. Under **Drives, Power Supplies, and Other Parts**, click **Return Part**.
   e. If your screen does not show the Return Part link, contact your service provider for instructions.

Replace a 4-port card

Take the following actions to remove the 4-port card and install the replacement 4-port card into the system.

Before you begin

CAUTION: Before starting this procedure, use the PowerStore Manager Hardware view and Alerts view to verify that the appliance and peer node are healthy with no outstanding alerts. If multiple nodes need to be removed while performing this procedure, repeat this verification for each affected node before proceeding to remove the next node. If necessary, contact your service provider before starting the replacement procedure.

Identify a faulted 4-port card from PowerStore Manager

Before you replace a 4-port card, ensure that you have identified its location within the system. Using PowerStore Manager, you can identify and locate a faulted 4-port card.

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance that includes the 4-port card that you need to replace.
3. On the **Components** card, under **Rear View**, expand **BaseEnclosure**.
4. Expand the node that includes the 4-port card, expand **EmbeddedModule**, and then select **4PortCard**.
   Faulted parts appear in red in the image of the system, and report a status of `Faulted` in the **State** field.

Embedded module LEDs

Use the fault LEDs to identify the faulted part.

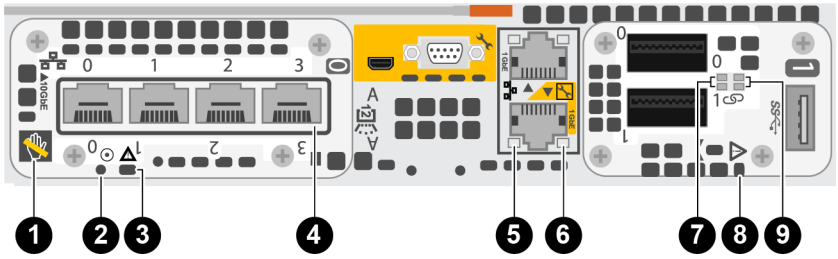


Figure 66. Embedded module LEDs

Table 5. Embedded module LEDs

LED	Location	State	Description
Unsafe to remove	1	White	Do not remove the node. Improper removal could cause data loss.
		Off	Safe to remove the node when the node has been properly prepared.
Node power	2	Green	Node is on (main power).
		Green blinking	Node is initializing a serial over LAN session.
		Off	Node is off.
Node fault	3	Amber	Fault has occurred.
		Blue	Node in Degraded Mode.
		Amber or blue blinking	System is booting.
		Blue and amber alternating (green for 3 seconds)	System uninitialized. A management IP address has not been assigned.
		Blue and amber alternating at one second intervals	Node in Service Mode.
Port link	4	Green	Link up with high speed.
		Amber	Link up with degraded speed.
		Off	Link down.
Ethernet port activity	5	Amber blinking	Port activity.
		Off	No port activity.
Ethernet port link	6	Green	Link established.
		Off	No link established.
2-port 100GbE card port link	7	Green	Link established.
		Off	No link established.
Embedded module fault	8	Amber	Embedded module has faulted.
		Off	No fault has occurred, normal operation.
2-port 100GbE card port activity	9	Green blinking	Port activity.

Table 5. Embedded module LEDs (continued)

LED	Location	State	Description
		Off	No port activity.

Power down the node

Power down the node as described in Power control procedures.

Remove an embedded module

Steps

1. Label and disconnect all cables that are attached to the embedded module.

   CAUTION: Do not pull the node from the base enclosure. Pulling the node from the base enclosure disrupts the system cache.

2. Push the orange tab on the embedded module to release the lever.

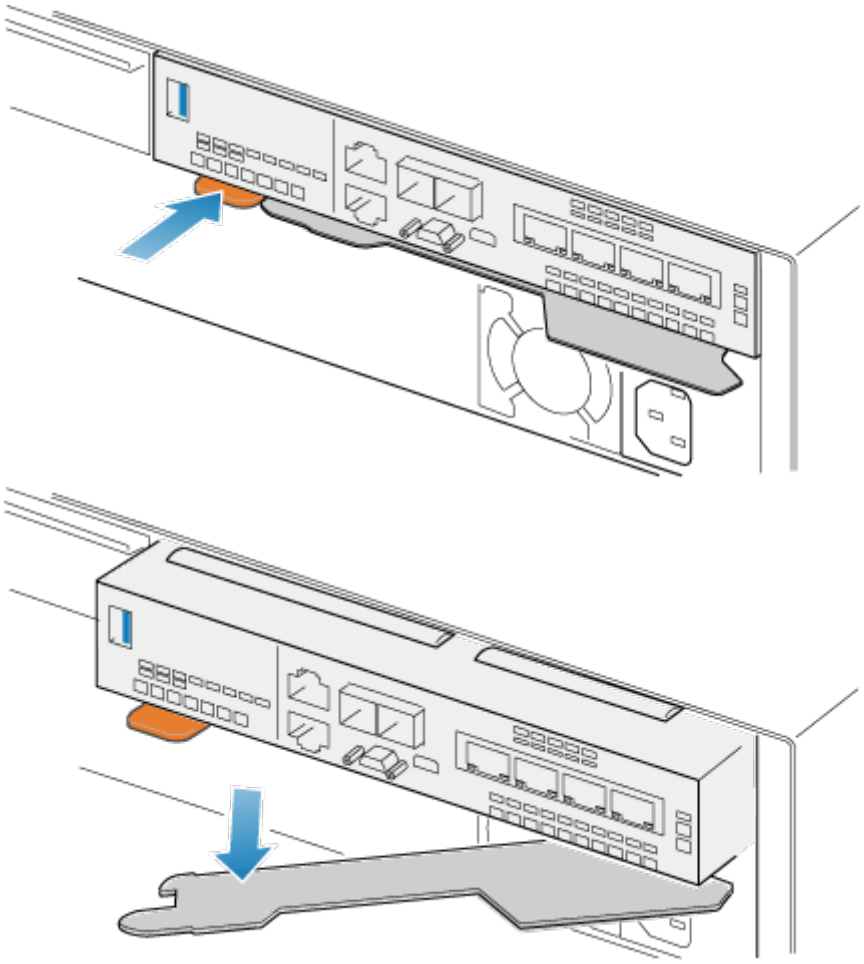


Figure 67. Releasing the lever on the embedded module

3. Pull the release lever away from the system. The embedded module releases from the system as you pull the lever.

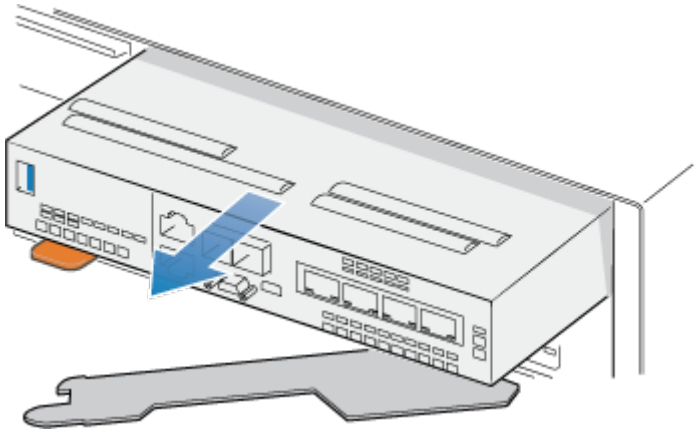


Figure 68. Removing the embedded module from the system

4. Remove the embedded module from the slot.

Remove a 4-port card

Steps

1. Remove the SFPs from the front of the embedded module.
2. Push down the two blue tabs on the back of the 4-port card to release the 4-port card.

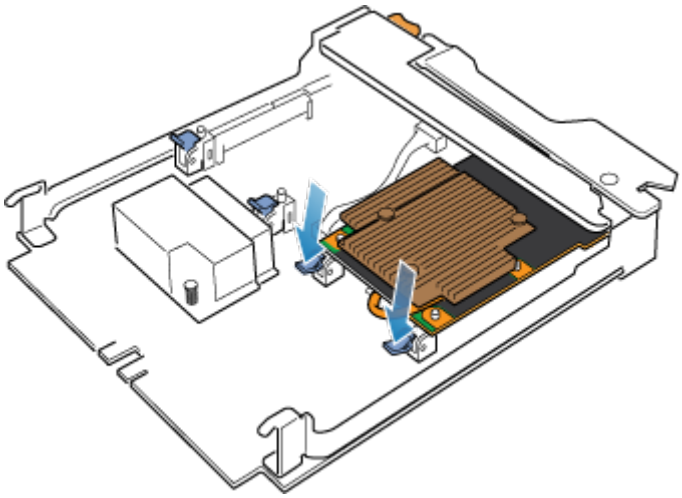


Figure 69. Opening the retaining tabs

3. Lift the 4-port card off the pegs, and pull the 4-port card away from the embedded module.

NOTE: If you are having difficulty removing the 4-port card, loosen the four captive screws that secure the air dam to the front of the embedded module .

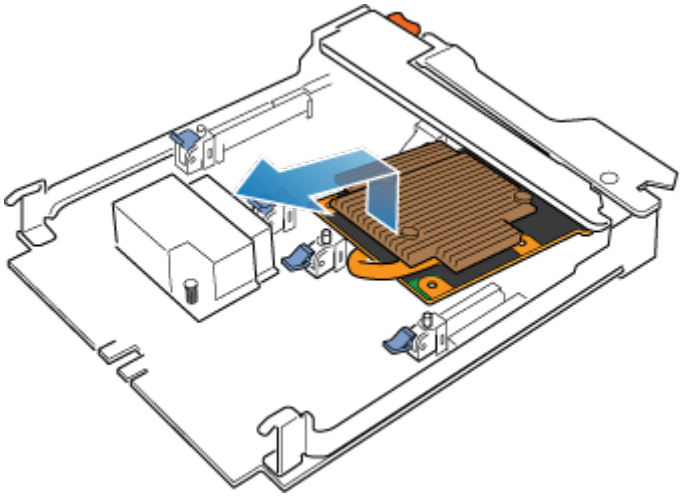


Figure 70. Removing the 4-port card

Install a 4-port card

Steps

1. Align the 4-port card in the embedded module so that the ports on the front line up with the slots on the front of the embedded module.
2. Align the white pegs beneath the holes on the 4-port card.

   CAUTION: Do not force the 4-port card into place. If the 4-port card does not smoothly seat, realign the pegs and try again.

