# Dell EMC XC430 Xpress Hyper-converged Appliance

Service and Installation Manual

DELL EMC

## Notes, cautions, and warnings

**NOTE: A NOTE indicates important information that helps you make better use of your product.**

**CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.**

**WARNING: A WARNING indicates a potential for property damage, personal injury, or death.**



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# Contents

1

# About your system

The XC430 Xpress hyper-converged appliance supports up to two Xeon E5-2600 v4 processors, up to 12 DIMMs, and three hard drives and single solid state drive (SSDs).

Topics:



## Supported configurations for XC430 Xpress

XC430 Xpress supports the following configuration:

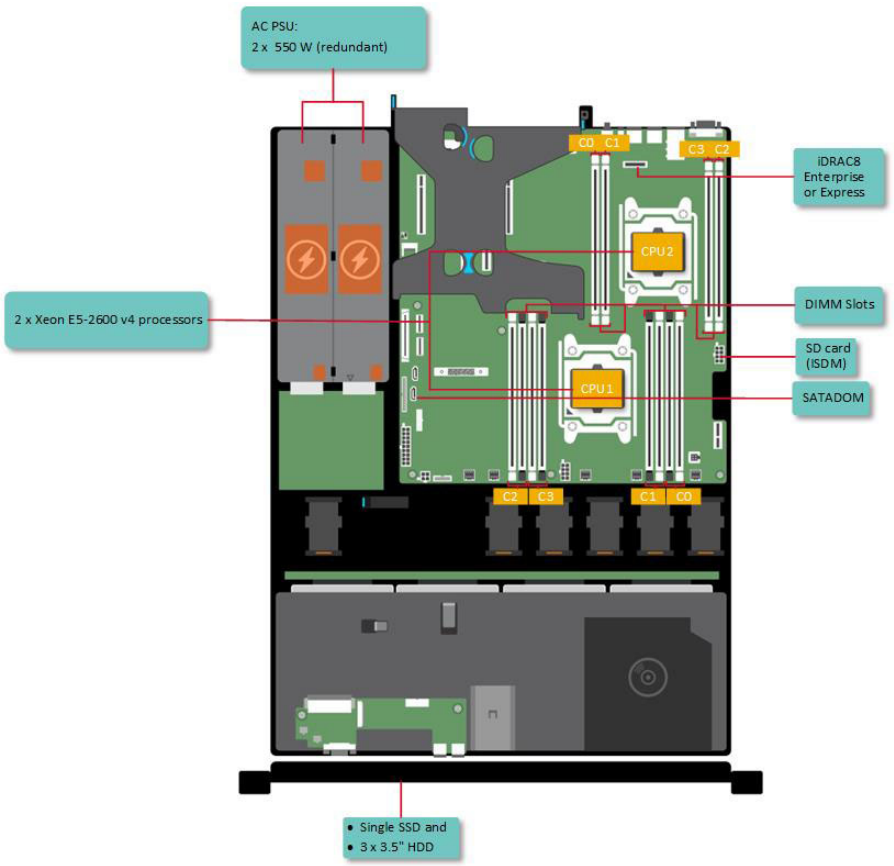


**Figure 1. Supported configurations for XC430 Xpress**

# Front-panel features and indicators

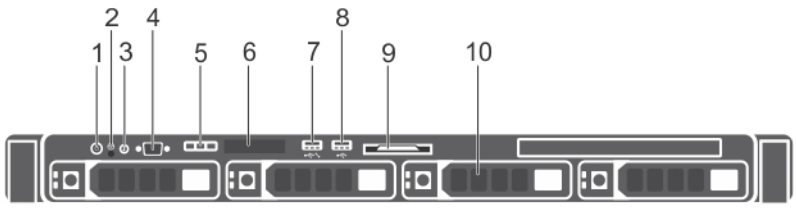


**Figure 2. Front-panel features and indicators**

**Table 1. Front-panel features and indicators**

| Item | Indicator, button, or connector | Icon | Description |
|---|---|---|---|
| 1 | Power-on indicator, power button | | The power-on indicator glows when the system power is on. The power button controls the power supply output to the system.<br>**NOTE: On ACPI-compliant operating systems, turning off the system by using the power button causes the system to perform a graceful shutdown before power to the system is turned off.** |
| 2 | NMI button | | Used to troubleshoot software and device driver errors when running certain operating systems. This button can be pressed using the end of a paper clip.<br>Use this button only if directed to do so by qualified support personnel or by the operating system's documentation. |
| 3 | System identification button | | The identification buttons on the front and back panels can be used to locate a particular system within a rack. When one of these buttons is pressed, the LCD panel on the front and the system status indicator on the back flashes until one of the buttons is pressed again.<br>Press to toggle the system ID on and off.<br>If the system stops responding during POST, press and hold the system ID button for more than five seconds to enter BIOS progress mode.<br>To reset iDRAC (if not disabled in F2 iDRAC setup), press and hold the button for more than 15 seconds. |
| 4 | Video connector | | Allows you to connect a display to the system. |
| 5 | LCD menu buttons | | Allows you to navigate the control panel LCD menu. |
| 6 | LCD panel | | Displays system ID, status information, and system error messages. |

| Item | Indicator, button, or connector | Icon | Description |
|---|---|---|---|
| 7 | USB management port or iDRAC managed USB port | | The USB management port can function as a regular USB port or provide access to the iDRAC features. For more information, see the *iDRAC User's Guide* available at **Dell.com/idracmanuals**. |
| 8 | USB connector | | Allows you to connect USB devices to the system. The port is USB 2.0-compliant. |
| 9 | Information tag | | A slide-out label panel which contains system information such as Service Tag, NIC, and MAC address for your reference. |
| 10 | Hard drives | | Up to four 3.5-inch hot-swappable hard drives or SSDs. |

# Back-panel features and indicators

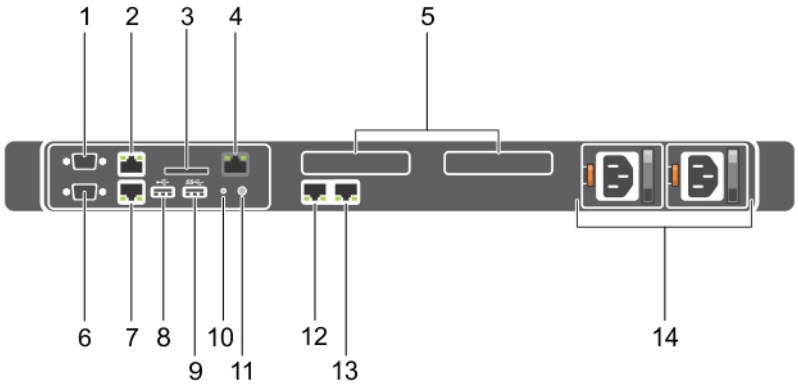


**Figure 3. Back-panel features and indicators**

**Table 2. Back-panel features and indicators**

| Item | Indicator, Button, or Connector | Icon | Description |
|---|---|---|---|
| 1 | Serial connector | | Allows you to connect a serial device to the system. |
| 2 | Ethernet connector 1 | | Integrated 10/100/1000 Mbps NIC connector. |
| 3 | vFlash card slot (optional) | | Allows you to connect the vFlash card. |
| 4 | iDRAC port (optional) | | Dedicated management port on the iDRAC ports card. |
| 5 | PCIe expansion card slots (2) | | Allows you to connect a PCI Express expansion card. |
| 6 | Video connector | | Allows you to connect a VGA display to the system. |
| 7 | Ethernet connector 2 | | Integrated 10/100/1000 Mbps NIC connector. |
| 8 | USB connector | | Allow you to connect USB devices to the system. The port is USB 2.0-compliant. |
| 9 | USB connector | | Allow you to connect USB devices to the system. The port is USB 3.0-compliant. |
| 10 | System identification button | | The identification buttons on the front and back panels can be used to locate a particular system within a rack. When one of these |

| Item | Indicator, Button, or Connector | Icon | Description |
|---|---|---|---|
| | | | buttons is pressed, the system status indicator on the back flashes until one of the buttons is pressed again.<br>Press to toggle the system ID on and off. If the system stops responding during POST, press and hold the system ID button for more than five seconds to enter BIOS progress mode.<br>To reset the iDRAC (if not disabled in F2 iDRAC setup), press and hold the button for more than 15 seconds. |
| 11 | System identification connector | | Connects the optional system status indicator assembly through the optional cable management arm. |
| 12 | Ethernet connector 3 | | 10/100/1000 Mbps NIC connector. |
| 13 | Ethernet connector 4 | | |
| 14 | Power supply unit (PSU1 and PSU2) | | **Redundant power supply** Up to two 550 W redundant AC power supplies. |

# Diagnostic indicators

The diagnostic indicators on the system indicate operation and error status.

# Diagnostic indicators on the front panel

**NOTE: No diagnostic indicators are lit when the system is turned off. To start the system, plug it into a working power source and press the power button.**

**Table 3. Diagnostic indicators**

| Icon | Description | Condition | Corrective action |
|---|---|---|---|
| | Health indicator | The indicator turns solid blue if the system is in good health. | None required. |
| | | The indicator flashes amber:<br>• When the system is turned on.<br>• When the system is in standby.<br>• If any error condition exists. For example, a failed fan, PSU, or a hard drive. | Check the System Event Log or system messages for the specific issue. For more information about error messages, see the *Dell Event and Error Messages Reference Guide* at **Dell.com/openmanagemanuals** > **OpenManage software**.<br>The POST process is interrupted without any video output due to invalid memory configurations. See the Getting help section. |
| | Hard drive indicator | The indicator flashes amber if there is a hard drive error. | Check the System Event Log to determine the hard drive that has an error. Run the appropriate Online Diagnostics test. Restart the system and run embedded diagnostics (ePSA). |
| | Electrical indicator | The indicator flashes amber if the system experiences an electrical error (for example, voltage out of range, or | Check the System Event Log or system messages for the specific issue. If it is due to a problem with the PSU, check the LED on the PSU. Reseat the PSU. If the problem persists, see the Getting help section. |

| Icon | Description | Condition | Corrective action |
|---|---|---|---|
| | | a failed power supply unit (PSU) or voltage regulator). | |
| | Temperature indicator | The indicator flashes amber if the system experiences a thermal error (for example, the ambient temperature is out of range or fan failure). | Ensure that none of the following conditions exist:<br>• A cooling fan has been removed or has failed.<br>• System cover, cooling shroud, EMI filler panel, memory module blank, or back filler bracket is removed.<br>• Ambient temperature is too high.<br>• External airflow is obstructed.<br>See the Getting help section. |
| | Memory indicator | The indicator flashes amber if a memory error occurs. | Check the system event log or system messages for the location of the failed memory. Reseat the memory module. If the problem persists, see the Getting help section. |

**Related links**

Getting help

# Hard drive indicator codes

Each hard drive carrier has an activity indicator and a status indicator. The indicators provide information about the current status of the hard drive. The activity LED indicates whether hard drive is currently in use or not. The status LED indicates the power condition of the hard drive.

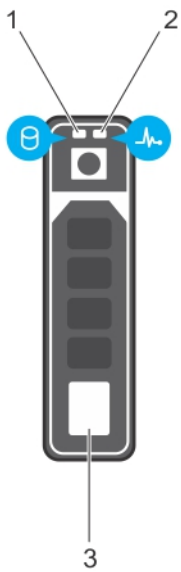


**Figure 4. Hard drive indicators**

1 Hard drive activity indicator
2 Hard drive status indicator
3 Hard drive

**NOTE: If the hard drive is in the Advanced Host Controller Interface (AHCI) mode, the status indicator (on the right side) does not turn on.**

**Table 4. Hard drive indicator codes**

| Drive-status indicator pattern | Condition |
|---|---|
| Flashes green twice per second | Identifying drive or preparing for removal. |
| Off | Drive ready for insertion or removal.<br>**NOTE: The drive status indicator remains off until all hard drives are initialized after the system is turned on. Drives are not ready for insertion or removal during this time.** |
| Flashes green, amber, and then turns off | Predicted drive failure |
| Flashes amber four times per second | Drive failed |
| Flashes green slowly | Drive rebuilding |
| Steady green | Drive online |
| Flashes green for three seconds, amber for three seconds, and then turns off after six seconds | Rebuild stopped |

# NIC indicator codes

The NIC on the back panel has an indicator that provides information about the network activity and link status. The activity LED indicates whether the NIC is currently connected or not. The link LED indicates the speed of the connected network.

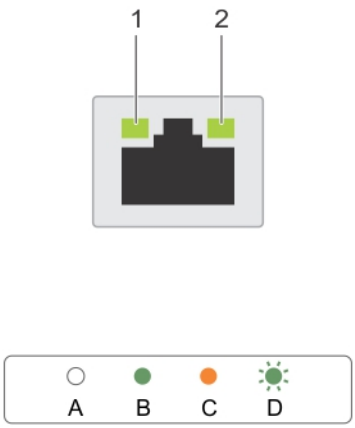


**Figure 5. NIC indicators**

1 link indicator 2 activity indicator

**Table 5. NIC indicators**

| Convention | Status | Condition |
|---|---|---|
| A | Link and activity indicators are off | The NIC is not connected to the network. |
| B | Link indicator is green | The NIC is connected to a valid network at its maximum port speed (1 Gbps or 10 Gbps). |

| Convention | Status | Condition |
|---|---|---|
| C | Link indicator is amber | The NIC is connected to a valid network at less than its maximum port speed. |
| D | Activity indicator is flashing green | Network data is being sent or received. |

# Internal SD module indicator codes

You can configure the Internal SD module (ISDM) for storage or as the OS boot partition. The ISDM card offers the following features:

- Single card operation—single card operation is supported, but without redundancy.