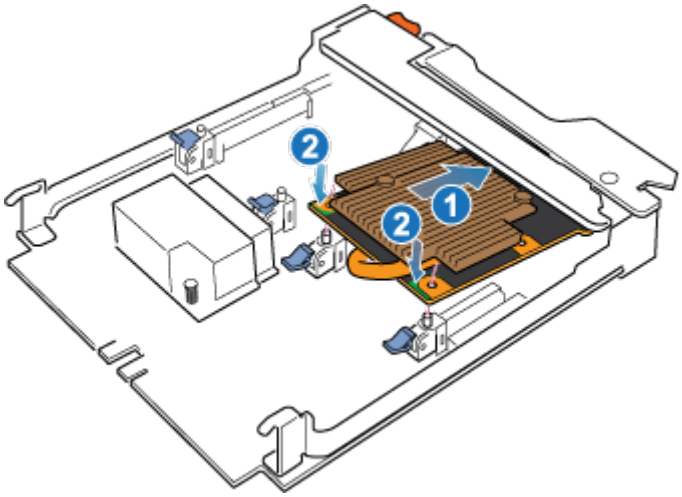


Figure 71. Seating the 4-port card

3. Gently push down on the upper-left circle on the 4-port card.
4. Push up on the blue tabs until they lock into place.

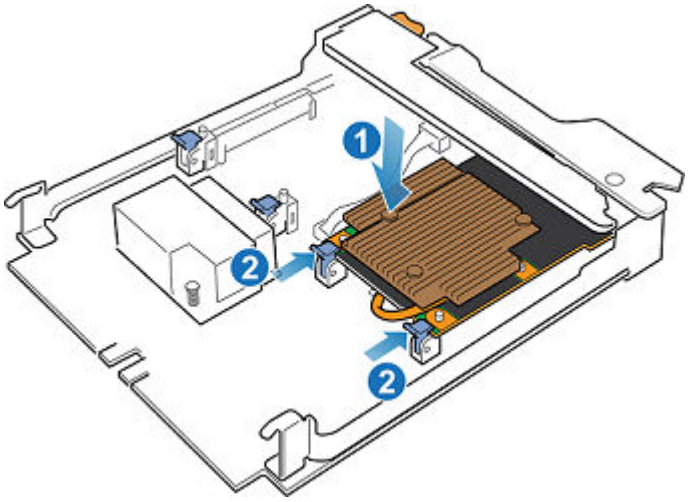


Figure 72. Locking the 4-port card into position

5. If necessary, tighten the four captive screws that secure the air dam to the front of the embedded module.
6. Install the SFPs into the embedded module.

Install an embedded module

Steps

1. Align the embedded module with the empty slot and carefully push it into the slot.

   As the embedded module is installed, the release lever rotates inward.

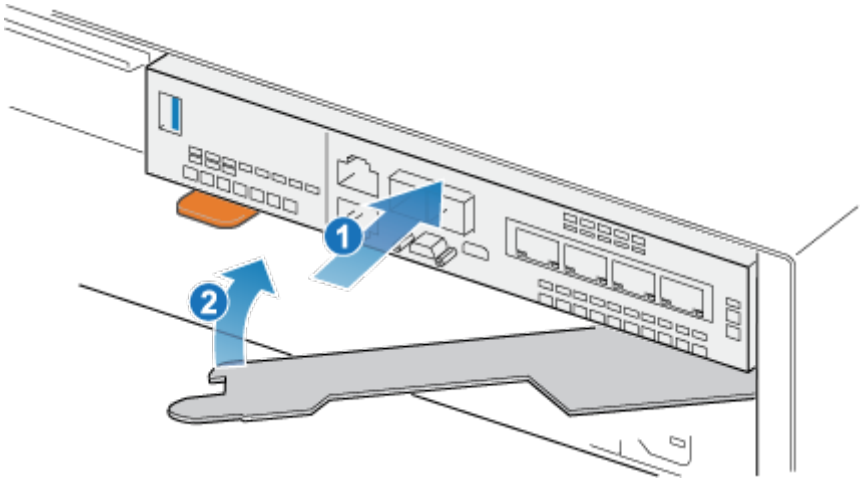


Figure 73. Installing the embedded module

2. When the embedded module is fully seated, push the release lever back into the system until the orange tab locks the lever in place.

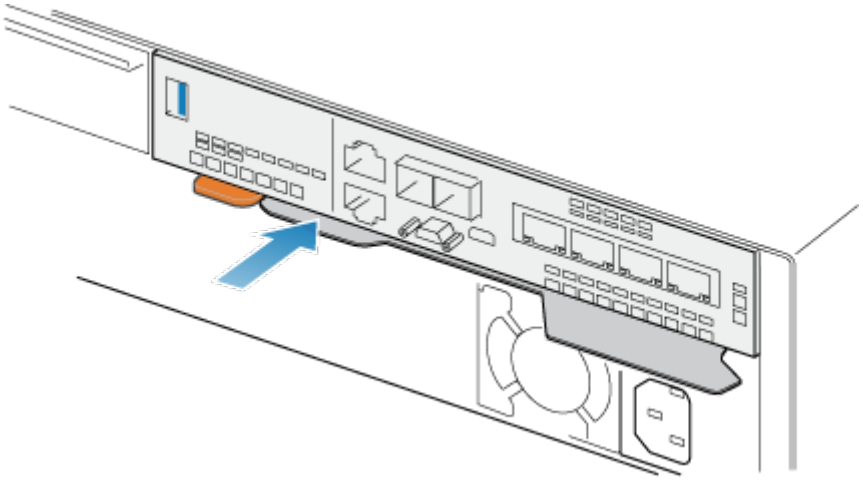


Figure 74. Locking the release lever

3. Connect each cable into the same port from which it was removed.

Power up the node

Power up the node as described in Power control procedures.

Verify the operation of a new 4-port card

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance where you replaced the 4-port card.
3. On the **Components** card, under **Rear View**, expand **BaseEnclosure**.
4. Expand the node that includes the 4-port card, expand **EmbeddedModule**, and then select **4PortCard**.

   The status of the replacement 4-port card should read `Healthy`. If the status is still `Faulted`, wait a few minutes and refresh PowerStore Manager. If the status does not change, ensure that the embedded module and 4-port card are correctly seated, or contact your service provider.

Return a faulted part

About this task

For US customers, return defective material within five business days. For International customers, return defective material within 10 business days. The materials required to return your defective part are supplied with the good part shipment.

Steps

1. Package the faulted part in the shipping box that contained the replacement part.
2. Ship the failed part to your service provider as described in the instructions that were included with the replacement part.
3. For more information about returning customer-replaceable parts:
   a. Open PowerStore Manager.
   b. Click **Settings** on the upper right of the screen.
   c. Click **General Support**.
   d. Under **Drives, Power Supplies, and Other Parts**, click **Return Part**.
   e. If your screen does not show the Return Part link, contact your service provider for instructions.

Replace a 2-port 100GbE card

Take the following actions to remove a faulted 2-port 100GbE card and install the replacement 2-port 100GbE card into the system.

Before you begin

CAUTION: Before starting this procedure, use the PowerStore Manager Hardware view and Alerts view to verify that the appliance and peer node are healthy with no outstanding alerts. If multiple nodes need to be removed while performing this procedure, repeat this verification for each affected node before proceeding to remove the next node. If necessary, contact your service provider before starting the replacement procedure.

Identify a faulted 2-port 100GbE card from PowerStore Manager

Before you replace a 2-port 100GbE card, ensure that you have identified its location within the system. Using PowerStore Manager, you can identify and locate a faulted 2-port 100GbE card.

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance that includes the 2-port 100GbE card that you need to replace.
3. On the **Components** card, under **Rear View**, expand **BaseEnclosure**.
4. Expand the node that includes the 2-port 100GbE card, expand **EmbeddedModule**, and then select **2PortCard**.
   Faulted parts appear in red in the image of the system, and report a status of `Faulted` in the **State** field.

Embedded module LEDs

Use the fault LEDs to identify the faulted part.

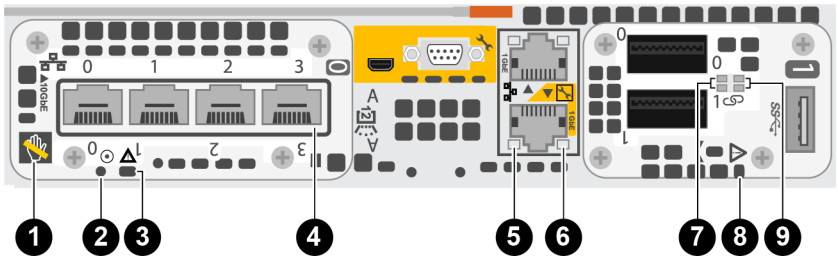


Figure 75. Embedded module LEDs

Table 6. Embedded module LEDs

LED	Location	State	Description
Unsafe to remove	1	White	Do not remove the node. Improper removal could cause data loss.
		Off	Safe to remove the node when the node has been properly prepared.
Node power	2	Green	Node is on (main power).
		Green blinking	Node is initializing a serial over LAN session.
		Off	Node is off.
Node fault	3	Amber	Fault has occurred.

Table 6. Embedded module LEDs (continued)

LED	Location	State	Description
		Blue	Node in Degraded Mode.
		Amber or blue blinking	System is booting.
		Blue and amber alternating (green for 3 seconds)	System uninitialized. A management IP address has not been assigned.
		Blue and amber alternating at one second intervals	Node in Service Mode.
Port link	4	Green	Link up with high speed.
		Amber	Link up with degraded speed.
		Off	Link down.
Ethernet port activity	5	Amber blinking	Port activity.
		Off	No port activity.
Ethernet port link	6	Green	Link established.
		Off	No link established.
2-port 100GbE card port link	7	Green	Link established.
		Off	No link established.
Embedded module fault	8	Amber	Embedded module has faulted.
		Off	No fault has occurred, normal operation.
2-port 100GbE card port activity	9	Green blinking	Port activity.
		Off	No port activity.

Power down the node

Power down the node as described in Power control procedures.

Remove an embedded module

Steps

1. Label and disconnect all cables that are attached to the embedded module.

   CAUTION: Do not pull the node from the base enclosure. Pulling the node from the base enclosure disrupts the system cache.

2. Push the orange tab on the embedded module to release the lever.

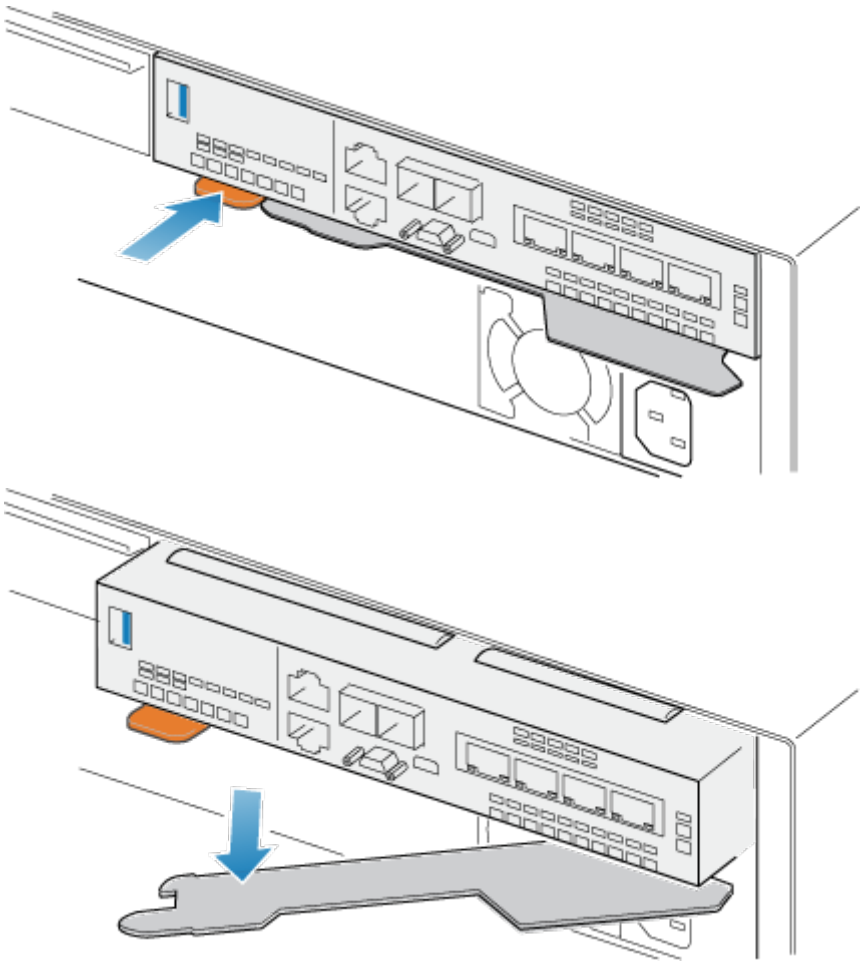


Figure 76. Releasing the lever on the embedded module

3. Pull the release lever away from the system. The embedded module releases from the system as you pull the lever.

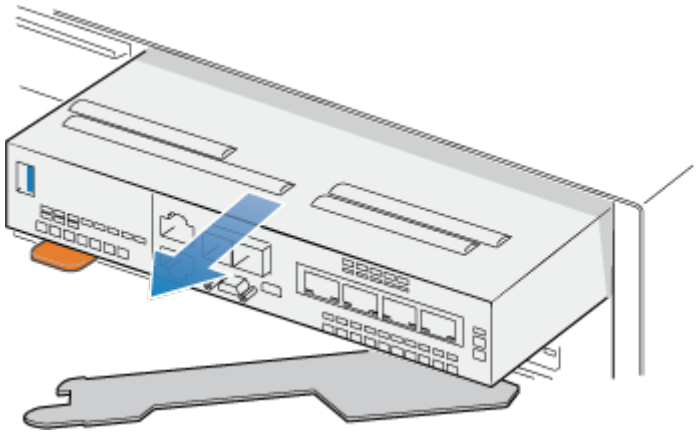


Figure 77. Removing the embedded module from the system

4. Remove the embedded module from the slot.

Remove a 2-port 100GbE card

Steps

1. Remove the SFPs from the front of the 2-port 100GbE card.

2. Push down the two blue tabs on the back of the 2-port 100GbE card to release the 2-port 100GbE card.

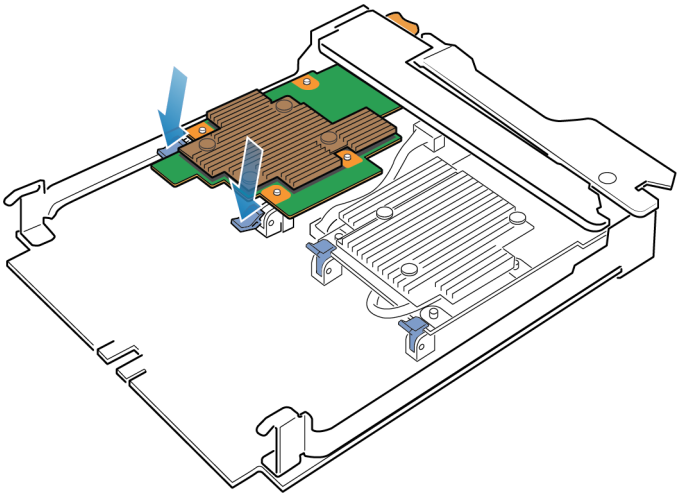


Figure 78. Opening the retaining tabs

3. Lift the 2-port 100GbE card off the pegs, and pull the 2-port 100GbE card away from the embedded module.

NOTE: If you are having difficulty removing the 2-port 100GbE card, loosen the captive screws that secure the air dam to the front of the embedded module .

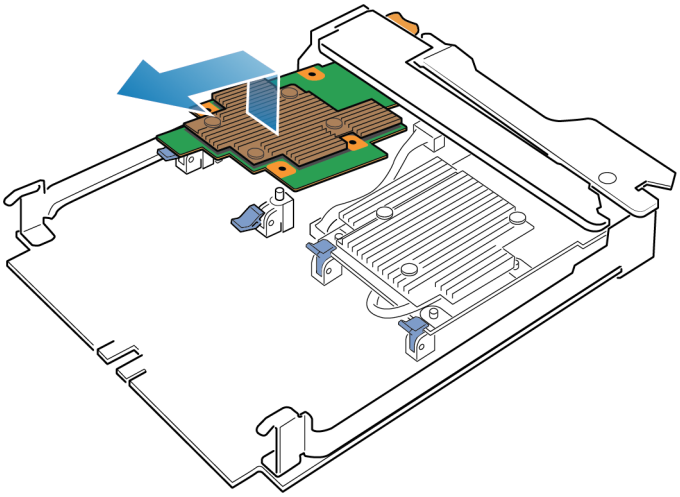


Figure 79. Removing the 2-port 100GbE card

Install a 2-port 100GbE card

Steps

1. Align the 2-port 100GbE card in the embedded module so that the ports on the front line up with the slots on the front of the embedded module.
2. Align the white pegs beneath the holes on the 2-port 100GbE card.

CAUTION: Do not force the 2-port 100GbE card into place. If the 2-port 100GbE card does not smoothly seat, realign the pegs and try again.

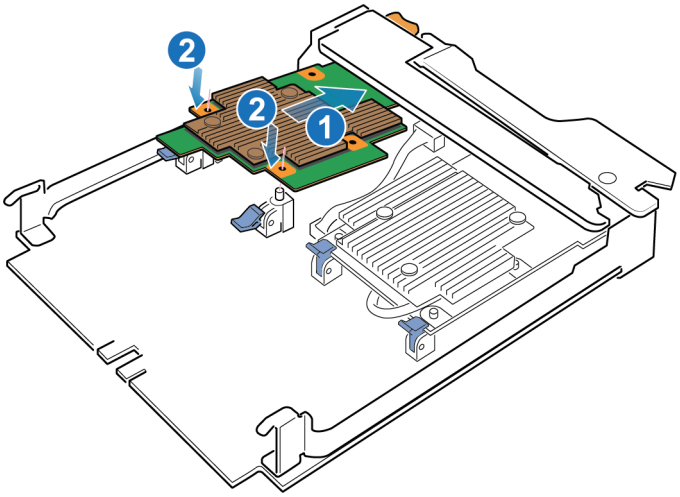


Figure 80. Seating the 2-port 100GbE card

3. Gently push down on the 2-port 100GbE card.
4. Push up on the blue tabs until they lock into place.

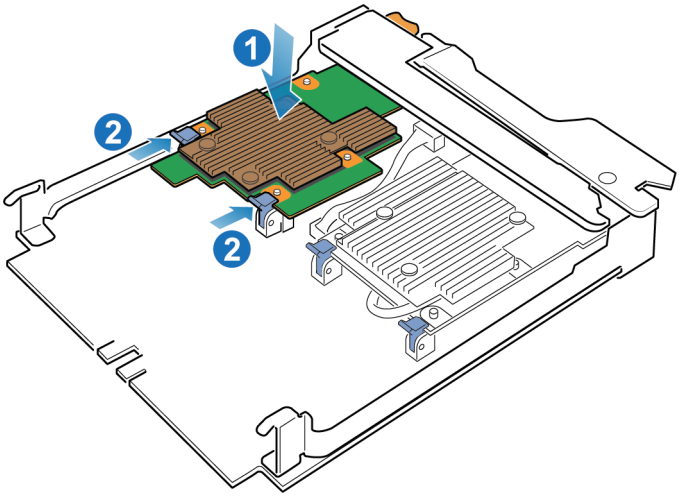


Figure 81. Locking the 2-port 100GbE card into position

5. Install the air dam and tighten the captive screws.
6. Install the SFPs into the embedded module.

Install an embedded module

Steps

1. Align the embedded module with the empty slot and carefully push it into the slot.

   As the embedded module is installed, the release lever rotates inward.

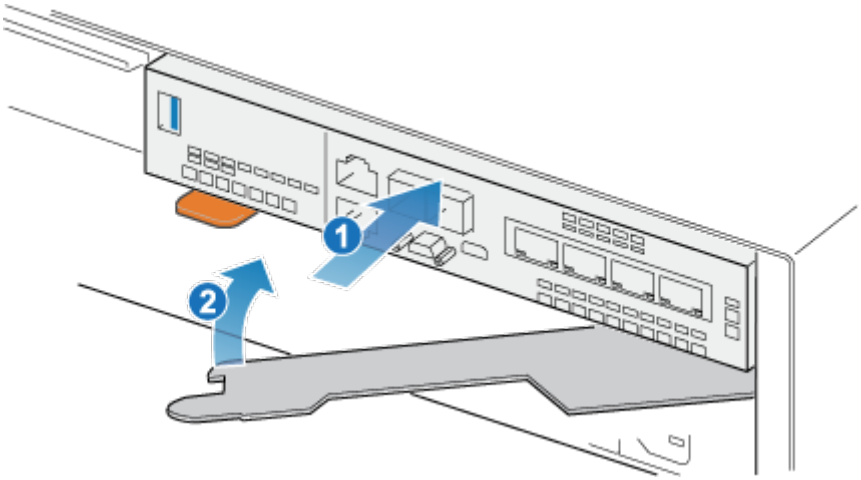


Figure 82. Installing the embedded module

2. When the embedded module is fully seated, push the release lever back into the system until the orange tab locks the lever in place.

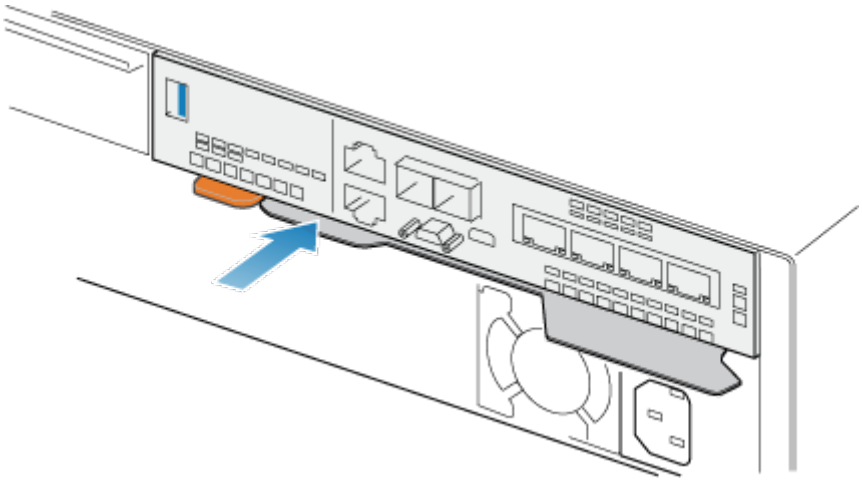


Figure 83. Locking the release lever

3. Connect each cable into the same port from which it was removed.

Power up the node

Power up the node as described in Power control procedures.