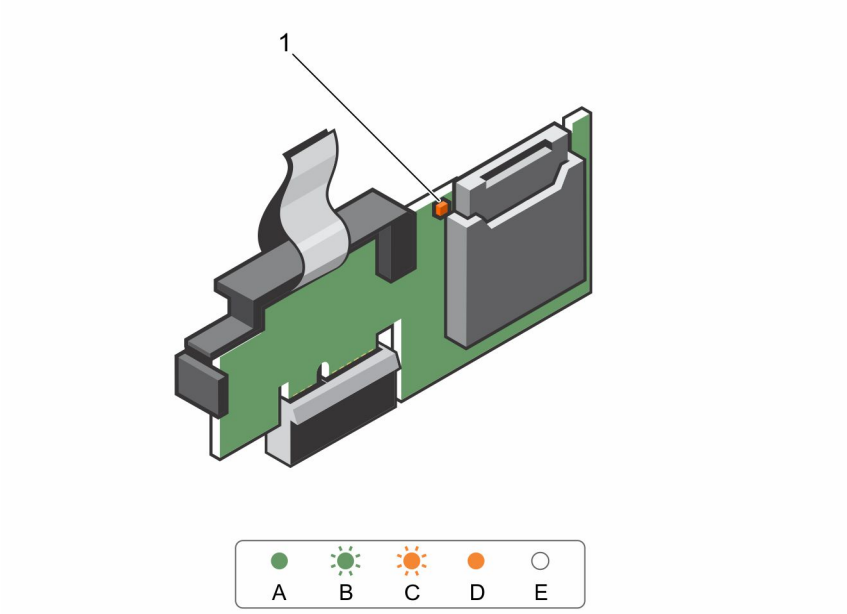


**Figure 6. Internal SD module**

1 LED status indicator

The following table describes the ISDM indicator codes:

**Table 6. ISDM indicator codes**

| Convention | ISDM indicator code | Description |
|---|---|---|
| A | Green | Indicates that the card is online. |
| B | Flashing green | Indicates rebuild or activity. |
| C | Flashing amber | Indicates card mismatch or that the card has failed. |
| D | Amber | Indicates that the card is offline, has failed, or is write-protected. |
| E | Not lit | Indicates that the card is missing or is booting. |

# iDRAC Direct LED indicator codes

The iDRAC Direct LED indicator lights up to indicate that the port is connected and is being used as a part of the iDRAC subsystem.

**NOTE: The iDRAC Direct LED indicator does not turn on when the USB port is used in the USB mode.**

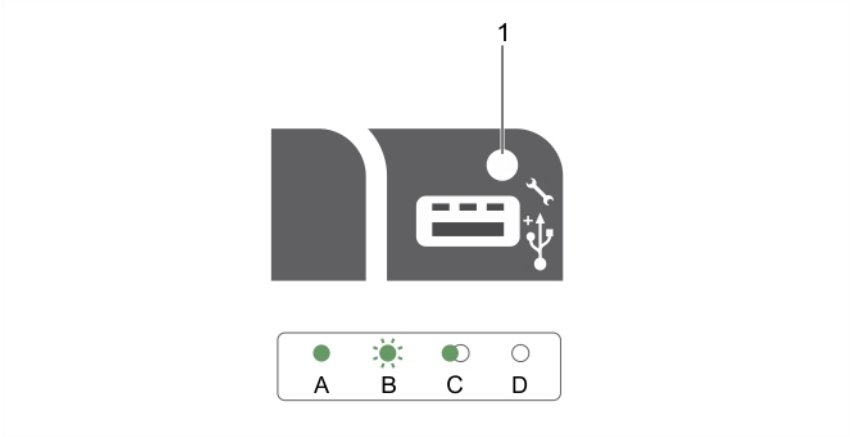


**Figure 7. iDRAC Direct LED indicator**

1 iDRAC Direct status indicator

The iDRAC Direct LED indicator table describes iDRAC Direct activity when configuring iDRAC Direct by using the management port (USB XML Import).

**Table 7. iDRAC Direct LED indicators**

| Convention | iDRAC Direct LED indicator pattern | Condition |
|---|---|---|
| A | Green | Turns green for a minimum of two seconds to indicate the start and end of a file transfer. |
| B | Flashing green | Indicates file transfer or any operation tasks. |
| C | Green and turns off | Indicates that the file transfer is complete. |
| D | Not lit | Indicates that the USB is ready to be removed or that a task is complete. |

The following table describes iDRAC Direct activity when configuring iDRAC Direct by using your laptop and cable (Laptop Connect):

**Table 8. iDRAC Direct LED indicator patterns**

| iDRAC Direct LED indicator pattern | Condition |
|---|---|
| Solid green for two seconds | Indicates that the laptop is connected. |
| Flashing green (on for two seconds and off for two seconds) | Indicates that the laptop connected is recognized. |
| Turns off | Indicates that the laptop is unplugged. |

# Indicator codes for redundant power supply unit

Each AC power supply unit (PSU) has an illuminated translucent handle that indicates whether power is present or whether a power fault has occurred.


**Figure 8. AC PSU status indicator**

1 AC PSU status indicator or handle

**Table 9. Redundant AC PSU status indicator**

| Convention | Power Indicator Pattern | Condition |
|---|---|---|
| A | Green | A valid power source is connected to the PSU and the PSU is operational. |
| B | Flashing green | When the PSU firmware is being updated, the PSU handle flashes green.<br>**CAUTION: Do not disconnect the power cord or unplug the PSU when updating firmware. If firmware update is interrupted, the PSUs will not function. You must roll back the PSU firmware by using Dell Lifecycle Controller. For more information, see Dell Lifecycle Controller User's Guide at Dell.com/idracmanuals.** |
| C | Flashing green and turns off | When hot-adding a PSU, the PSU handle flashes green five times at 4 Hz rate and turns off. This indicates that there is a PSU mismatch with respect to efficiency, feature set, health status, and supported voltage.<br>**CAUTION: For AC PSUs, use only PSUs with the Extended Power Performance (EPP) label on the back.**<br>**NOTE: Ensure that both the PSUs are of the same capacity.**<br>**NOTE: Mixing PSUs from previous generations of Dell PowerEdge servers can result in a PSU mismatch condition or failure to turn the system on.** |
| D | Flashing amber | Indicates a problem in the PSU. |

| Convention | Power Indicator Pattern | Condition |
|---|---|---|
| | | **CAUTION: When correcting a PSU mismatch, replace only the PSU with the flashing indicator. Swapping the other PSU to make a matched pair can result in an error condition and unexpected system shutdown. To change from a High Output configuration to a Low Output configuration or vice versa, you must turn off the system.** |
| | | **CAUTION: AC PSUs support both 220 V and 110 V input voltages with the exception of Titanium PSUs, which support only 220 V. When two identical PSUs receive different input voltages, they can output different wattages, and trigger a mismatch.** |
| | | **CAUTION: If two PSUs are used, they must be of the same type and have the same maximum output power.** |
| | | **CAUTION: Combining AC and DC PSUs is not supported and triggers a mismatch.** |
| E | Not lit | Power is not connected. |

# Locating Service Tag of your system

Your system is identified by a unique Express Service Code and Service Tag number. The Express Service Code and Service Tag are found on the front of the system by pulling out the information tag. Alternatively, the information may be on a sticker on the chassis of the system. This information is used by Dell EMC to route support calls to the appropriate personnel.

# 2

# Documentation references

For information about the Dell EMC documents, see the Support Matrix specific for your product available at **Dell.com/XCSeriesmanuals**.

For information about the Nutanix documents that applies to a specific release of Nutanix solution software, see the Support Matrix specific for your product available at **Dell.com/XCSeriesmanuals**.

# 3

# Technical specifications

For information about the technical and environmental specifications of your system, see the Support Matrix available at **Dell.com/XCSeriesmanuals**.

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# Initial system setup and configuration

## Setting up your system

To set up your system, complete the following steps :

1 For information about deploying the XC430 Xpress, see the *Dell EMC XC430 Xpress Hyper-Converged Deployment Guide* available at **Dell.com/XCSeriesmanuals.**
2 Unpack the system.
3 Connect the peripherals to the system.
4 Connect the system to its electrical outlet.
5 Turn on the system by pressing the power button or by using iDRAC.

**NOTE: Do not unplug or turn off the system until the first-time boot scripts have completed.**

6 Turn on the attached peripherals.

## iDRAC configuration

The Integrated Dell Remote Access Controller (iDRAC) is designed to make system administrators more productive and improve the overall availability of Dell EMC systems. iDRAC alerts administrators to system issues, helps them perform remote system management, and reduces the need for physical access to the system.

## Log in to iDRAC

You can log in to iDRAC as:

- iDRAC user
- Microsoft Active Directory user
- Lightweight Directory Access Protocol (LDAP) user

The default user name and password are `root` and `calvin`. You can also log in by using Single Sign-On or Smart Card.

**NOTE: You must have iDRAC credentials to log in to iDRAC.**

For more information about logging in to iDRAC and iDRAC licenses, see the latest Integrated Dell Remote Access Controller User's Guide at **Dell.com/idracmanuals**.

## Methods to download firmware and drivers

You can download the firmware and drivers by using any of the following methods:

**NOTE: For information about latest firmware and driver versions, see the Support Matrix available at Dell.com/XCSeriesmanuals.**

**Table 10. Firmware and drivers**

| Methods | Location |
|---|---|
| From the Dell Support site | Dell.com/support/home |
| Using Dell Remote Access Controller Lifecycle Controller (iDRAC with LC) | Dell.com/idracmanuals |
| Using Dell Repository Manager (DRM) | Dell.com/openmanagemanuals |
| Using Dell OpenManage Essentials (OME) | Dell.com/openmanagemanuals |
| Using Dell Server Update Utility (SUU) | Dell.com/openmanagemanuals |
| Using Dell OpenManage Deployment Toolkit (DTK) | Dell.com/openmanagemanuals |

# Downloading the drivers and firmware

Dell recommends that you download and install the latest BIOS, drivers, and systems management firmware on your system.

**Prerequisites**

Ensure that you clear the web browser cache before downloading the drivers and firmware.

**Steps**

1 Go to Dell.com/support/drivers.

2 In the **Drivers & Downloads** section, type the Service Tag of your system in the **Service Tag or Express Service Code** box, and then click **Submit**.

> **NOTE: If you do not have the Service Tag, select Detect My Product to allow the system to automatically detect your Service Tag, or in General support, navigate to your product.**

3 Click **Drivers & Downloads**.

The drivers that are applicable to your selection are displayed.

4 Download the drivers to a USB drive, CD, or DVD.

# 5

# System Setup

**NOTE: Changing the default System Setup may make the appliance unusable. Dell EMC recommends only making changes under the direction of Dell EMC tech support.**

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# Installing and removing system components

You can add or replace hardware components, on your appliance, such as hard disk drives (HDDs), solid state drives (SSDs), and power supplies. Only Dell EMC certified service technicians should perform these procedures. For certain hardware components, you may need to contact Customer Support for repair or replacement.

Topics:



## Safety instructions

**WARNING: Whenever you need to lift the system, get others to assist you. To avoid injury, do not attempt to lift the system by yourself.**

**WARNING: Opening or removing the system cover while the system is powered on may expose you to a risk of electric shock.**

**CAUTION: Do not operate the system without the cover for a duration exceeding five minutes.**

**CAUTION: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell EMC is not covered by your warranty. Read and follow the safety instructions that are shipped with your product.**

**NOTE: Dell EMC recommends that you always use a static mat and static strap while working on components inside the system.**

**NOTE: This appliance has been validated for certain hardware configurations. Do not deviate from Xpress specific Dell EMC qualified components.**

# Before working inside your system

**Prerequisites**

Follow the safety guidelines listed in the Safety instructions section.

**Steps**

1 Turn off the system, including any attached peripherals.
2 Disconnect the system from the electrical outlet and disconnect the peripherals.
3 If installed, remove the front bezel.
4 If applicable, remove the system from the rack.
   For more information, see the *Rack Installation* placemat at **Dell.com/poweredgemanuals**.
5 Remove the system cover.

**Related links**

Safety instructions
Removing the optional front bezel
Removing the system cover

# After working inside your system

**Prerequisites**

Follow the safety guidelines listed in the Safety instructions section.

**Steps**

1 Install the system cover.
2 If applicable, install the system into the rack.
   For more information, see the *Rack Installation* placemat at **Dell.com/poweredgemanuals**.
3 If removed, install the front bezel.
4 Reconnect the peripherals and connect the system to the electrical outlet.
5 Turn on the system, including any attached peripherals.

**Related links**

Safety instructions
Installing the optional front bezel
Installing the system cover

# Recommended tools

You need the following tools to perform the removal and installation procedures:

- Key to the bezel lock.
  The key is needed only if your system includes a bezel.
- Phillips #1 screwdriver
- Phillips #2 screwdriver
- Plastic scribe
- Wrist grounding strap

# Front bezel (optional)

The front bezel is attached to the front side of the system and prevents accidents while removing the hard drive or when pressing the reset or power button. The front bezel can also be locked for additional security.

# Removing the optional front bezel

**Prerequisites**

Follow the safety guidelines listed in the Safety instructions section.

**Steps**

1 Locate and remove the bezel key.

**NOTE: The bezel key is attached to the back of the bezel.**

2 Unlock the bezel by using the key.

3 Slide the release latch up, and pull the left end of the bezel.

4 Unhook the right end, and remove the bezel.

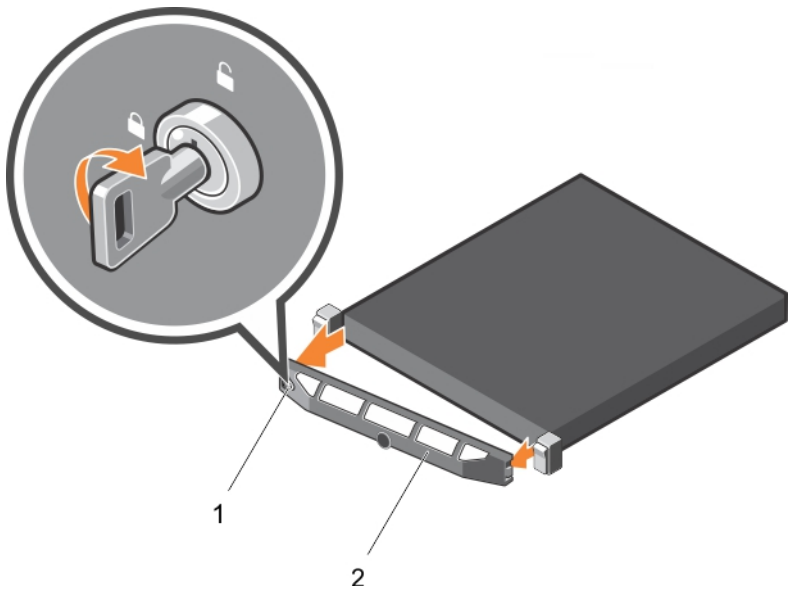


**Figure 9. Removing the optional front bezel**

1 bezel lock

2 front bezel

# Installing the optional front bezel

**Prerequisites**

Follow the safety guidelines listed in the Safety instructions section.