Verify the operation of a new 2-port 100GbE card

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance where you installed the card.
3. On the **Components** card, under **Rear View**, expand **BaseEnclosure**.
4. Expand the node that includes the card, expand **EmbeddedModule**, and then select **2PortCard**.

   The status of the replacement card should read `Healthy`. If the status is still `Faulted`, wait a few minutes and refresh PowerStore Manager. If the status does not change, ensure that the embedded module and card are correctly seated, or contact your service provider.

Replace an SFP

Take the following actions to remove the faulted SFP and install the replacement SFP into the system.

Identify a faulted SFP module from PowerStore Manager

Using PowerStore Manager, you can identify and locate a faulted SFP module.

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance that contains the SFP module that you need to replace.
3. On the **Components** card, under **Rear View**, expand **BaseEnclosure**.
4. Expand the node that includes the SFP module, and select the SFP module under either **4PortCard** or **IOModule**.
   Faulted parts appear in red in the image of the system, and report a status of `Faulted` in the **State** field.
5. The following error messages do not result in a fault, but they still indicate that the SFP should be replaced.
   - SFP speed mismatched: Indicates that the supported speeds of this SFP module are unsupported by the port.
   - SFP unsupported: Indicates that this SFP module is not qualified with this product.
   - SFP asymmetric: Indicates that this SFP module does not have the same supported speeds and connector type as its partner.

Remove an SFP module

Steps

1. If a cable is connected to the SFP, disconnect the cable.
2. Gently pull down on the spring release latch.
3. While still holding onto the latch, gently pull out the SFP module.

   CAUTION: Do not remove the I/O module. Removing the I/O module causes the node to reboot immediately.

Example

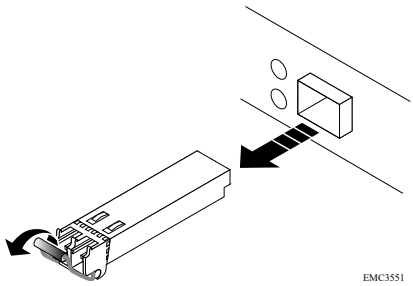


Figure 84. Removing an SFP module

Install an SFP module

Steps

1. Verify that the replacement SFP module has the same part number as the failed SFP module.
   The part number is on a label attached to the SFP module.
2. Push the spring release latch up and slide the new SFP module into the port until it is securely connected.

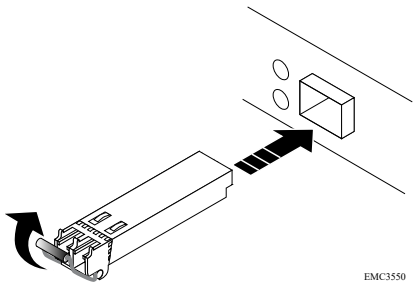


Figure 85. Installing an SFP module

3. Push the spring release down to lock the SFP module into place.
4. Reconnect the cable to the replacement SFP module.

Example

Verify the operation of a replacement SFP module

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance where you replaced the SFP module.
3. On the **Components** card, under **Rear View**, expand **BaseEnclosure**.
4. Expand the node that includes the SFP module, and select the SFP module under either **4PortCard** or **IOModule**.
5. The status of the replacement SFP module should read `Healthy`. If the status is still `Faulted`, wait a few minutes and refresh PowerStore Manager. If the fault was indicated by one of the following error messages, verify that the error message is cleared:
   - SFP speed mismatched
   - SFP unsupported
   - SFP asymmetric

   If the status does not change or the error message is not cleared, ensure that the SFP module is correctly seated, or contact your service provider.

Return a faulted part

About this task

For US customers, return defective material within five business days. For International customers, return defective material within 10 business days. The materials required to return your defective part are supplied with the good part shipment.

Steps

1. Package the faulted part in the shipping box that contained the replacement part.
2. Ship the failed part to your service provider as described in the instructions that were included with the replacement part.
3. For more information about returning customer-replaceable parts:
   a. Open PowerStore Manager.
   b. Click **Settings** on the upper right of the screen.
   c. Click **General Support**.
   d. Under **Drives, Power Supplies, and Other Parts**, click **Return Part**.
   e. If your screen does not show the Return Part link, contact your service provider for instructions.

Replace an I/O module

Take the following actions to remove the faulted I/O module and install the replacement I/O module into the system.

Before you begin

CAUTION: Before starting this procedure, use the PowerStore Manager Hardware view and Alerts view to verify that the appliance and peer node are healthy with no outstanding alerts. If multiple nodes need to be removed while performing this procedure, repeat this verification for each affected node before proceeding to remove the next node. If necessary, contact your service provider before starting the replacement procedure.

Identify a faulted I/O module from PowerStore Manager

Before you replace an I/O module, ensure that you have identified its location within the system. Using PowerStore Manager, you can identify and locate a faulted I/O module.

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance that includes the I/O module that you need to replace.
3. On the **Components** card, under **Rear View**, expand **BaseEnclosure**.
4. Expand the node that includes the I/O module, and then select the relevant **IoModule**.
   Faulted parts appear in red in the image of the system, and report a status of `Faulted` in the **State** field.

Base enclosure I/O module LEDs

Use the fault LEDs to identify the faulted part.

NOTE: The ports look different depending on whether they are for copper or optical connections. The image below shows ports for copper cables.

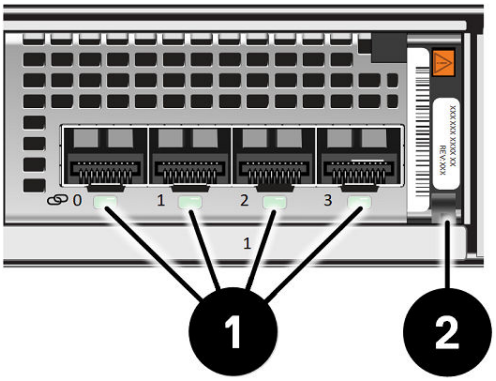


Figure 86. Base enclosure I/O module LEDs

Table 7. Base enclosure I/O module LEDs

LED	Location	State	Description
Port link	1	Green or blue	Link up
		Off	Link down
Power/Fault	2	Green	Power on
		Amber	Fault

Power down the node

Power down the node as described in Power control procedures.

Remove a faulted I/O module

Steps

1. Pull the trigger mechanism on the I/O module handle to release it.

   CAUTION: Do not pull the node from the base enclosure. Pulling the node from the base enclosure disrupts the system cache.

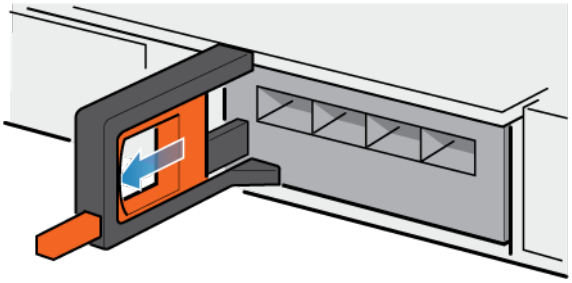


Figure 87. Releasing the I/O module

2. Gently pull the I/O module from the slot.

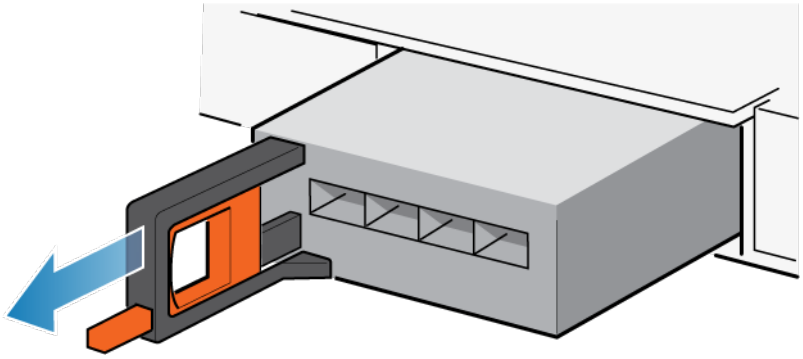


Figure 88. Removing the I/O module

Install an I/O module

Steps

1. Align the module with the empty slot and carefully push the module into the slot.

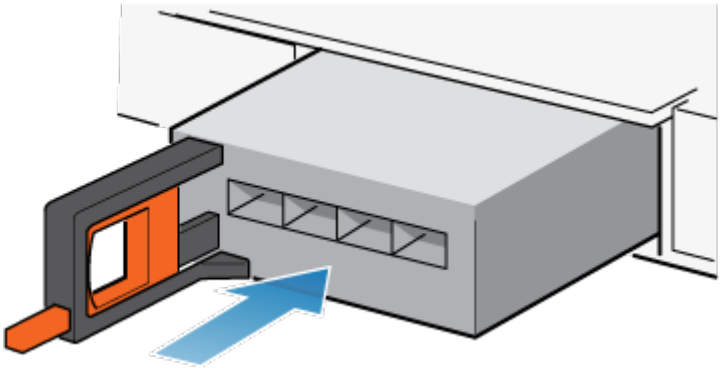


Figure 89. Installing an I/O module

2. When the I/O module appears seated, push and release the small button on the handle.

- If the button remains in, the module is fully seated.
- If the button springs back, gently push the module further into the chassis, then push it again.
- If the button still does not rest flush with its handle, remove the module and repeat steps 1 and 2.

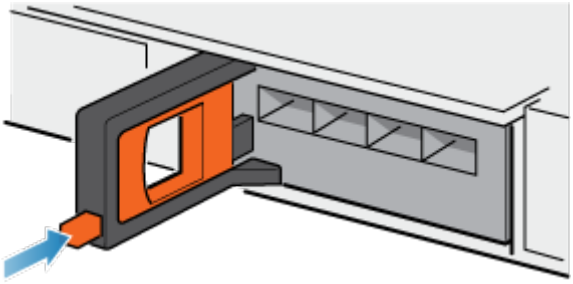


Figure 90. Locking in the I/O module

3. Connect the cables into the assigned I/O module ports.

Power up the node

Power up the node as described in Power control procedures.