**Steps**

1 Locate and remove the bezel key.

**NOTE: The bezel key is attached to the back of the bezel.**

2 Hook the right end of the bezel onto the chassis.

3 Fit the free end of the bezel onto the system.

4 Lock the bezel by using the key.

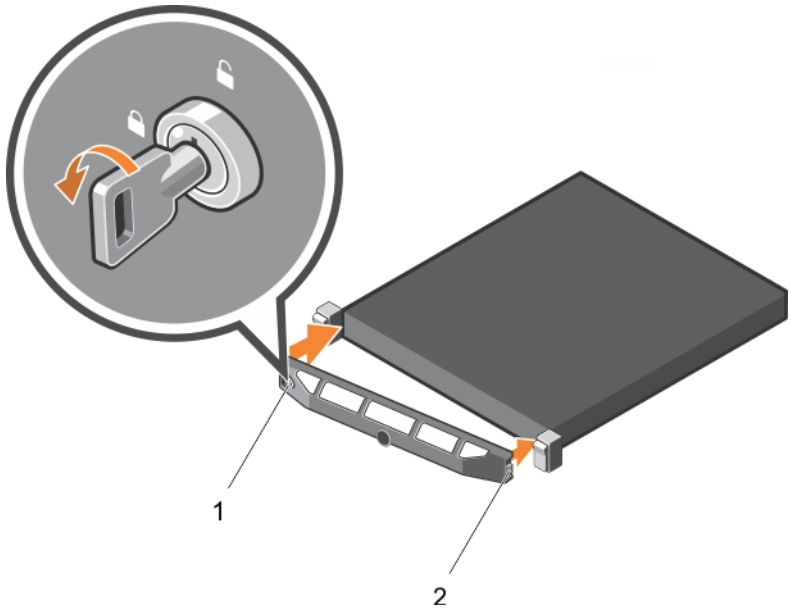


**Figure 10. Installing the optional front bezel**

1 bezel lock

2 front bezel

# System cover

The system cover protects the components inside the system and helps in maintaining air flow inside the system. Removing the system cover activates the intrusion switch.

# Removing the system cover

### Prerequisites

1 Follow the safety guidelines listed in the Safety instructions section.

2 Turn off the system, including any attached peripherals.

3 Disconnect the system from the electrical outlet and disconnect the peripherals.

4 If installed, remove the optional bezel.

### Steps

1 Rotate the latch release lock counter clockwise to the unlocked position.

2 Lift the latch toward the back of the system.

The system cover slides back and the tabs on the system cover disengage from the slots on the chassis.

**NOTE: The position of the latch may vary depending on the configuration of your system.**

3 Hold the cover on both sides, and lift the cover away from the system.

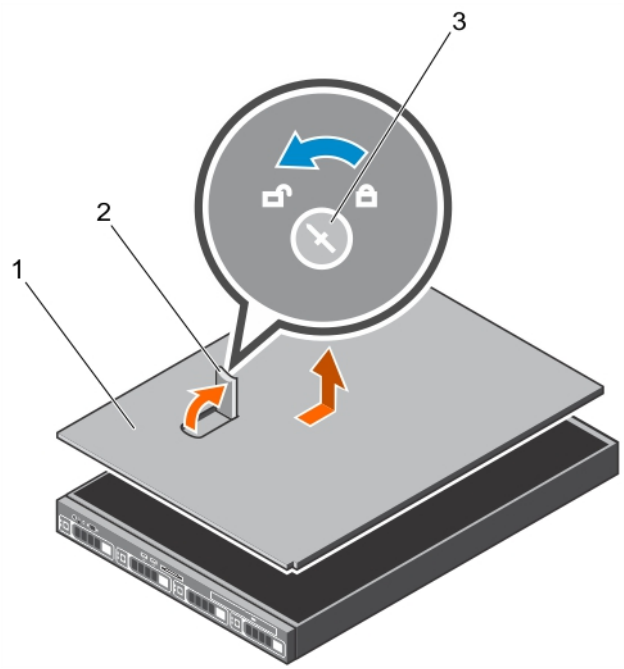


**Figure 11. Removing the system cover**

| | | | |
|---|---|---|---|
| 1 | system cover | 2 | latch |
| 3 | latch release lock | | |

### Next steps

1 Install the system cover.

### Related links

Safety instructions
Removing the optional front bezel
Installing the system cover

# Installing the system cover

### Prerequisites

1 Follow the safety guidelines listed in the Safety instructions section.
2 Follow the procedure listed in the Before working inside your system section.
3 Ensure that all internal cables are connected and placed out of the way, and no tools or extra parts are left inside the system.

### Steps

1 Align the slots on the system cover with the tabs on the chassis.
2 Push the system cover latch down.

The system cover slides forward and the slots on the system cover engage with the tabs on the chassis. The system cover latch locks into place when the system cover is completely engaged with the tabs on the chassis.

3 Rotate the latch release lock clockwise to the locked position.

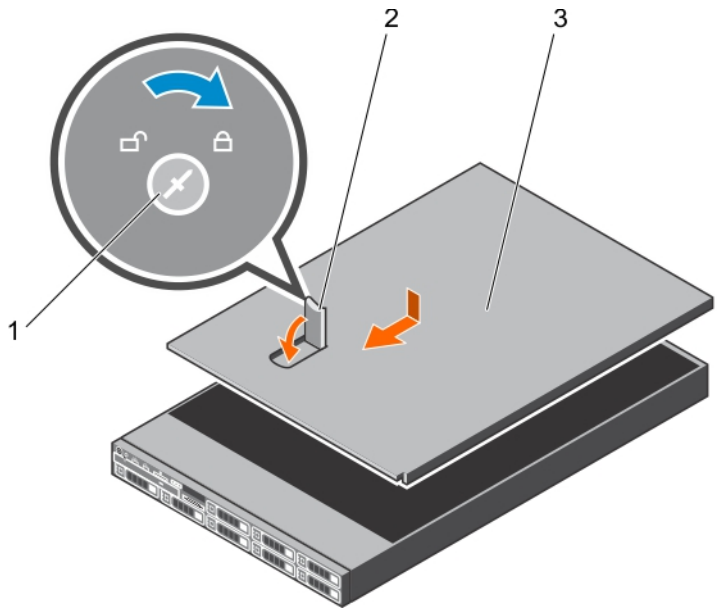


**Figure 12. Installing the system cover**

| | | | |
|---|---|---|---|
| 1 | latch release lock | 2 | latch |
| 3 | system cover | | |

### Next steps

1. If removed, install the front bezel.
2. Reconnect the peripherals and connect the system to the electrical outlet.
3. Turn on the system, including any attached peripherals.
4. Follow the procedure listed in the After working inside your system section.

### Related links

Safety instructions
Before working inside your system
Installing the optional front bezel

# Inside the system

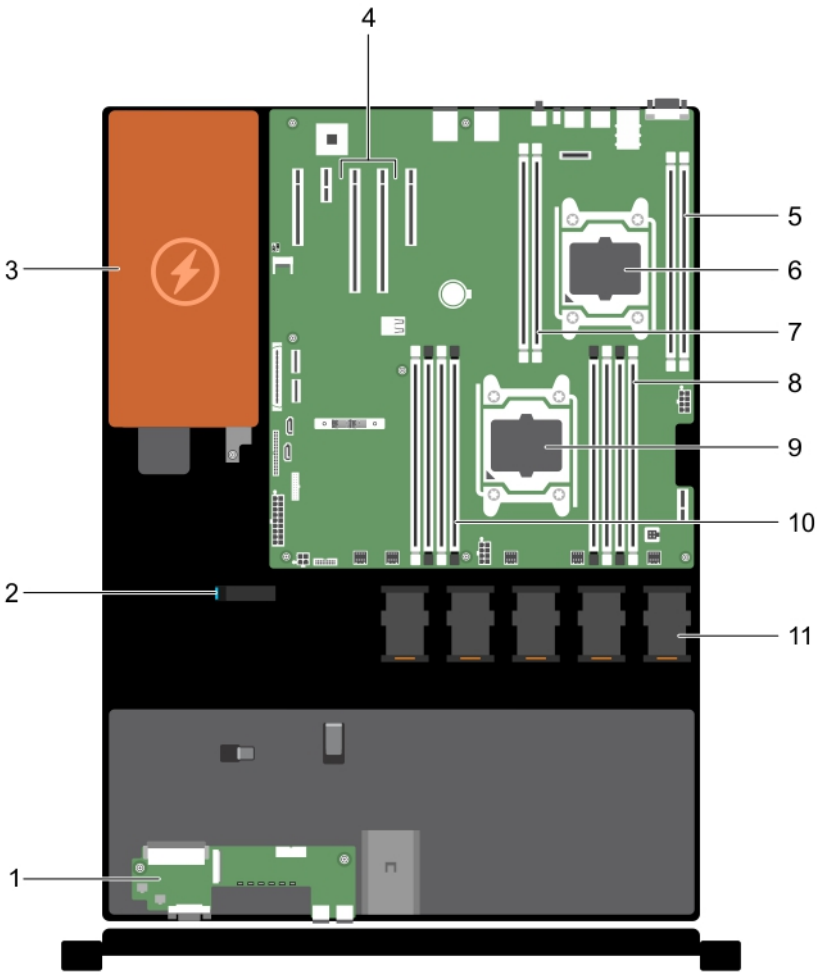


**Figure 13. Inside the system**

| | | | |
|---|---|---|---|
| 1 | control panel | 2 | cable routing latch |
| 3 | power supply unit | 4 | expansion-card riser connector (2) |
| 5 | memory-module socket (B3, B4) | 6 | processor 2 |
| 7 | memory-module socket (B1, B2) | 8 | memory-module socket (A1, A5, A2, A6) |
| 9 | processor 1 | 10 | memory-module socket (A3, A7, A4, A8) |
| 11 | cooling fan (5) | | |

# Cooling shroud

The cooling shroud aerodynamically directs the airflow across the entire system. The airflow passes through all the critical parts of the system, where the vacuum pulls air across the entire surface area of the heat sink, thus allowing increased cooling.

# Removing the cooling shroud

### Prerequisites

1 Follow the safety guidelines listed in the Safety instructions section.
2 Follow the procedure listed in the Before working inside your system section.
3 If installed, remove the full-length PCIe card.

### Steps

Holding the touch points, lift the cooling shroud away from the system.

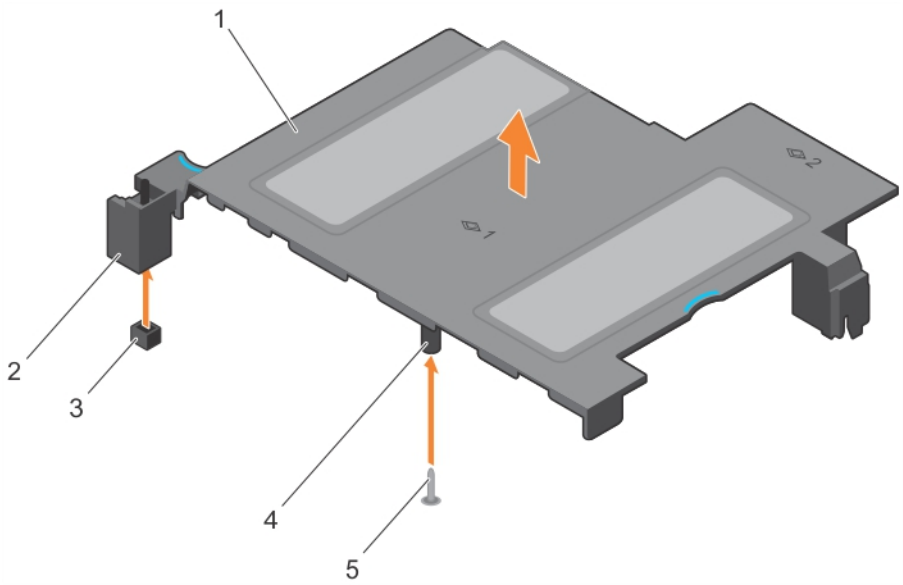


**Figure 14. Removing the cooling shroud**

| | | | |
|---|---|---|---|
| 1 | cooling shroud | 2 | intrusion switch |
| 3 | intrusion switch connector on the system board | 4 | guide on the cooling shroud |
| 5 | guide pin | | |

### Next steps

1 Install the cooling shroud.
2 If required, install the full-length PCIe card.
3 Follow the procedure listed in the After working inside your system section.

### Related links

Safety instructions
Before working inside your system
After working inside your system

# Installing the cooling shroud

### Prerequisites

1 Follow the safety guidelines listed in the Safety instructions section.
2 Follow the procedure listed in the Before working inside your system section.
3 If applicable, route the cables inside the system along the chassis wall and secure the cables by using the cable-securing bracket.

### Steps

1 Align the tabs on the cooling shroud with the securing slots on the chassis.
   a Align the cooling shroud with the guide pin on the system board.
   b Align the intrusion switch with the intrusion switch connector on the system board.
2 Lower the cooling shroud into the chassis until it is firmly seated.
   When firmly seated, the memory socket numbers marked on the cooling shroud align with the respective memory sockets.