Verify the operation of a replacement I/O module

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance where you replaced the I/O module.
3. On the **Components** card, under **Rear View**, expand **BaseEnclosure**.
4. Expand the node that includes the I/O module, and then select the relevant **IoModule**.
   The status of the replacement I/O module should read `Healthy`. If the status is still `Faulted`, wait a few minutes and refresh PowerStore Manager. If the status does not change, ensure that the I/O module is correctly seated, or contact your service provider.

Return a faulted part

About this task

For US customers, return defective material within five business days. For International customers, return defective material within 10 business days. The materials required to return your defective part are supplied with the good part shipment.

Steps

1. Package the faulted part in the shipping box that contained the replacement part.
2. Ship the failed part to your service provider as described in the instructions that were included with the replacement part.
3. For more information about returning customer-replaceable parts:
   a. Open PowerStore Manager.
   b. Click **Settings** on the upper right of the screen.
   c. Click **General Support**.
   d. Under **Drives, Power Supplies, and Other Parts**, click **Return Part**.
   e. If your screen does not show the Return Part link, contact your service provider for instructions.

Replace a fan module

Take the following actions to remove the faulted fan module and install the replacement fan module into the system.

Before you begin

CAUTION: Before starting this procedure, use the PowerStore Manager Hardware view and Alerts view to verify that the appliance and peer node are healthy with no outstanding alerts. If multiple nodes need to be removed while performing this procedure, repeat this verification for each affected node before proceeding to remove the next node. If necessary, contact your service provider before starting the replacement procedure.

Identify a faulted fan module from PowerStore Manager

Before you replace a fan module, ensure that you have identified its location within the system. Using PowerStore Manager, you can identify and locate a faulted fan module.

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance that includes the fan module that you need to replace.
3. On the **Components** card, under **Internal View**, expand the node that includes the fan module, and then select the relevant **FanModule**.

   Faulted parts appear in red in the image of the system, and report a status of `Faulted` in the **State** field.

Power down the node

Power down the node as described in Power control procedures.

Remove the node

This procedure describes how to remove a node from the chassis. There are two nodes. The top node is considered to be upside-down and mirrors the bottom node. The procedure for removing the top node and the bottom node is the same.

Prerequisites

If the I/O modules and network cables are not already labeled, label them clearly for reconnecting later.

About this task

WARNING: Do not remove the node within five minutes of system power down to ensure that the system has had time to complete caching.

CAUTION: Do not remove a node while the "Unsafe to remove" LED is lit. If the LED is lit, the peer node has been powered down or is offline and this node should not be removed.

CAUTION: Because nodes include cooling fans, they should be removed for as short a time as possible. Do not remove nodes from a live system unless replacement parts are available.

Steps

1. Rotate the power cable retention bail to the left (right for top power supply). Disconnect the power cable from the power supply.

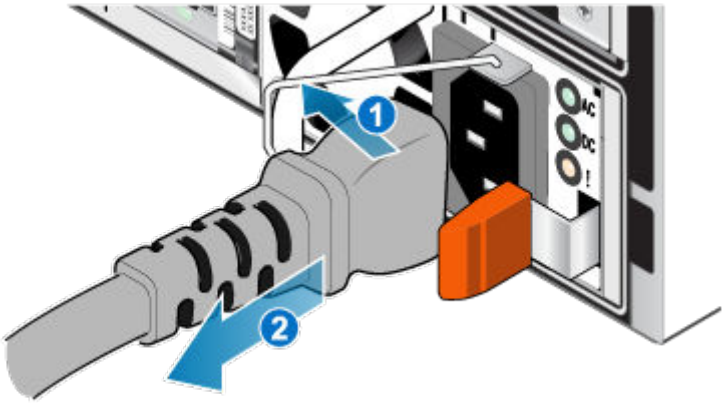


Figure 91. Removing the power cable

2. Disconnect the network and all other cables from the back of the I/O modules and network ports on the node.

   NOTE: Label the cables before you remove them.

   NOTE: Do not remove any cables from the other node.

3. Remove the node ID plugs from the node handles.
4. Pull the orange release trigger while gently pushing in on the node.

   The hook disengages from the locking mechanism, and the release tab slides out.

   NOTE: The node comes completely out of the chassis. Be prepared to support the node to avoid dropping it.

   NOTE: The release trigger and handle for node B is on the top left. The release trigger and handle for node A is on the bottom right.

   CAUTION: Removing the incorrect node will lead to loss of system power and cached data will be lost.

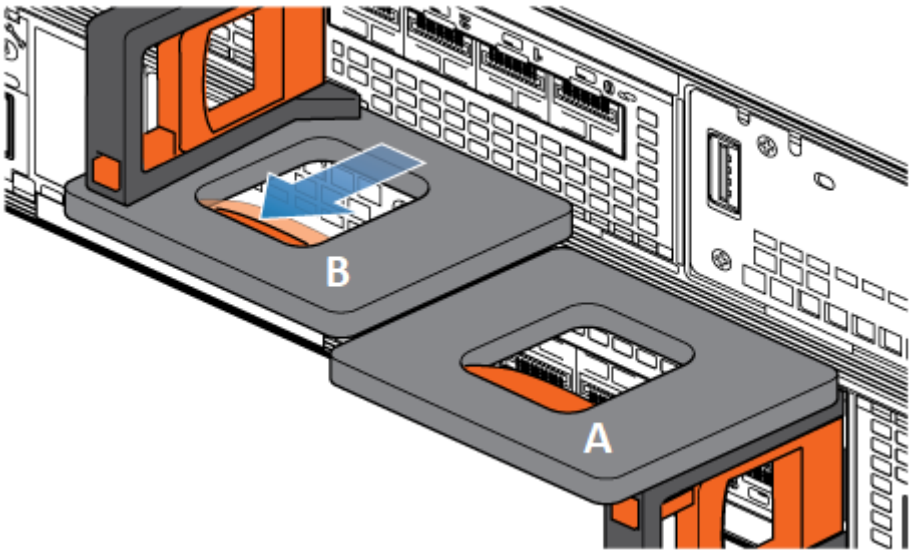


Figure 92. Disengaging the locking mechanism for node B

5. Before removing the node, ensure that the wire bail is properly secured to the power supply cable of the other node to prevent accidental loss of power and cache.
6. Use the release handle to pull the node outward enough to grasp the sides with both hands. Then, with both hands supporting the node, pull the node fully out of the enclosure.

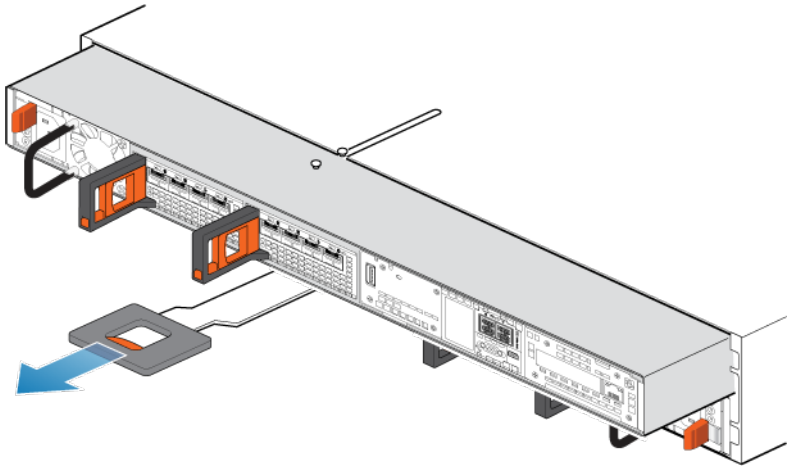


Figure 93. Removing the node

7. Place the node on a clean, flat, static-free work surface.

Remove the top cover from the node

Steps

1. While pushing down the two blue release buttons, slide the top cover towards the rear of the system, until it stops.

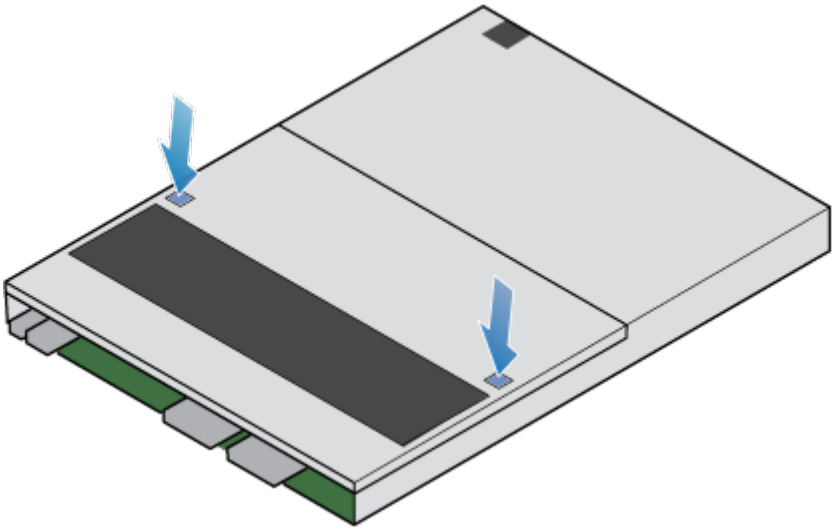


Figure 94. Releasing the top cover

2. Lift the top cover upward, and remove it from the node.

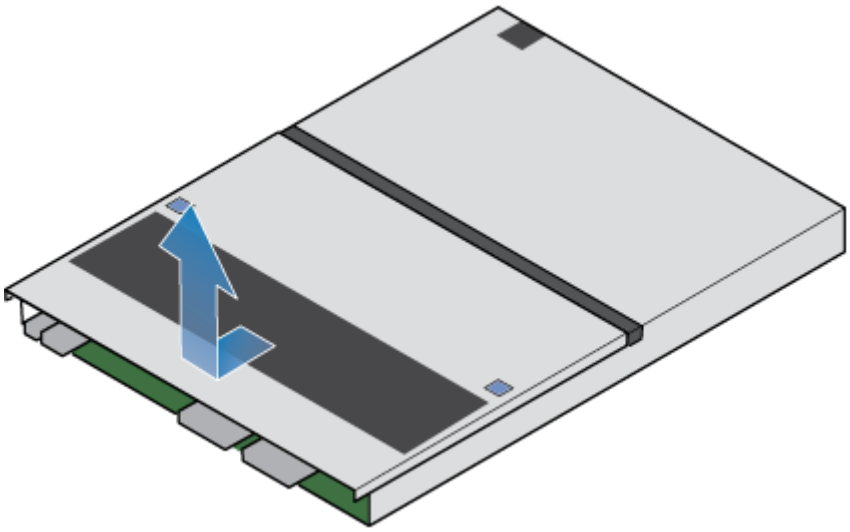


Figure 95. Removing the top cover

Remove the fan module

Steps

1. Disconnect the fan module power cable from the motherboard.

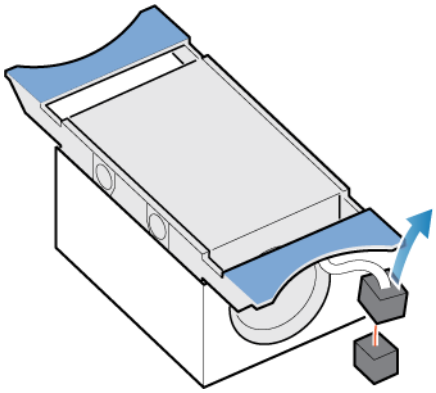


Figure 96. Disconnecting fan power cable

2. Unhook the fan module power cable from the cable holder.
3. Squeeze the blue release tabs.
4. Lift the fan module away from the motherboard.