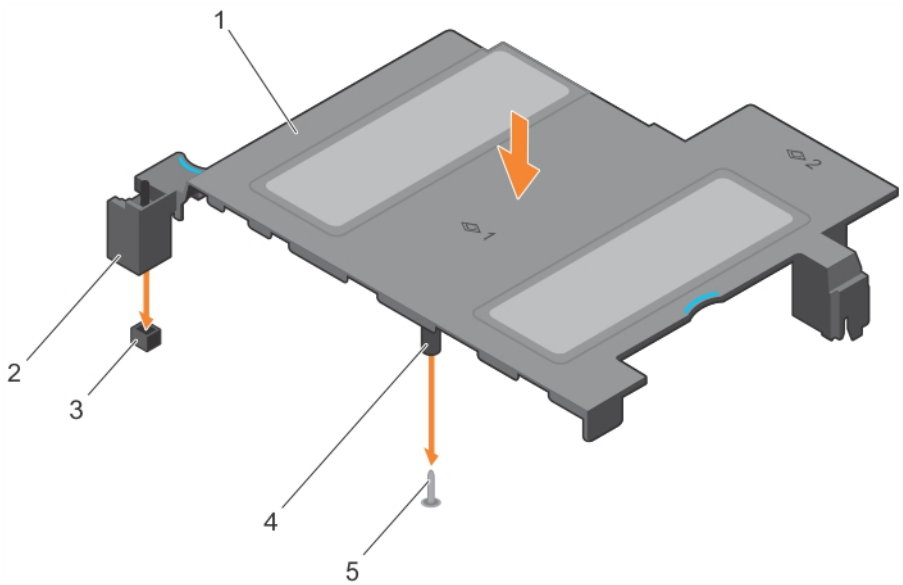


**Figure 15. Installing the cooling shroud**

1 cooling shroud
2 intrusion switch
3 intrusion switch connector on the system board
4 guide on the cooling shroud
5 guide pin

### Next steps

1 Follow the procedure listed in the After working inside your system section.

### Related links

Safety instructions
Before working inside your system
After working inside your system

# System memory

Your system supports DDR4 registered DIMMs (RDIMMs).

**NOTE: MT/s indicates DIMM speed in MegaTransfers per second.**

Memory bus operating frequency can be 2400 MT/s depending on the following factors:

- System profile selected (for example, Performance Optimized, Custom, or Dense Configuration Optimized)
- Maximum supported DIMM frequency of the processors

The system contains 12 memory sockets split into four sets—two sets of 4 sockets and two sets of 2 sockets each. Each 4-socket set is organized into two channels and each 2–socket set is organized into one channel. In each channel of the 4-socket set, the release levers of the first socket are marked white and the second socket black. In the 2-socket set, each release lever is marked white.

**NOTE: DIMMs in sockets A1 to A8 are assigned to processor 1 and DIMMs in sockets B1 to B4 are assigned to processor 2.**

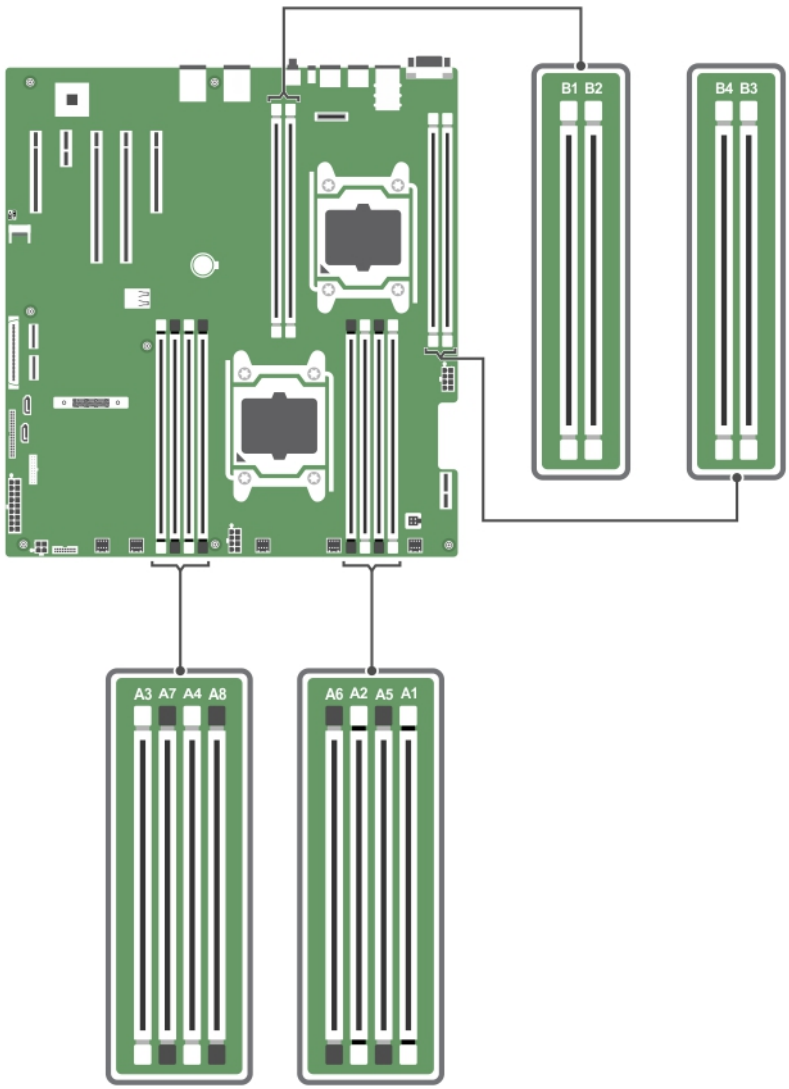


**Figure 16. System memory**

Memory channels are organized as follows:

| | |
|---|---|
| Processor 1 | channel 0: memory sockets A1 and A5 |
| | channel 1: memory sockets A2 and A6 |
| | channel 2: memory sockets A3 and A7 |
| | channel 3: memory sockets A4 and A8 |
| Processor 2 | channel 0: memory sockets B1 |
| | channel 1: memory sockets B2 |
| | channel 2: memory sockets B3 |
| | channel 3: memory sockets B4 |

The following table shows the memory populations and operating frequencies for the supported configurations.

**Table 11. Supported configurations**

| DIMM Type | DIMMs Populated/ Channel | Operating Frequency (in MT/s) | Maximum DIMM Rank/Channel | Voltage |
|---|---|---|---|---|
| RDIMM | 1 | 2400 | Dual rank or single rank | 1.2 V |
| | 2 | | | |

# General memory module installation guidelines

Your system supports Flexible Memory Configuration, enabling the system to be configured and run in any valid chipset architectural configuration. The following are the recommended guidelines for installing memory modules:

- x4 and x8 DRAM-based DIMMs can be mixed. For more information, see the Mode-specific guidelines section.
- Up to two dual- or single-rank RDIMMs can be populated per channel.
- If memory modules with different speeds are installed, they will operate at the speed of the slowest installed memory modules or slower depending on system DIMM configuration.
- Populate DIMM sockets only if a processor is installed. For single-processor systems, sockets A1 to A8 are available. For dual-processor systems, sockets A1 to A8 and sockets B1 to B4 are available.
- Populate all sockets with white release levers first, and then all the sockets with black release levers.
- When mixing memory modules with different capacities, populate the sockets with memory modules with highest capacity first. For example, if you want to mix 4 GB and 8 GB DIMMs, populate 8 GB DIMMs in the sockets with white release levers and 4 GB DIMMs in the sockets with black release levers.
- In a dual-processor configuration, the memory configuration for each processor should be identical through the first eight slots. For example, if you populate socket A1 for processor 1, then populate socket B1 for processor 2, and so on.
- Memory modules of different capacities can be mixed provided other memory population rules are followed (for example, 4 GB and 8 GB memory modules can be mixed).
- Mixing of more than two DIMM capacities in a system is not supported.
- Populate two DIMMs per processor (one DIMM per channel) at a time to maximize performance.

# Mode-specific guidelines

Four memory channels are allocated to each processor. The allowable configurations depend on the memory mode selected.

**NOTE: You can mix x4 and x8 DRAM based DIMMs to support RAS features. However, all guidelines for specific RAS features must be followed. x4 DRAM based DIMMs retain Single Device Data Correction (SDDC) in memory optimized (independent channel) mode. x8 DRAM based DIMMs require Advanced ECC mode to gain SDDC.**

The following section provide additional slot population guidelines for each mode:

## Memory optimized (independent channel) mode

This mode supports Single Device Data Correction (SDDC) only for memory modules that use x4 device width. It does not impose any specific slot population requirements.

# Removing a memory module

**Prerequisites**

1 Follow the safety guidelines listed in the Safety instructions section.
2 Follow the procedure listed in the Before working inside your system section.
3 Remove the cooling shroud.

**WARNING: The memory modules are hot to touch for some time after the system has been powered down. Allow the memory modules to cool before handling them. Handle the memory modules by the card edges and avoid touching the components or metallic contacts on the memory module.**

**CAUTION: To ensure proper system cooling, memory module blanks must be installed in any memory socket that is not occupied. Remove memory module blanks only if you intend to install memory modules in those sockets.**

**Steps**

1 Locate the appropriate memory module socket.
2 To release the memory module from the socket, simultaneously press the ejectors on both ends of the memory module socket.

**CAUTION: Handle each memory module only by the card edges, ensuring not to touch the middle of the memory module or metallic contacts.**

3 Lift the memory module away from the chassis.

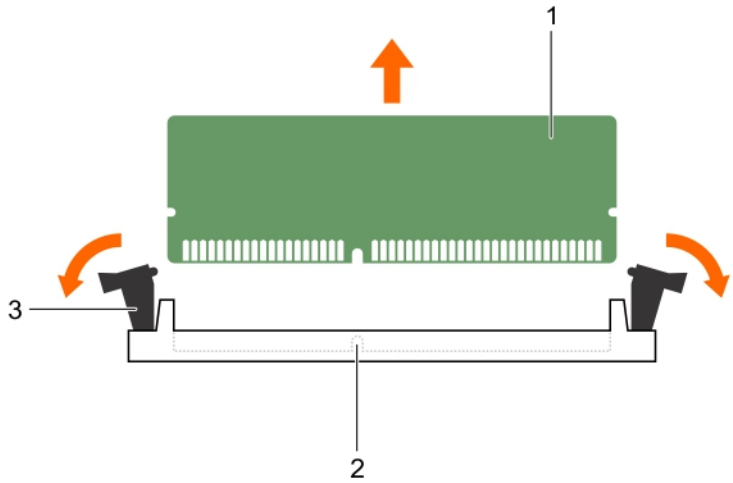


**Figure 17. Removing the memory module**

| | | | |
|---|---|---|---|
| 1 | memory module | 2 | memory module socket |
| 3 | memory module ejector (2) | | |

### Next steps

1. Install the memory module.
2. If you are removing a memory module permanently, install a memory module blank.

   **NOTE: The procedure to install a memory module blank is similar to the procedure to install a memory module.**
3. Install the cooling shroud.

### Related links

Safety instructions

Before working inside your system

# Installing a memory module

### Prerequisites

1. Follow the safety guidelines listed in the Safety instructions section.
2. Follow the procedure listed in the Before working inside your system section.
3. Remove the cooling shroud.

**WARNING: The memory modules are hot to touch for some time after the system has been powered down. Allow the memory modules to cool before handling them. Handle the memory modules by the card edges and avoid touching the components or metallic contacts on the memory module.**

**CAUTION: To ensure proper system cooling, memory module blanks must be installed in any memory socket that is not occupied. Remove memory module blanks only if you intend to install memory modules in those sockets.**

### Steps

1. Locate the appropriate memory module socket.

**CAUTION: Handle each memory module only by the card edges, ensuring not to touch the middle of the memory module or metallic contacts.**

**CAUTION: To prevent damage to the memory module or the memory module socket during installation, do not bend or flex the memory module; insert both ends of the memory module simultaneously.**

2 If a memory module or a memory module blank is installed in the socket, remove it.

**NOTE: The procedure to remove a memory module blank is similar to the procedure to remove a memory module.**

**NOTE: Retain the removed memory module blank(s) for future use.**

3 Align the edge connector of the memory module with the alignment key of the memory module socket, and insert the memory module in the socket.

**NOTE: The memory module socket has an alignment key that enables you to install the memory module in the socket in only one orientation.**

**CAUTION: Do not apply pressure at the center of the memory module; apply pressure at both ends of the memory module evenly.**

4 Press the memory module with your thumbs until the socket levers firmly click into place.

When the memory module is properly seated in the socket, the levers on the memory module socket align with the levers on the other sockets that have memory modules installed.

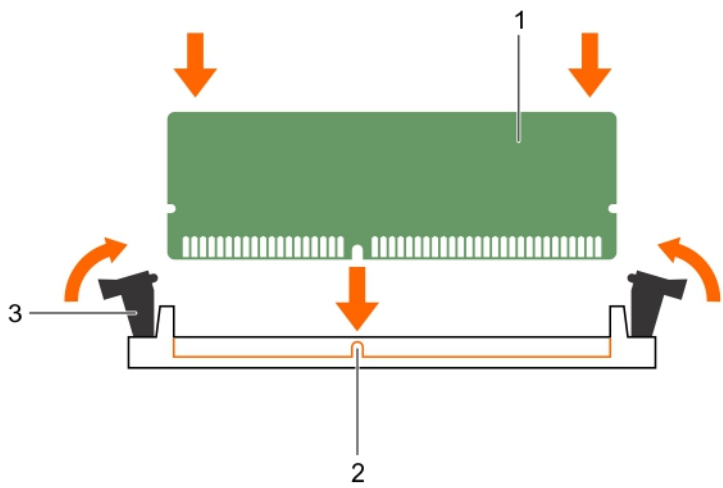


**Figure 18. Installing the memory module**

1 memory module
2 alignment key
3 memory module socket ejector (2)

## Next steps

1 Install the cooling shroud.
2 Follow the procedure listed in the After working inside your system section.
3 To enter System Setup, press F2 and check the **System Memory** setting.

The **System Memory Size** indicates the installed memory.