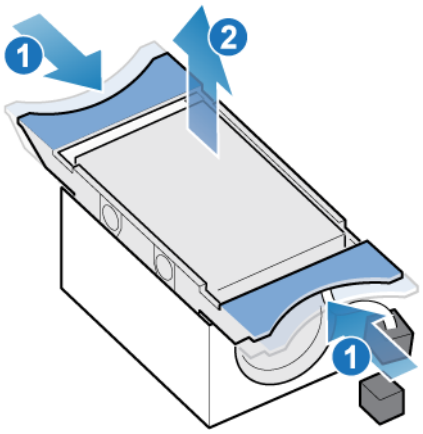


Figure 97. Removing the fan from the motherboard

Install the fan module

Steps

1. Place the fan module into the mounting position in the node.
2. Squeeze the blue tabs and press downward to lock the fan module into position.
3. Connect the fan module power cable to the connector on the motherboard.

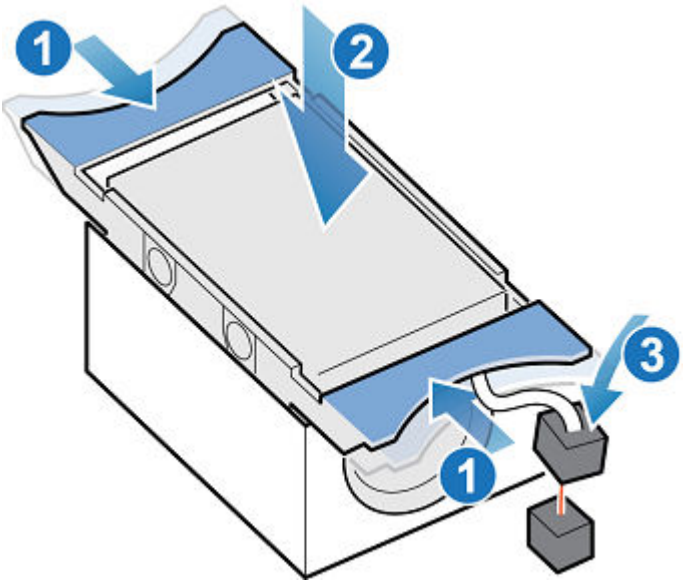


Figure 98. Installing the fan module

Install the top cover on the node

Steps

1. Position the top cover over the node and align it with the slots in the sides at the rear of the node.

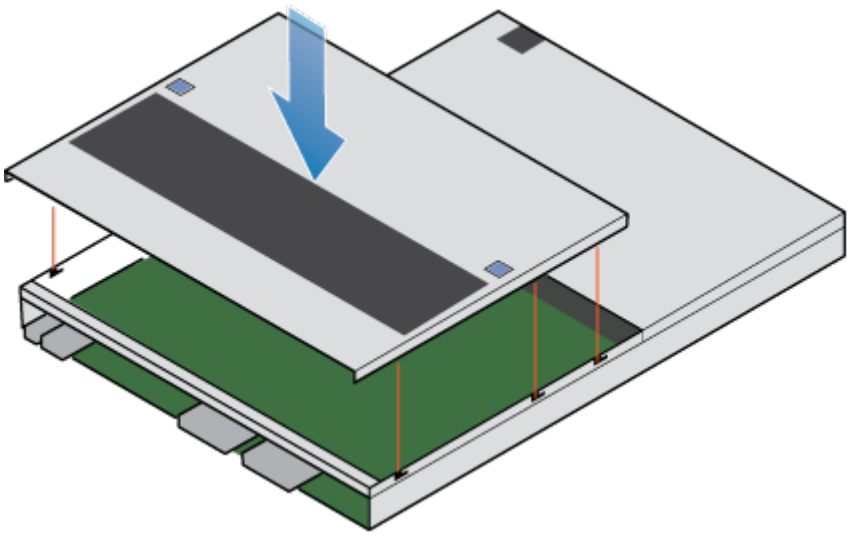


Figure 99. Aligning the top cover

2. Pull the top cover forward to secure it in place.

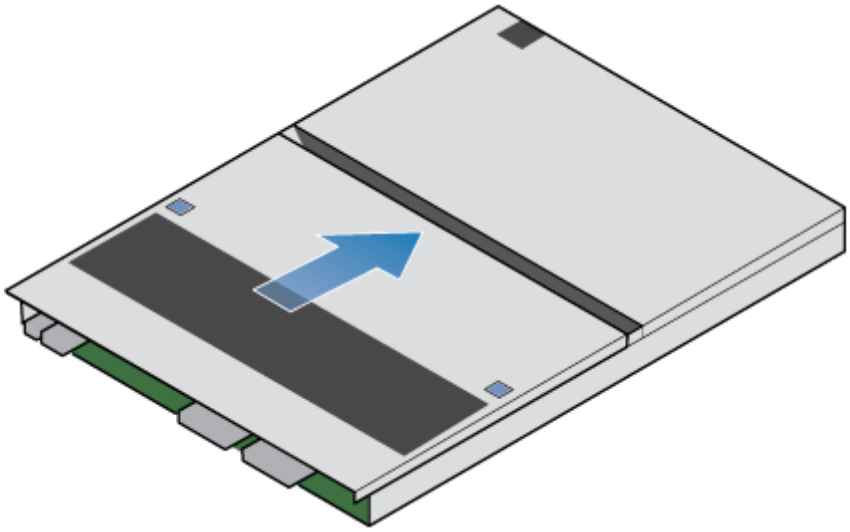


Figure 100. Securing the top cover

Install the node

Steps

1. Align the pins on the top of the node with the grooves on the top of the chassis.
2. Slide the node into the chassis until it stops, about halfway in.

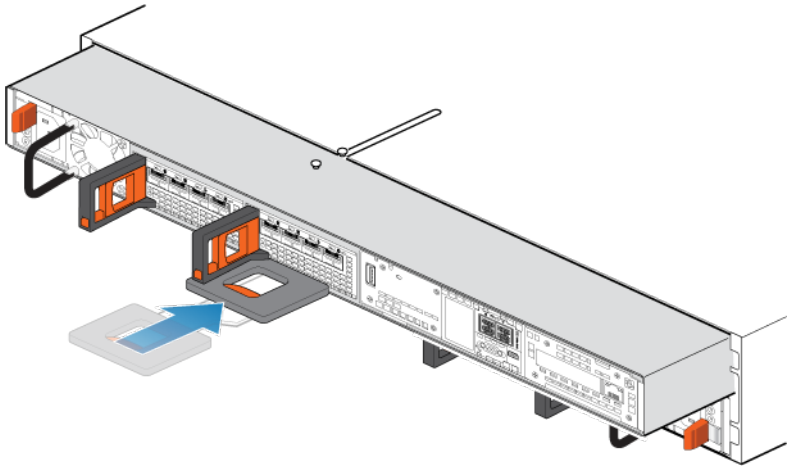


Figure 101. Sliding the node halfway into the chassis

3. Pull the black release tab out completely, and slide the rest of the node back into the chassis.
   The black release tab slides back into the system as it is inserted.

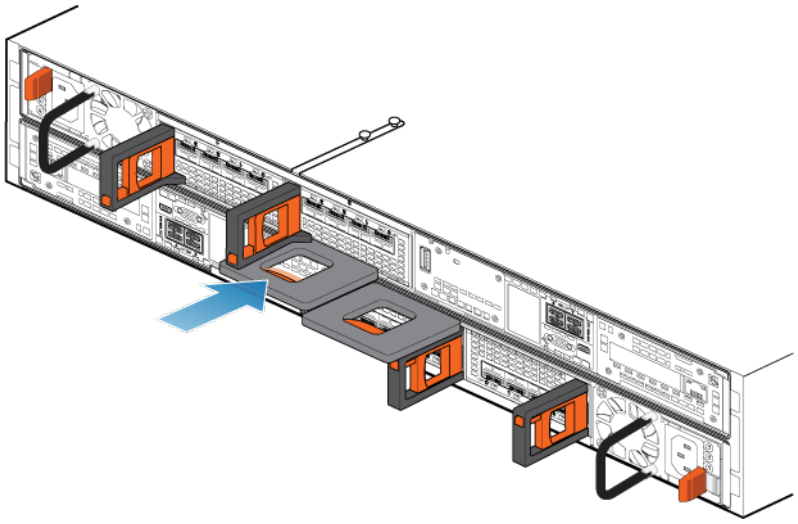


Figure 102. Installing the node

4. Reconnect the back-end cables and the cables to the I/O modules and network ports.
5. Pull the orange release trigger and push in gently to re-engage the locking mechanism.
   If the black release tab comes out when pulled, the locking mechanism is not engaged.
6. Plug in the power cable.

Verify the operation of a replacement fan module

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance where you replaced the fan module.
3. On the **Components** card, under **Internal View**, expand the node that includes the fan module, and then select the relevant **FanModule**.
   The status of the replacement fan module should read `Healthy`. If the status is still `Faulted`, wait a few minutes and refresh PowerStore Manager. If the status does not change, ensure that the fan module is correctly seated, or contact your service provider.

Return a faulted part

About this task

For US customers, return defective material within five business days. For International customers, return defective material within 10 business days. The materials required to return your defective part are supplied with the good part shipment.

Steps

1. Package the faulted part in the shipping box that contained the replacement part.
2. Ship the failed part to your service provider as described in the instructions that were included with the replacement part.
3. For more information about returning customer-replaceable parts:
   a. Open PowerStore Manager.
   b. Click **Settings** on the upper right of the screen.
   c. Click **General Support**.
   d. Under **Drives, Power Supplies, and Other Parts**, click **Return Part**.
   e. If your screen does not show the Return Part link, contact your service provider for instructions.

Replace a dual inline memory module (DIMM)

Take the following actions to remove the faulted DIMM and install the replacement DIMM into the system.

The DIMMs are located within the node. You can access the DIMMs by removing the node from the chassis and opening the top cover.

NOTE: The DIMMs must stay in their original position. Do not move any DIMMs to a different slot.

Before you begin

CAUTION: Before starting this procedure, use the PowerStore Manager Hardware view and Alerts view to verify that the appliance and peer node are healthy with no outstanding alerts. If multiple nodes need to be removed while performing this procedure, repeat this verification for each affected node before proceeding to remove the next node. If necessary, contact your service provider before starting the replacement procedure.