4 If the **System Memory Size** is incorrect, one or more of the memory modules may not be installed properly. Ensure that the memory modules are firmly seated in their sockets.

5 Run the system memory test in the system diagnostics.

**Related links**

Safety instructions
Before working inside your system
Removing the cooling shroud
Installing the cooling shroud
After working inside your system

# SATADOM

A SATADOM is a disk-on-module (DOM) form factor with an incorporated standard SATA data connection. By default, the SATADOM comes with a power cable installed and is set in a Read/Write position.

The SATADOM uses an onboard SATA controller and does not require an additional controller.

With Nutanix, you can locate the boot device on a separate controller from the data drives, which improves system disk performance.

# Important information about SATADOM

The SATA Disk-On-Motherboard (SATADOM) shipped with appliances is intended as an appliance boot device.

**NOTE: Write intensive activities and processes leveraged by appliances, are intended to take place on the SSDs and HDDs and not the boot device. Virtual Machines run on the SATADOM are not highly available and potentially fill up the local boot drive, which results in crashing the host hypervisor. This adds additional wear on the SATADOM.**

The hypervisor boot device is not intended for application use.

**WARNING: Adding additional write intensive software to the SATADOM boot disk results in heavy wear on the device beyond design specifications resulting in premature hardware failure.**

## Examples of write intensive applications

Following are the examples of write intensive applications:

- Hyper-V System Center Agents:
  - System Center Configuration Manager (CCMExec.exe)
  - System Center Operations Manager (MonitoringHost.exe)
- Write-intensive Agents
- Databases
- Disk management utilities (third-party disk defragmentation or partitioning tools)
- Additional roles outside of the appliance's intended use (web server, domain controller, RDS, and so on)
- Client-based Antivirus
- Run Virtual Machines directly on the SATADOM. Ensure that the Virtual Machines run on solid state drives (SSDs) and hard disk drives (HDDs).

# Removing the SATADOM

**Prerequisites**

1 Follow the safety guidelines listed in the Safety Instructions section.
2 Follow the procedure listed in the Before working inside your system section.

**Steps**

1 Unplug the power cable from the SATADOM Tape Backup Unit (TBU) power connector.

2 Press the lock release on the SATADOM, and pull it up and away from the system.

**NOTE: After removing the SATADOM, place it in an anti-static container for reuse, return, or temporary storage.**

**NOTE: Dell EMC recommends that you do not modify the SATADOM Read/Write default setting.**

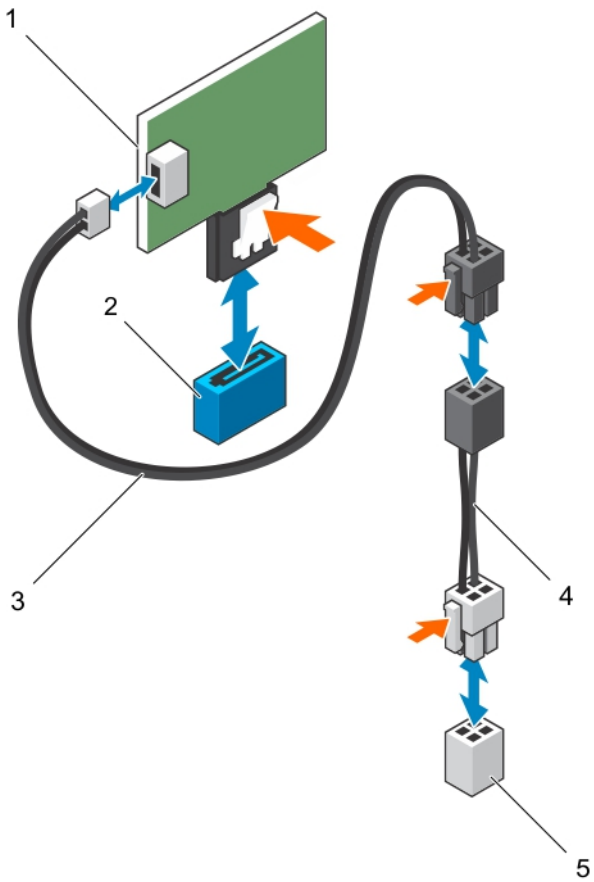


**Figure 19. Removing and installing SATADOM**

| | | | |
|---|---|---|---|
| 1 | SATADOM | 2 | SATA connector |
| 3 | power cable | 4 | power adapter |
| 5 | SATADOM TBU power connector | | |

**Next steps**

Follow the procedure listed in the After working inside your system section.

**Related links**

Safety instructions

Before working inside your system

After working inside your system

# Installing the SATADOM

**Prerequisites**

1 Follow the safety guidelines listed in the Safety instruction section.
2 Follow the procedure listed in the Before working inside your system section.
3 Remove the cooling shroud before installing SATADOM.

**NOTE: Dell EMC recommends that you do not modify the SATADOM Read/Write default setting.**

**Steps**

1 Press the lock release on the SATADOM, and plug the SATADOM into the preferred SATADOM connector on the system board.

**NOTE: The preferred SATADOM connector is SATA9 and is indicated in blue. You can also use the SATA8 connector that is indicated in black.**

2 Plug the power cable into the SATADOM TBU power connector on the system board.

**Next steps**

Follow the procedure listed in the After working inside your system section.

**Related links**

Safety instructions
Before working inside your system
After working inside your system

# Hard drives

Your system supports the following:

| | |
|---|---|
| Four hard-drive systems | One 2.5-inch SATA SSD and up to three 3.5-inch hot-swappable SAS HDD, SATA HDD |

The hot-swappable hard drives connect to the system board through the hard-drive backplane. Hot-swappable hard drives are supplied in hot-swappable hard-drive carriers that fit in the hard-drive slots.

**CAUTION: Before attempting to remove or install a hot-swappable hard drive while the system is running, see the documentation for the storage controller card to ensure that the host adapter is configured correctly to support hot-swap hard drive removal and insertion.**

**CAUTION: Do not turn off or reboot your system while the hard drive is being formatted. Doing so can cause a hard drive failure.**

**NOTE: Use only hard drives that have been tested and approved for use with the hard-drive backplane.**

When you format a hard drive, allow enough time for the formatting to be completed. Be aware that high-capacity hard drives can take several hours to format.

# Removing a hot swappable hard drive carrier

**Prerequisites**

1 Follow the safety guidelines listed in the Safety instructions section.
2 If installed, remove the front bezel.
3 Using the management software, prepare the hard drive for removal. For more information, see the documentation for the storage controller.

If the hard drive is online, the green activity or fault indicator flashes when the hard drive is turned off. You can remove the hard drive when the hard drive indicators turn off.

**CAUTION: To prevent data loss, ensure that your operating system supports hot-swap drive installation. See the documentation supplied with your operating system.**

**NOTE: Hot swappable hard drives are supplied in hot swappable hard drive carriers that fit in the hard drive slots.**

### Steps

1 To open the hard drive carrier release handle, press the release button.

2 Slide the hard drive carrier out of the hard drive slot.

**CAUTION: To maintain proper system cooling, all empty hard drive slots must have hard drive carrier blanks installed.**

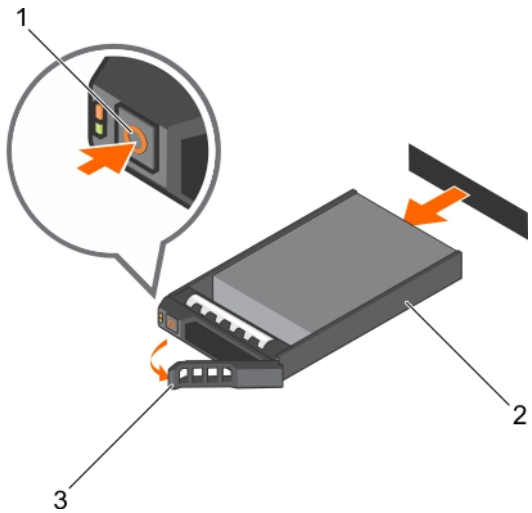


**Figure 20. Removing a hot swappable hard drive or SSD**

| | | | |
|---|---|---|---|
| 1 | release button | 2 | hard drive carrier |
| 3 | hard drive carrier handle | | |

### Next steps

1 If you are not replacing the hard drive immediately, insert a hard drive carrier blank in the empty hard drive slot, or install a hard drive carrier.

2 If removed, install the front bezel.

### Related links

Safety instructions
Removing the optional front bezel
Installing a hot swappable hard drive carrier
Installing the optional front bezel

# Installing a hot swappable hard drive carrier

### Prerequisites

**CAUTION: Use only hard drives that have been tested and approved for use with the hard drive backplane.**

**CAUTION: When installing a hard drive, ensure that the adjacent drives are fully installed. Inserting a hard drive carrier and attempting to lock its handle next to a partially installed carrier can damage the partially installed carrier's shield spring and make it unusable.**

**CAUTION: To prevent data loss, ensure that your operating system supports hot-swap drive installation. See the documentation supplied with your operating system.**

**CAUTION: When a replacement hot swappable hard drive is installed and the system is powered on, the hard drive automatically begins to rebuild. Make absolutely sure that the replacement hard drive is blank or contains data that you wish to have over-written. Any data on the replacement hard drive is immediately lost after the hard drive is installed.**

**NOTE: Hot swappable hard drives are supplied in hot swappable hard drive carriers that fit in the hard drive slots.**

1 If installed, remove the front bezel.
2 If installed, remove the hard drive carrier blank.
3 Install a hot swappable hard drive into the hot swappable hard drive carrier.

### Steps

1 Press the release button on the front of the hot swappable hard drive carrier and open the hot swappable hard drive carrier handle.
2 Insert the hot swappable hard drive carrier into the hard drive slot, and push the hot swappable hard drive carrier until it comes in contact with the backplane.
3 Close the hot swappable hard drive carrier handle to lock the hot swappable hard drive carrier in place.

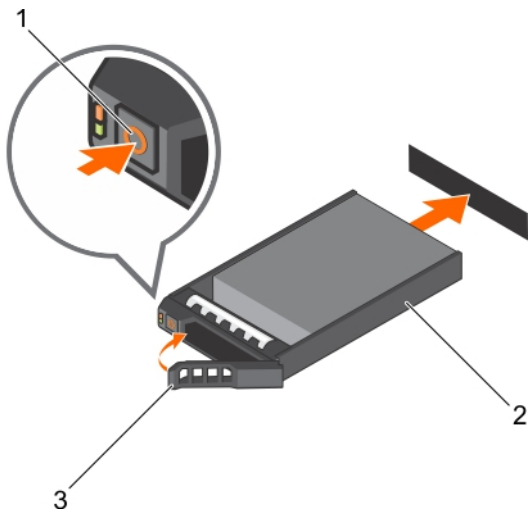


**Figure 21. Installing a hot swappable hard drive carrier**

1 release button
2 hard drive carrier
3 hard drive carrier handle

### Next steps

If removed, install the front bezel.

### Related links

Safety instructions
Removing the optional front bezel
Installing a hard drive or solid state drives into a hard drive carrier
Installing the optional front bezel

# Removing a hard drive or a solid state drive from a hard drive carrier

### Prerequisites

1 Keep the Phillips #1 screwdriver ready.
2 Remove the hot swappable hard drive carrier from the system.

### Steps

1 Remove the screws from the slide rails on the hard drive carrier.
2 Lift the hard drive out of the hard drive carrier.

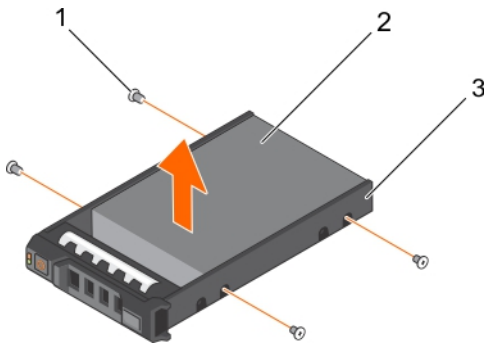


**Figure 22. Removing a hard drive from a hard drive carrier**

| | | | |
|---|---|---|---|
| 1 | screw (4) | 2 | hard drive |
| 3 | hard drive carrier | | |

### Next steps

If applicable, install a hard drive into the hard drive carrier.

### Related links

Removing a hot swappable hard drive carrier

# Installing a hard drive or solid state drives into a hard drive carrier

### Prerequisites

### Steps

1 Insert the hard drive into the hard drive carrier with the connector end of the hard drive toward the back of the carrier.
2 Align the screw holes on the hard drive with the screws holes on the hard drive carrier.
When aligned correctly, the back of the hard drive is flush with the back of the hard drive carrier.
3 Attach the screws to secure the hard drive to the hard drive carrier.

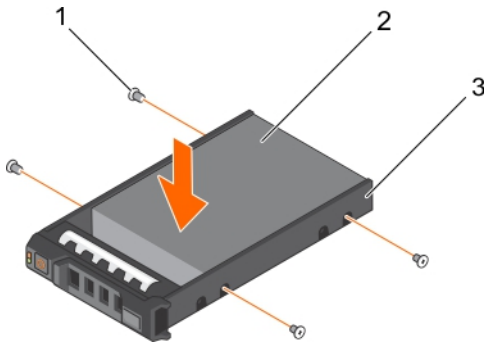


**Figure 23. Installing a hard drive into a hard drive carrier**

| | | | |
|---|---|---|---|
| 1 | screw (4) | 2 | hard drive |
| 3 | hard drive carrier | | |

**Next steps**

Install the hot swappable hard drive carrier.

**Related links**

Installing a hot swappable hard drive carrier

# Cooling fans

Your system supports:

- Up to four cooling fans in a non-redundant power supply unit (PSU) configuration.
- Up to five cooling fans in a redundant PSU configuration.