Identify a faulted DIMM from PowerStore Manager

Before you replace a DIMM, ensure that you have identified its location within the system. Using PowerStore Manager, you can identify and locate a faulted DIMM.

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance that includes the DIMM that you need to replace.
3. On the **Components** card, under **Internal View**, expand the node that includes the DIMM, and then select the relevant **DIMM**.

   Faulted parts appear in red in the image of the system, and report a status of `Faulted` in the **State** field.

Power down the node

Power down the node as described in Power control procedures.

Remove the node

This procedure describes how to remove a node from the chassis. There are two nodes. The top node is considered to be upside-down and mirrors the bottom node. The procedure for removing the top node and the bottom node is the same.

Prerequisites

If the I/O modules and network cables are not already labeled, label them clearly for reconnecting later.

About this task

WARNING: Do not remove the node within five minutes of system power down to ensure that the system has had time to complete caching.

CAUTION: Do not remove a node while the "Unsafe to remove" LED is lit. If the LED is lit, the peer node has been powered down or is offline and this node should not be removed.

CAUTION: Because nodes include cooling fans, they should be removed for as short a time as possible. Do not remove nodes from a live system unless replacement parts are available.

Steps

1. Rotate the power cable retention bail to the left (right for top power supply). Disconnect the power cable from the power supply.

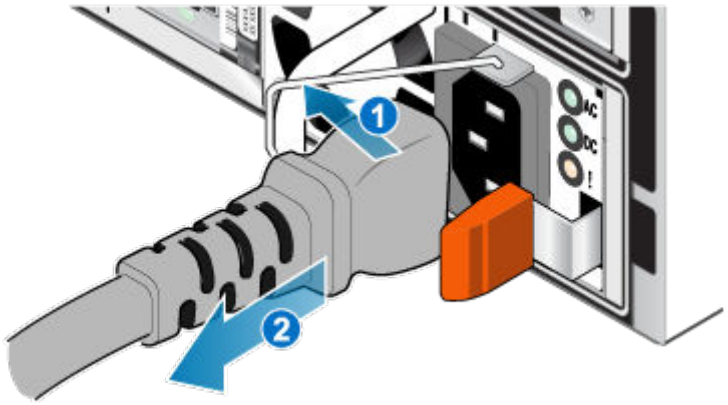


Figure 103. Removing the power cable

2. Disconnect the network and all other cables from the back of the I/O modules and network ports on the node.

   NOTE: Label the cables before you remove them.

   NOTE: Do not remove any cables from the other node.

3. Remove the node ID plugs from the node handles.
4. Pull the orange release trigger while gently pushing in on the node.

   The hook disengages from the locking mechanism, and the release tab slides out.

   NOTE: The node comes completely out of the chassis. Be prepared to support the node to avoid dropping it.

   NOTE: The release trigger and handle for node B is on the top left. The release trigger and handle for node A is on the bottom right.

   CAUTION: Removing the incorrect node will lead to loss of system power and cached data will be lost.

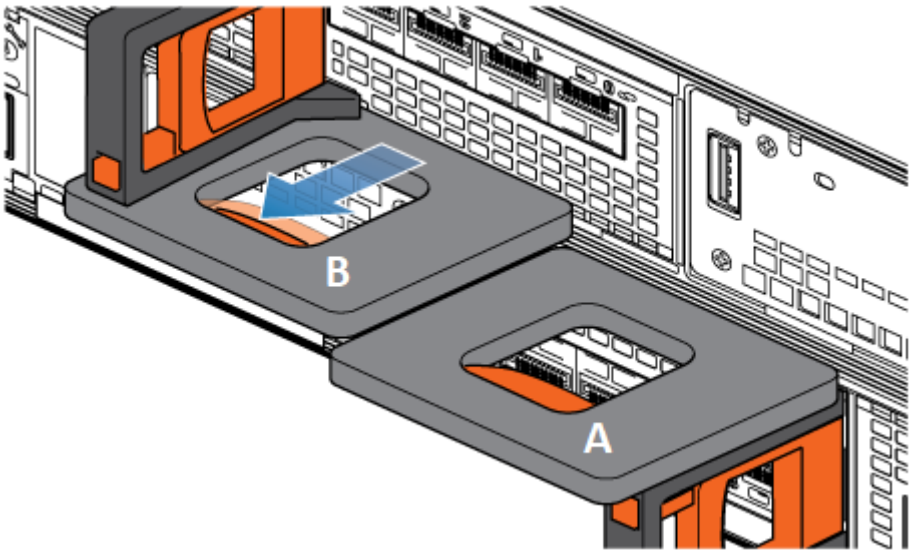


Figure 104. Disengaging the locking mechanism for node B

5. Before removing the node, ensure that the wire bail is properly secured to the power supply cable of the other node to prevent accidental loss of power and cache.
6. Use the release handle to pull the node outward enough to grasp the sides with both hands. Then, with both hands supporting the node, pull the node fully out of the enclosure.

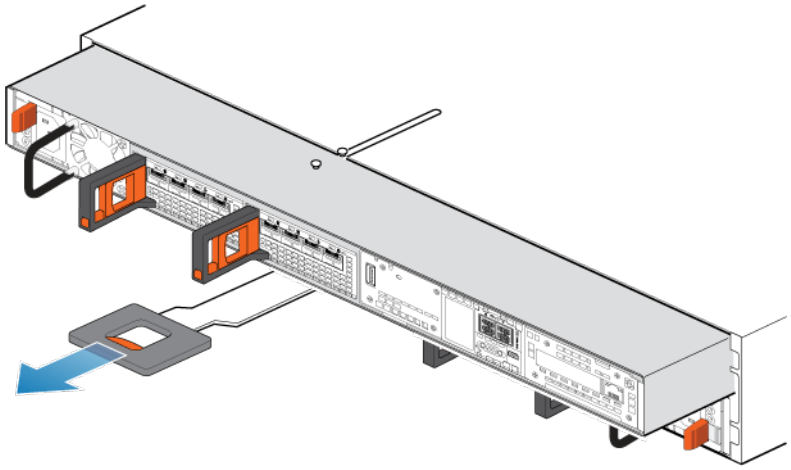


Figure 105. Removing the node

7. Place the node on a clean, flat, static-free work surface.

Remove the top cover from the node

Steps

1. While pushing down the two blue release buttons, slide the top cover towards the rear of the system, until it stops.

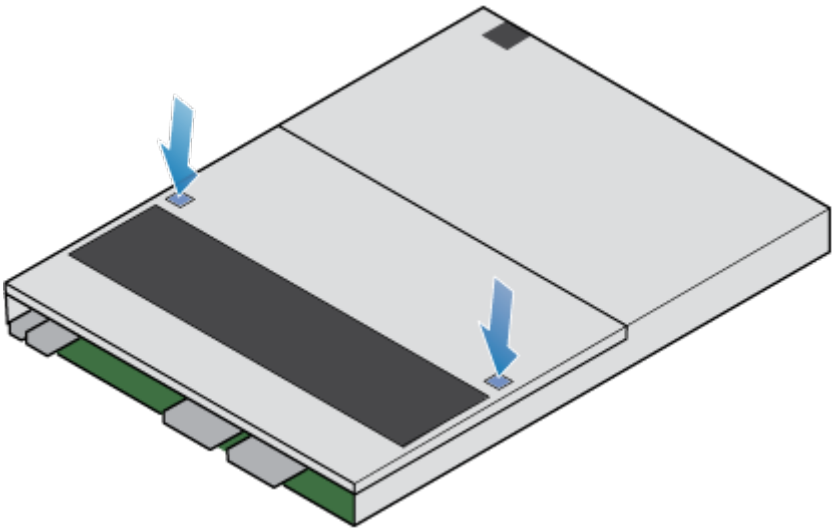


Figure 106. Releasing the top cover

2. Lift the top cover upward, and remove it from the node.

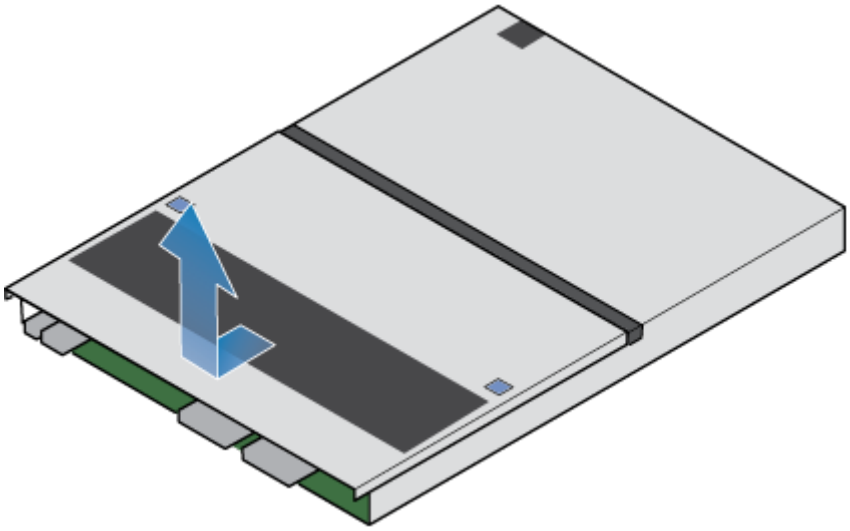


Figure 107. Removing the top cover

Remove the faulted dual inline memory module

Steps

1. Locate the faulted DIMM in the node by using the picture below as a reference for orientation. The DIMMs are identified by white or black retaining tabs.

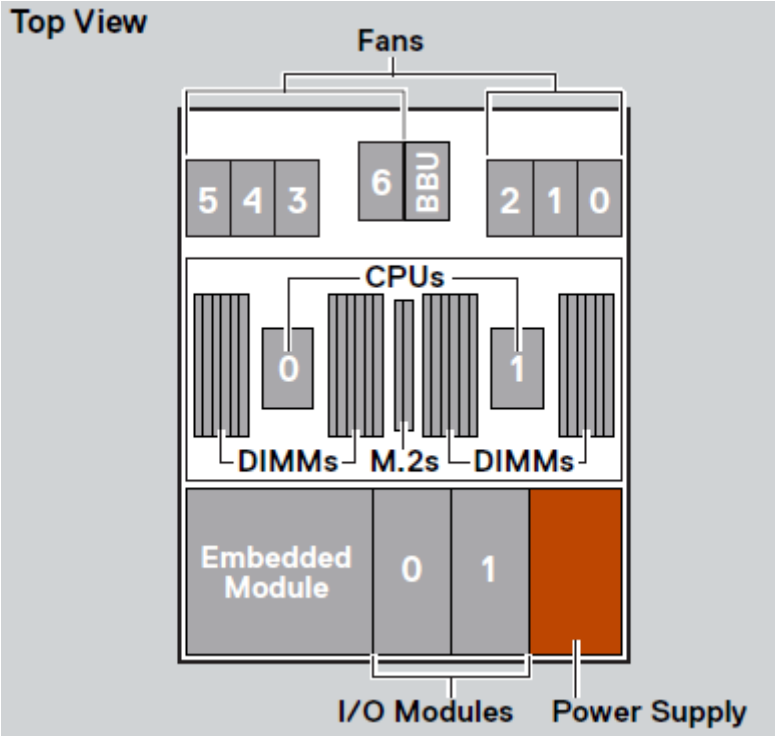


Figure 108. Top view of the node

NOTE: The leftmost DIMM slot is 23, and the slots decrease sequentially to slot 0 on the far right.