**NOTE: Fan 1 must be installed in a redundant PSU configuration.**

**NOTE: Hot-swap removal or installation of the fans is not supported.**

**NOTE: Each fan is listed in the systems management software, referenced by the respective fan number. If there is a problem with a particular fan, you can easily identify and replace the proper fan by noting the fan numbers on the cooling fan assembly.**

# Removing a cooling fan

**Prerequisites**

**NOTE: The procedure for removing each fan is identical.**

1 Follow the safety guidelines listed in the Safety instructions section.
2 Follow the procedure listed in the Before working inside your system section.
3 Remove the cooling shroud.
4 If required, remove the cooling shroud.

**Steps**

1 Disconnect the power cable from the power connector on the system board or power interposer board.
2 Lift the fan out of the cooling fan bracket.

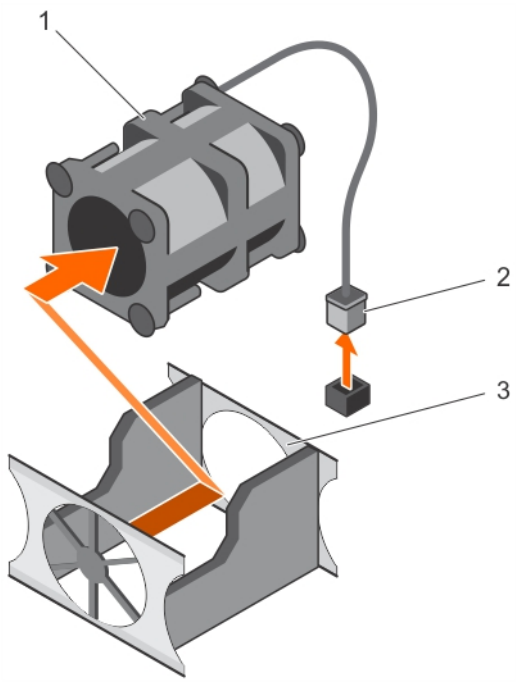


**Figure 24. Removing a cooling fan**

| | | | |
|---|---|---|---|
| 1 | cooling fan | 2 | power cable connector |
| 3 | cooling fan bracket | | |

### Next steps

1 Install the cooling fan.
2 Follow the procedure listed in the After working inside your system section.

### Related links

Safety instructions
Before working inside your system
Removing the cooling shroud
Installing a cooling fan
Installing the cooling shroud
After working inside your system

# Installing a cooling fan

### Prerequisites

**NOTE: The procedure for installing each fan is identical.**

1 Follow the safety guidelines listed in the Safety instructions section.
2 Follow the procedure listed in the Before working inside your system section.
3 Remove the cooling shroud.
4 If installed, remove the cooling fan blank.

**Steps**

1 Lower the fan into the cooling fan bracket.

2 Connect the power cable to the power cable connector on the system board.

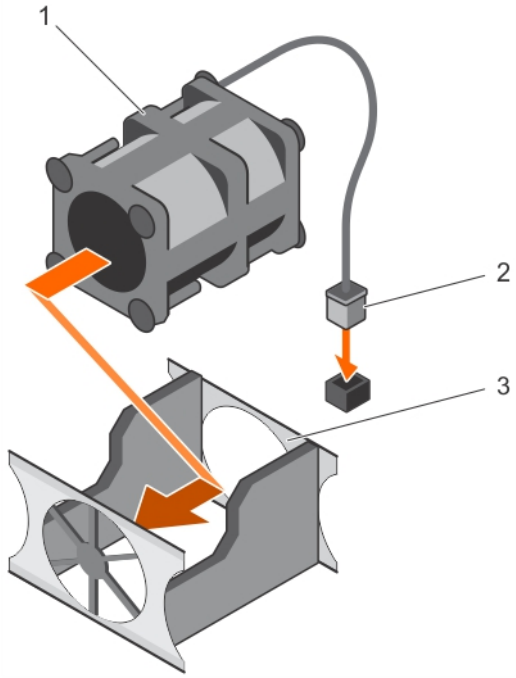


**Figure 25. Installing a cooling fan**

1 cooling fan

2 power cable connector

3 cooling fan bracket

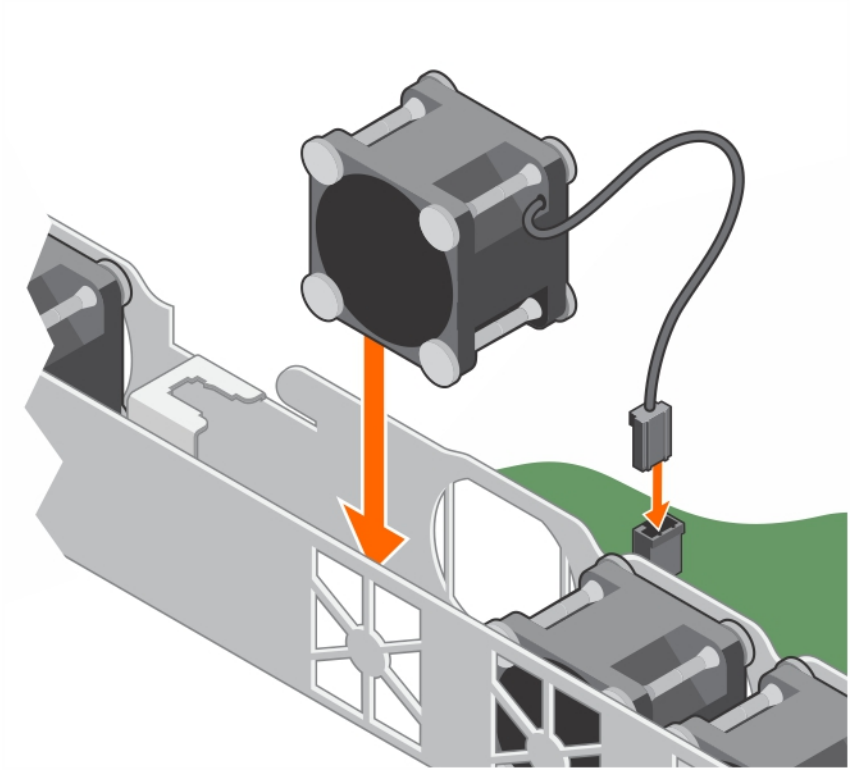

Figure 26. Installing a cooling fan

**Next steps**

1 Install the cooling shroud.
2 Follow the procedure listed in the After working inside your system section.

**Related links**

Safety instructions
Before working inside your system
Removing the cooling shroud
Installing the cooling shroud
After working inside your system

# Expansion cards and expansion card riser

An expansion card in the system is an add-on card that can be inserted into an expansion slot on the system board or riser card to add enhanced functionality to the system through the expansion bus.

**NOTE: A System Event Log (SEL) event is logged if an expansion card riser is unsupported or missing. It does not prevent your system from turning on and no BIOS POST message or F1/F2 pause is displayed.**

# Expansion card installation guidelines

Your system supports Generation 2 and Generation 3 cards. The following table provides riser configurations for XC430 Xpress:

Table 12. Expansion card slots available on expansion-card riser

| Expansion-card riser | PCIe slot on the expansion-card riser | Processor connection | Height | Length | Link width | Slot width |
|---|---|---|---|---|---|---|
| PCIE_G3_X16 | 1 | Processor 1 | Low profile | Half Length | x16 | x16 |
| | 2 | Processor 1 | Low profile | Half Length | x16 | x16 |
| PCIE_G3_X8 | 1 | Processor 1 | Full Height | Half Length | x8 | x16 |
| | 2 | Processor 1 | Half Height | Half Length | x8 | x16 |

**NOTE: The PCIE_G3_X8 and PCIE_G3_X16 are the two different types of risers supported on XC430 Xpress. You can install an expansion card on the system board only using expansion-card riser.**

**NOTE: The expansion cards are not hot-swappable.**

# Removing the expansion card riser

### Prerequisites

1 Follow the safety guidelines listed in the Safety instructions section.
2 Follow the procedure listed in the Before working inside your system section.

### Steps

Holding the touch points, lift the expansion card riser from the riser connector on the system board.

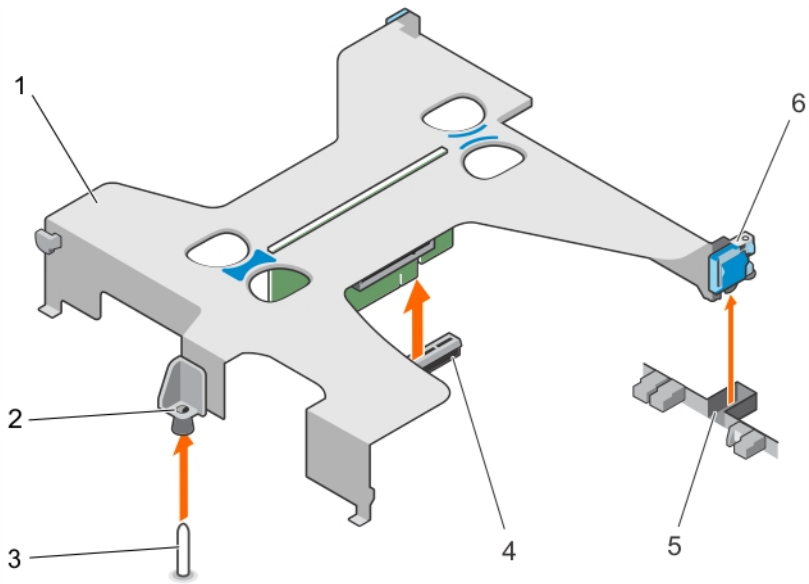


Figure 27. Removing the expansion card riser

1 expansion card riser
2 guide on the expansion card riser
3 guide pin on the system board
4 riser connector on the system board
5 slot on the chassis
6 expansion card latch

### Next steps

1 Install the expansion card riser.

2 Follow the procedure listed in the After working inside your system section.

**Related links**

Safety instructions
Before working inside your system
Installing the expansion card riser
After working inside your system

# Installing the expansion card riser

**Prerequisites**

1 Follow the safety guidelines listed in the Safety instructions section.
2 Follow the procedure listed in the Before working inside your system section.
3 Install the expansion card into the expansion card riser.

**Steps**

1 Align the following:
   a Guide on the expansion-card riser with the guide pin on the system board.
   b Expansion card riser latch with the slot on the chassis.
2 Lower the expansion card riser until the expansion card riser is firmly seated in the connector on the system board.
3 Close the expansion card riser latch.

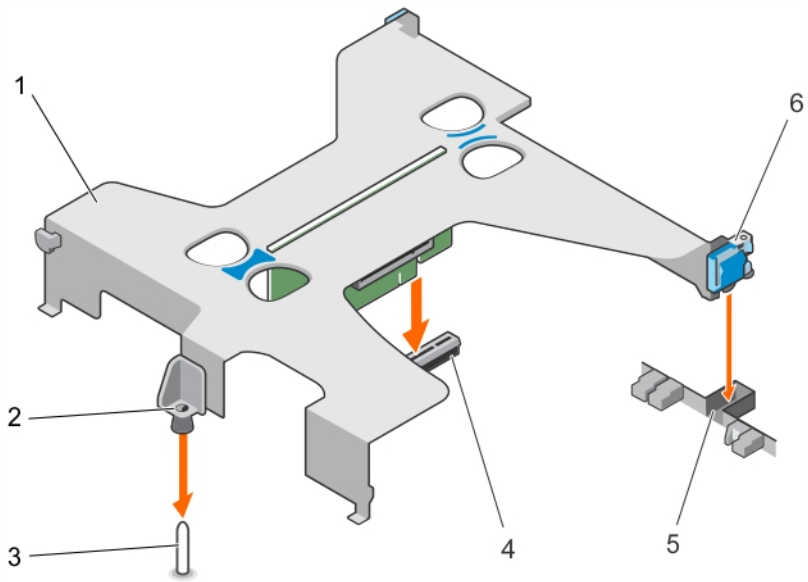


**Figure 28. Installing the expansion card riser**

1 expansion card riser
2 guide on the expansion card riser
3 guide pin on the system board
4 riser connector on the system board
5 slot on the chassis
6 expansion card latch

**Next steps**

Follow the procedure listed in the After working inside your system section.

**Related links**

Safety instructions
Before working inside your system
Installing an expansion card
After working inside your system

# Removing an expansion card

**Prerequisites**

1 Follow the safety guidelines listed in the Safety instructions section.
2 Follow the procedure listed in the Before working inside your system section.
3 Disconnect any cables connected to the expansion card or expansion card riser.
4 If installed, remove the expansion card riser.

**Steps**

1 Hold the expansion card by its edges and remove it from the expansion card riser connector.
2 If you are removing the card permanently, install a filler bracket in the empty expansion card slot and close the expansion card latch.

**NOTE: You must install a filler bracket over an empty expansion card slot to maintain Federal Communications Commission (FCC) certification of the system. The brackets also keep dust and dirt out of the system and aid in proper cooling and airflow inside the system.**

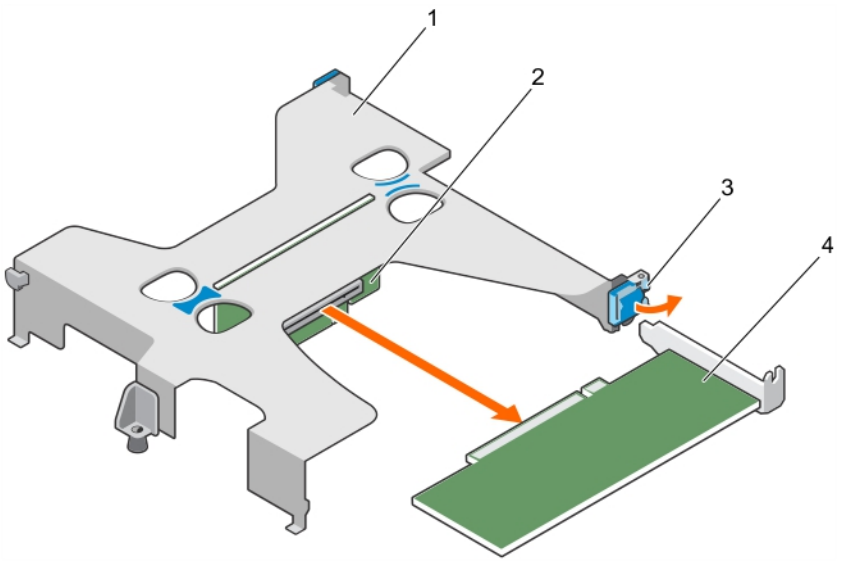


**Figure 29. Removing an expansion card from the expansion card riser**

1 expansion card riser
2 expansion card riser connector
3 expansion card latch
4 expansion card

**Next steps**

1 Install the expansion card.
2 Install the expansion card riser
3 Follow the procedure listed in the After working inside your system section.

**Related links**

Safety instructions
Before working inside your system
Removing the expansion card riser
Installing an expansion card
Installing the expansion card riser
After working inside your system

# Installing an expansion card

**Prerequisites**

1 Follow the safety guidelines listed in the Safety instructions section.
2 Follow the procedure listed in the Before working inside your system section.
3 Remove the expansion card riser.

**Steps**

1 Locate the expansion card connector on the riser.
2 Holding the expansion card by its edges, position the card so that the card connector aligns with the connector on the expansion card riser.
3 Align the expansion card bracket with the hooks on the chassis.
4 Insert the card connector into the expansion card riser connector until the card is firmly seated.

**NOTE: Ensure that the expansion card is properly seated along the chassis, so that expansion card latch can be closed.**

5 If required, connect the cables to the expansion card.

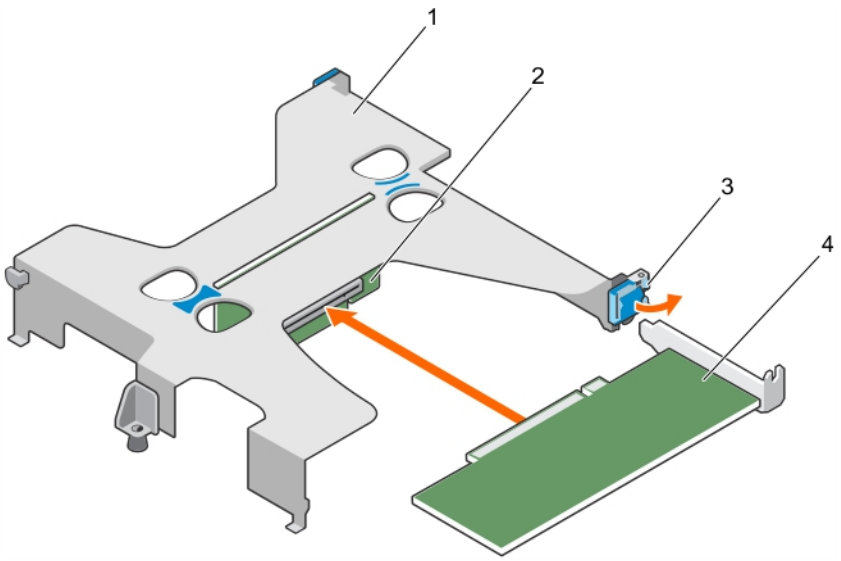


**Figure 30. Installing an expansion card into the expansion card riser**

1 expansion card riser
2 expansion card riser connector
3 expansion card latch
4 expansion card

**Next steps**

1 Install the expansion card riser.
2 Follow the procedure listed in the After working inside your system section.

**Related links**

Safety instructions
Before working inside your system
Removing the expansion card riser
Installing the expansion card riser
After working inside your system

# iDRAC port card

The iDRAC port card consists of the SD vFlash card slot and an iDRAC port. The iDRAC port card features a dedicated NIC port and is used for remote, advanced management of the system through the network.

An SD vFlash card is a Secure Digital (SD) card that plugs into the SD vFlash card slot in the iDRAC port card. It provides persistent on-demand local storage and a custom deployment environment that enables automation of server configuration, scripts, and imaging. It emulates a USB device. For more information, see the Integrated Dell Remote Access Controller User's Guide at **Dell.com/idracmanuals**.

# Internal SD module

You can configure the Internal SD module (ISDM) for storage or as the OS boot partition. The ISDM card supports single card operation without redundancy.

## Removing the internal SD module

**Prerequisites**

1 Follow the safety guidelines listed in the Safety instructions section.
2 Follow the procedure listed in the Before working inside your system section.

**Steps**

1 Locate the Internal SD Module (ISDM) on the system board.
2 If installed, remove the SD cards.
3 Hold the plastic pull tab and pull the SD module out of the system board.

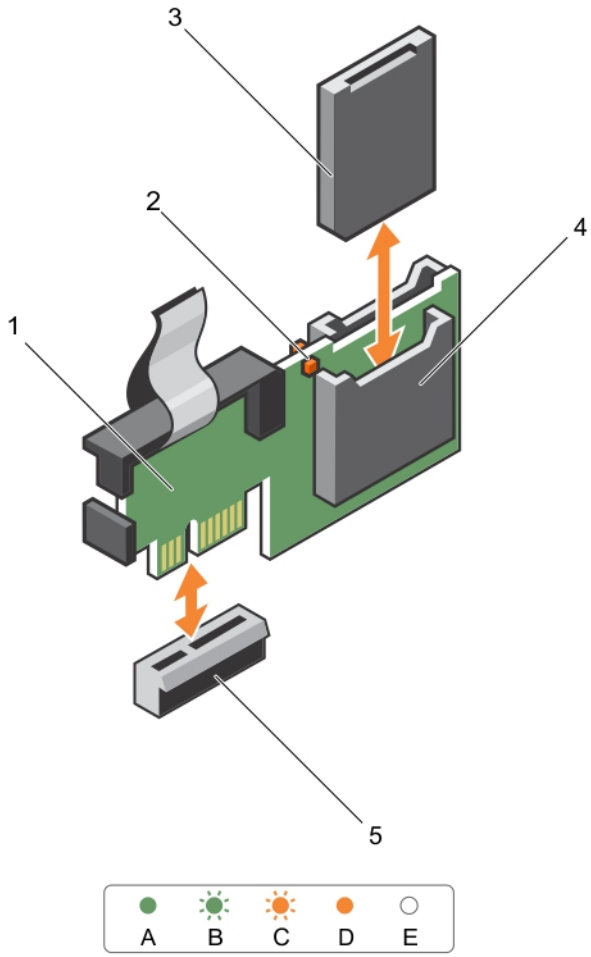


**Figure 31. Removing the internal SD module (ISDM)**

1 ISDM
2 LED status indicator (2)
3 SD card
4 SD card slot 1
5 ISDM connector

The following table describes the ISDM indicator codes:

**Table 13. ISDM indicator codes**

| Convention | ISDM indicator code | Description |
|---|---|---|
| A | Green | Indicates that the card is online. |
| B | Flashing green | Indicates rebuild or activity. |
| C | Flashing amber | Indicates card mismatch or that the card has failed. |
| D | Amber | Indicates that the card is offline, has failed, or is write protected. |
| E | Not lit | Indicates that the card is missing or is booting. |

### Next steps

1 If removed, install the SD cards.

2 Follow the procedure listed in the After working inside your system section.

**Related links**

Safety instructions
Before working inside your system
After working inside your system

# Installing the internal SD module

**Prerequisites**

1 Follow the safety guidelines listed in the Safety instructions section.
2 Follow the procedure listed in the Before working inside your system section.

**Steps**

1 Locate the internal SD module (ISDM) connector on the system board.
2 Align the ISDM with the connector on the system board.
3 Push the ISDM until it is firmly seated on the system board.

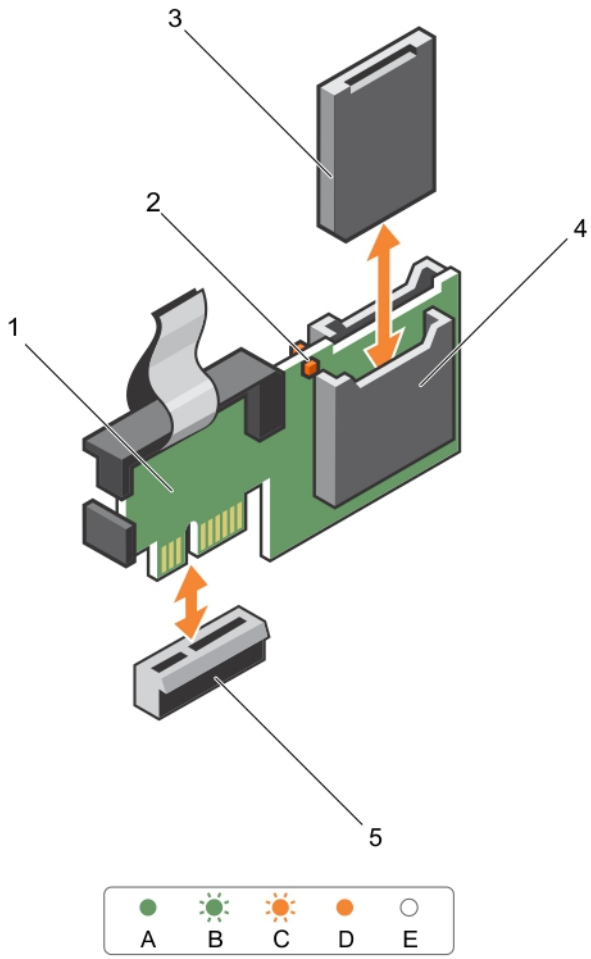


**Figure 32. Installing the internal SD module**

### Next steps

1 Install the SD card.
2 Follow the procedure listed in the After working inside your system section.

### Related links

Safety instructions
Before working inside your system
After working inside your system

# Power supply units

Your system supports 550 W AC (redundant) power supply units (PSUs).

When two identical PSUs are installed, the power supply configuration is redundant (1 + 1). In redundant mode, power is supplied to the system equally from both PSUs to maximize efficiency.

**NOTE: If two PSUs are used, they must be of the same type and have the same maximum output power.**

**NOTE: For AC PSUs, use only PSU with the Extended Power Performance (EPP) label on the back.**

# Hot spare feature

Your system supports the hot spare feature that significantly reduces the power overhead associated with power supply unit (PSU) redundancy.

When the hot spare feature is enabled, one of the redundant PSUs is switched to the sleep state. The active PSU supports 100 percent of the load, thus operating at higher efficiency. The PSU in the sleep state monitors output voltage of the active PSU. If the output voltage of the active PSU drops, the PSU in the sleep state returns to an active output state.

If having both PSUs active is more efficient than having one PSU in the sleep state, the active PSU can also activate the sleeping PSU.

The default PSU settings are as follows:

- If the load on the active PSU is more than 50 percent, then the redundant PSU is switched to the active state.
- If the load on the active PSU falls below 20 percent, then the redundant PSU is switched to the sleep state.

You can configure the hot spare feature by using the iDRAC settings. For more information about iDRAC settings, see the *Integrated Dell Remote Access Controller User's Guide* available at **Dell.com/idracmanuals**.

## Removing a redundant power supply unit

### Prerequisites

**CAUTION: The system requires one power supply unit (PSU) for normal operation. On power-redundant systems, remove and replace only one PSU at a time in a system that is powered on.**

1 Follow the safety guidelines listed in the Safety instructions section.
2 Disconnect the power cable from the power source.
3 Disconnect the power cable from the PSU and remove the straps that bundle and secure the system cables.
4 Unlatch and lift the optional cable management arm if it interferes with PSU removal. For information about the cable management arm, see the systems rack documentation at **Dell.com/poweredgemanuals**.

### Steps

Press the release latch, and pull the PSU out of the chassis.

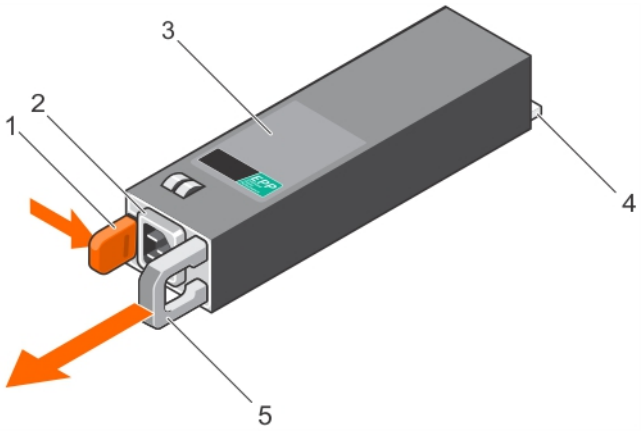


**Figure 33. Removing a redundant PSU**

| | | | |
|---|---|---|---|
| 1 | release latch | 2 | PSU connector |
| 3 | PSU | 4 | power connector |
| 5 | PSU handle | | |

### Next steps

Install the PSU.

**NOTE: If you are removing the PSU permanently, install a PSU blank.**

### Related links

Safety instructions

Installing a redundant power supply unit

# Installing a redundant power supply unit

### Prerequisites

1 Follow the safety guidelines listed in the Safety instructions section.

2 Verify that both power supply units (PSUs) are of the same type and have the same maximum output power.

**NOTE: The maximum output power (Watt) is listed on the PSU label.**

3 If installed, remove the PSU blank.

### Steps

Slide the new PSU into the chassis until the PSU is fully seated and the release latch snaps into place.

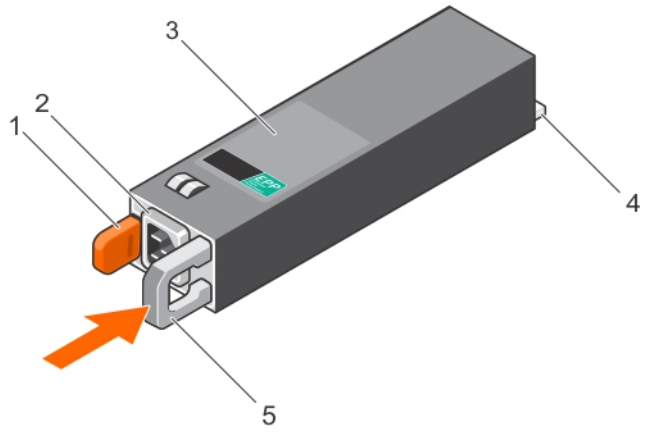


**Figure 34. Installing a redundant PSU**

| | | | |
|---|---|---|---|
| 1 | release latch | 2 | PSU cable connector |
| 3 | PSU | 4 | power connector |
| 5 | PSU handle | | |

### Next steps

1 If you have unlatched the cable management arm, relatch it. For information about the cable management arm, see the rack documentation of the system.