2. Depress the white or black retaining tabs downward to free the DIMM from its slot.
3. Remove the faulted DIMM.

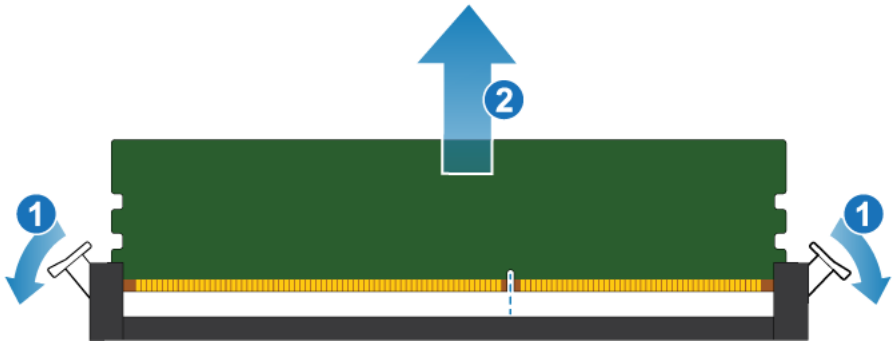


Figure 109. Removing the DIMM

Install the dual inline memory module

Steps

1. Touching only the outside edges of the DIMM, align the DIMM with the connector.
2. Press the DIMM vertically down into the socket using pressure at each end while keeping the leading edge of the DIMM parallel to the connector until it fully seats to the bottom of the socket. When the DIMM engages the contacts in the socket, you will feel resistance, and slightly more force is required to push the module down. During this stage, keep in mind the following precautions:
   - Do not insert the DIMM at an angle.
   - Do not rock the DIMM.
   - Do not insert the DIMM by pushing on one end.

- Do not seat one end of the DIMM and then the other.

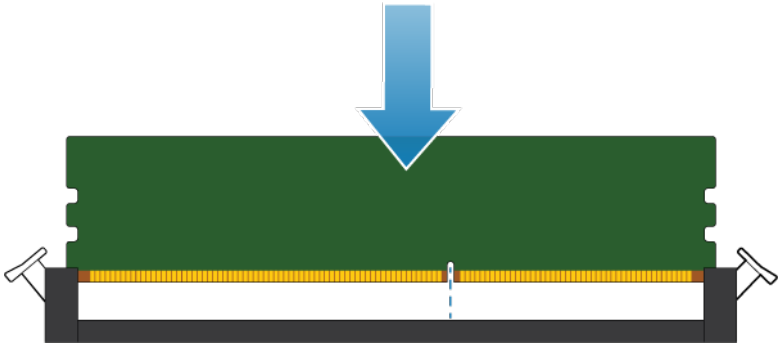


Figure 110. Installing the DIMM

3. Proper DIMM insertion will automatically close the latch ejectors and lock the DIMM into the socket. Verify that the latch ejectors are fully closed and have engaged the notches in the DIMM.

Install the top cover on the node

Steps

1. Position the top cover over the node and align it with the slots in the sides at the rear of the node.

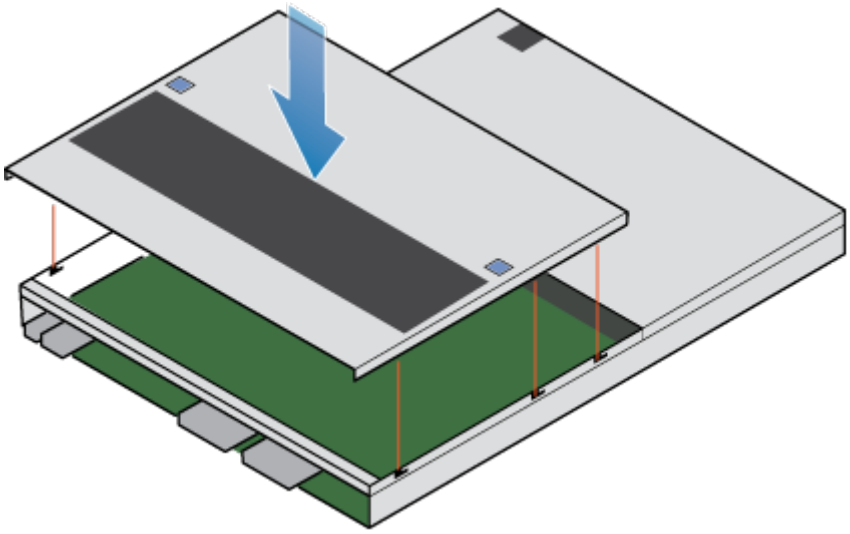


Figure 111. Aligning the top cover

2. Pull the top cover forward to secure it in place.

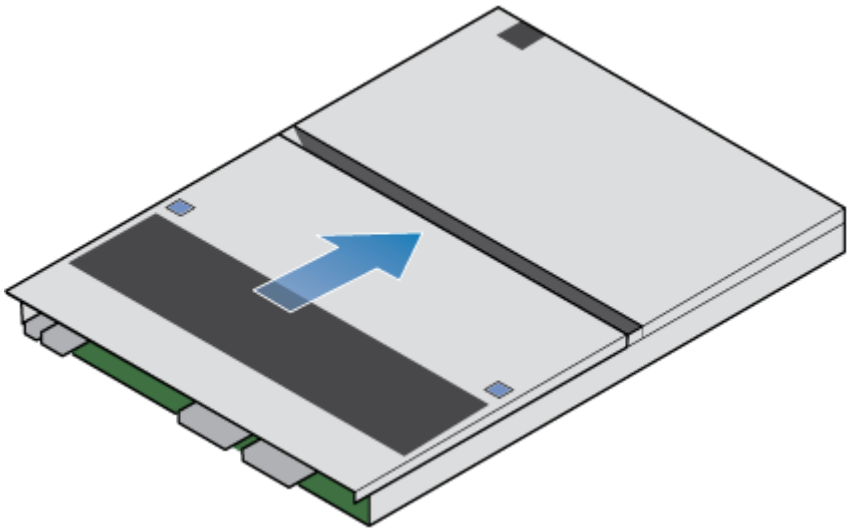


Figure 112. Securing the top cover

Install the node

Steps

1. Align the pins on the top of the node with the grooves on the top of the chassis.
2. Slide the node into the chassis until it stops, about halfway in.

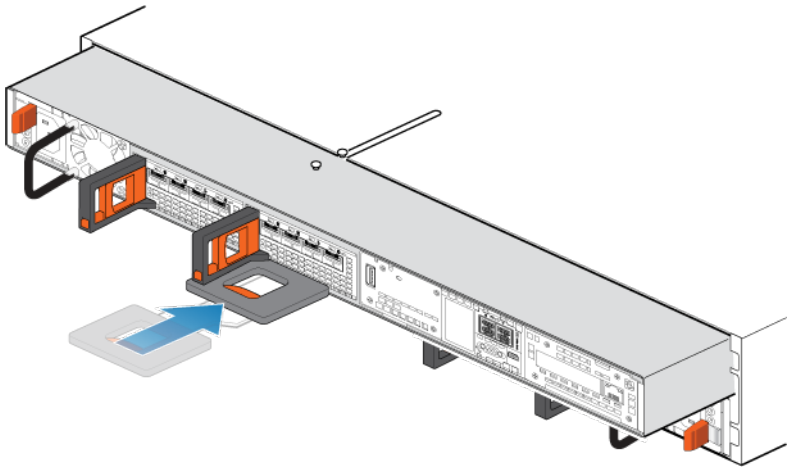


Figure 113. Sliding the node halfway into the chassis

3. Pull the black release tab out completely, and slide the rest of the node back into the chassis.
   The black release tab slides back into the system as it is inserted.

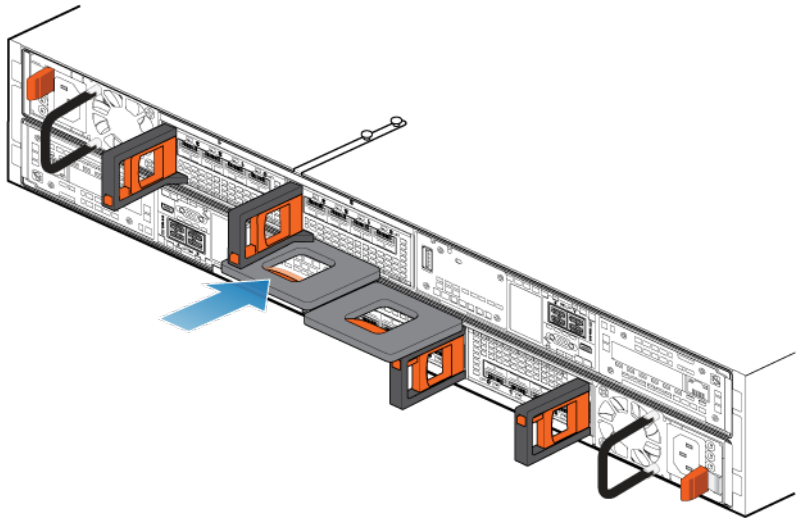


Figure 114. Installing the node

4. Reconnect the back-end cables and the cables to the I/O modules and network ports.
5. Pull the orange release trigger and push in gently to re-engage the locking mechanism.
   If the black release tab comes out when pulled, the locking mechanism is not engaged.
6. Plug in the power cable.

Verify the operation of a replacement DIMM

Steps

1. From PowerStore Manager, select **Hardware**.
2. Select the appliance where you replaced the DIMM.
3. On the **Components** card, under **Internal View**, expand the node that includes the DIMM, and then select the relevant **DIMM**.
   The status of the replacement DIMM should read `Healthy`. If the status is still `Faulted`, wait a few minutes and refresh PowerStore Manager. If the status does not change, ensure that the DIMM is correctly seated, or contact your service provider.

Return a faulted part

About this task

For US customers, return defective material within five business days. For International customers, return defective material within 10 business days. The materials required to return your defective part are supplied with the good part shipment.

Steps

1. Package the faulted part in the shipping box that contained the replacement part.
2. Ship the failed part to your service provider as described in the instructions that were included with the replacement part.
3. For more information about returning customer-replaceable parts:
   a. Open PowerStore Manager.
   b. Click **Settings** on the upper right of the screen.
   c. Click **General Support**.
   d. Under **Drives, Power Supplies, and Other Parts**, click **Return Part**.
   e. If your screen does not show the Return Part link, contact your service provider for instructions.