2 Connect the power cable to the PSU and plug the cable into a power outlet.

**CAUTION: When connecting the power cable, secure the cable with the strap.**

**NOTE: When installing, hot-swapping, or hot-adding a new PSU in a system with two PSUs, allow several seconds for the system to recognize the PSU and determine its status. The PSU status indicator turns green to signify that the PSU is functioning properly.**

# System battery

The system battery is used to power the real-time clock and storing the BIOS settings of the system.

# Replacing the system battery

### Prerequisites

**: There is a danger of a new battery exploding if it is incorrectly installed. Replace the battery only with the same or equivalent type recommended by the manufacturer. For more information, see the safety information that shipped with your system.**

1 Follow the safety guidelines listed in the Safety instructions section.

2 Follow the procedure listed in the Before working inside your system section.

3 Remove the cooling shroud.

4 If installed, remove the expansion card riser.

### Steps

1 Locate the battery socket. For more information, see the System board connectors section.

**CAUTION: To avoid damage to the battery connector, you must firmly support the connector while installing or removing a battery.**

2 Place your finger between the securing tabs at the negative side of the battery connector, and lift the battery out of the socket.

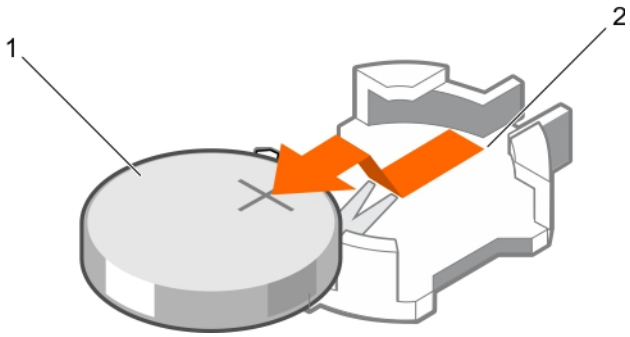


**Figure 35. Removing the system battery**

| | | | |
|---|---|---|---|
| 1 | system battery | 2 | system battery slot |

3 To install a new system battery, hold the battery with the "+" facing up and slide it under the securing tabs.
4 Press the battery into the connector until it snaps into place.

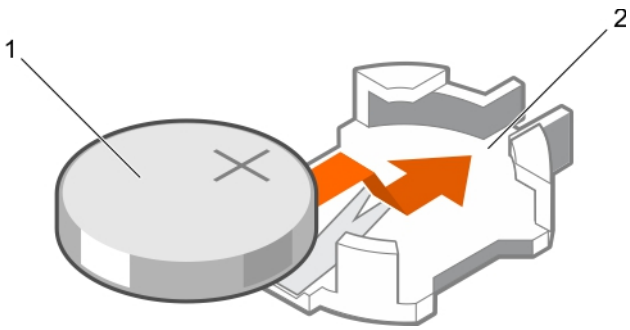


**Figure 36. Installing the system battery**

| | | | |
|---|---|---|---|
| 1 | system battery | 2 | system battery slot |

### Next steps

1 Install the cooling shroud.
2 If removed, install the expansion card riser.
3 Follow the procedure listed in the After working inside your system section.
4 While booting, press F2 to enter System Setup and ensure that the battery is operating properly.
5 Enter the correct time and date in the System Setup **Time** and **Date** fields.
6 Exit System Setup.

### Related links

Safety instructions
Before working inside your system
Removing the cooling shroud
Removing the expansion card riser
Installing the expansion card riser
Installing the cooling shroud
System board connectors
After working inside your system

7

# Using system diagnostics

If you experience a problem with your system, run the system diagnostics before contacting Dell EMC for technical assistance. The purpose of running system diagnostics is to test your system hardware without using additional equipment or risking data loss. If you are unable to fix the problem yourself, service and support personnel can use the diagnostics results to help you solve the problem.

## Dell Embedded System Diagnostics

**NOTE: The Dell Embedded System Diagnostics is also known as Enhanced Pre-boot System Assessment (ePSA) diagnostics.**

The Embedded System Diagnostics provides a set of options for particular device groups or devices allowing you to:

- Run tests automatically or in an interactive mode
- Repeat tests
- Display or save test results
- Run thorough tests to introduce additional test options to provide extra information about the failed device(s)
- View status messages that inform you if tests are completed successfully
- View error messages that inform you of problems encountered during testing

## When to use the Embedded System Diagnostics

Run the Embedded System Diagnostics (ePSA) if your system does not boot.

## Running the Embedded System Diagnostics from Boot Manager

**Prerequisites**

Run the Embedded System Diagnostics (ePSA) if your system does not boot.

**Steps**

1. When the system is booting, press F10.
2. Use the up arrow and down arrow keys to select **System Utilities** > **Launch Diagnostics**.

   The **ePSA Pre-boot System Assessment** window is displayed, listing all devices detected in the system. The diagnostics starts executing the tests on all the detected devices.

## Running the Embedded System Diagnostics from the Dell Lifecycle Controller

1. As the system boots, press F10.
2. Select **Hardware Diagnostics** → **Run Hardware Diagnostics**.

The **ePSA Pre-boot System Assessment** window is displayed, listing all devices detected in the system. The diagnostics starts executing the tests on all the detected devices.

# System diagnostic controls

| Menu | Description |
|---|---|
| **Configuration** | Displays the configuration and status information of all detected devices. |
| **Results** | Displays the results of all tests that are run. |
| **Systemhealth** | Provides the current overview of the system performance. |
| **Event log** | Displays a time-stamped log of the results of all tests run on the system. This is displayed if at least one event description is recorded. |

# 8

# Jumpers and connectors

Topics:

- System board jumper settings
- System board connectors
- Disabling forgotten password

## System board jumper settings

For information about resetting the password jumper to disable a password, see the Disabling a forgotten password section.

**Table 14. System board jumper settings**

| Jumper | Setting | Description |
|---|---|---|
| PWRD_EN |  | The password reset feature is enabled (pins 2–4). |
| |  | The password reset feature is disabled (pins 4–6). The iDRAC local access is unlocked at the next AC power cycle. |
| NVRAM_CLR |  | The configuration settings are retained at the next system boot (pins 3–5). |
| |  | The configuration settings are cleared at system boot (pins 1–3). |

# System board connectors

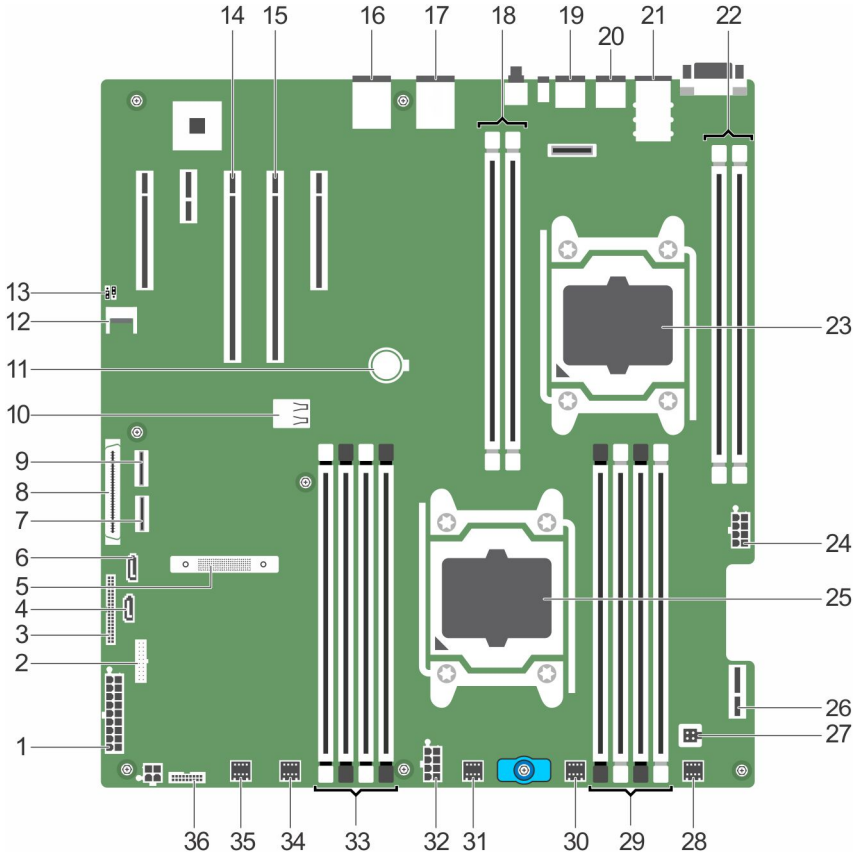


**Figure 37. System board jumpers and connectors**

**Table 15. System board jumpers and connectors**

| Item | Connector | Description |
|---|---|---|
| 1 | SYS_PWR_CONN (P1) | 24-pin power connector |
| 2 | FB_USB | Front-panel USB connector |
| 3 | PIB_CONN | Power interposer board connector |
| 4 | SATA_CDROM | SATA connector CDROM |
| 5 | MiniPERC PCIE_G3_X8 (CPU1) | Mini PERC card connector |
| 6 | SATA_TBU | SATA connector tape backup unit |
| 7 | SW_RAID_B | Software RAID connector B |
| 8 | CTRL_PNL | Control panel interface connector |
| 9 | SW_RAID_A | Software RAID connector A |
| 10 | INT_USB_3.0 | Internal USB connector |
| 11 | BATTERY | Battery connector |
| 12 | TPM_MODULE | Trusted platform module connector |

| Item | Connector | Description |
|---|---|---|
| 13 | J_PSWD_NVRAM | For more information, see the System board jumper setting section. |
| 14 | SLOT3 PCIE_G3_X16(CPU1) | PCIe card connector 3 |
| 15 | SLOT2 PCIE_G3_X16(CPU1) | PCIe card connector 2<br>**NOTE: The PCIE_G3_X8 and PCIE_G3_X16 are the two different types of risers supported on XC430 Xpress. You can install an expansion card on the system board only using expansion card riser. For more information about the installation guidelines, see the Expansion card installation guidelines section.** |
| 16 | NIC4 | Network connector |
| 17 | NIC3 | Network connector |
| 18 | B1, B2 | Memory module socket |
| 19 | USB2_3.0 | USB connector |
| 20 | USB1 | USB connector |
| 21 | NIC1 and NIC2 | Network connector |
| 22 | B3, B4 | Memory module socket |
| 23 | CPU2 | Processor socket 2 |
| 24 | PWR_CONN_C(P3) | 8-pin power connector |
| 25 | CPU1 | Processor socket 1 |
| 26 | ISDM | Internal SD Module connector |
| 27 | INTRUSION | Intrusion switch connector |
| 28 | FAN6 | Cooling fan connector |
| 29 | A1, A5, A2, A6 | Memory module socket |
| 30 | FAN5 | Cooling fan connector |
| 31 | FAN4 | Cooling fan connector |
| 32 | PWR_CONN_B(P2) | 8-pin power connector |
| 33 | A3, A7, A4, A8 | Memory module socket |
| 34 | FAN3 | Cooling fan connector |
| 35 | FAN2 | Cooling fan connector |
| 36 | BP_SIG | Backplane signal connector |

**Related links**

System board jumper settings
Expansion card installation guidelines

# Disabling forgotten password

The software security features of the system include a system password and a setup password. The password jumper enables or disables password features and clears any password(s) currently in use.

**Prerequisites**

**Steps**

1 Turn off the system, including any attached peripherals, and disconnect the system from the electrical outlet.

2 Remove the system cover.

3 Move the jumper on the system board jumper from pins 4 and 6 to pins 2 and 4.

4 Install the system cover.

The existing passwords are not disabled (erased) until the system boots with the jumper on pins 2 and 4. However, before you assign a new system and/or setup password, you must move the jumper back to pins 4 and 6.

> **NOTE: If you assign a new system and/or setup password with the jumper on pins 2 and 4, the system disables the new password(s) the next time it boots.**

5 Reconnect the system to its electrical outlet and turn on the system, including any attached peripherals.

6 Turn off the system, including any attached peripherals, and disconnect the system from the electrical outlet.

7 Remove the system cover.

8 Move the jumper on the system board jumper from pins 2 and 4 to pins 4 and 6.

9 Install the system cover.

10 Reconnect the system to its electrical outlet and turn on the system, including any attached peripherals.

11 Assign a new system and/or setup password.

# 9

# Getting help

Topics:

- Contacting Dell EMC
- Documentation feedback
- Accessing system information by using QRL

## Contacting Dell EMC

Dell EMC provides several online and telephone based support and service options. If you do not have an active internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell EMC product catalog. Availability varies by country and product, and some services may not be available in your area.

**About this task**

To contact Dell EMC for sales, technical assistance, or customer service issues:

**Steps**

1. Go to Dell.com/support.
2. Select your country from the drop-down menu on the lower right corner of the page.
3. For customized support:
   a. Enter your system Service Tag in the **Enter your Service Tag** field.
   b. Click **Submit**.
   The support page that lists the various support categories is displayed.
4. For general support:
   a. Select your product category.
   b. Select your product segment.
   c. Select your product.
   The support page that lists the various support categories is displayed.
5. For contact details of Dell EMC Global Technical Support:
   a. Click Global Technical Support.
   b. The **Contact Technical Support** page is displayed with details to call, chat, or email the Dell EMC Global Technical Support team.

## Documentation feedback

You can rate the documentation or write your feedback on any of our Dell EMC documentation pages and click **Send Feedback** to send your feedback.

## Accessing system information by using QRL

You can use the Quick Resource Locator (QRL) to get immediate access to the information about your system.

**Prerequisites**

Ensure that your smartphone or tablet has the QR code scanner installed.

The QRL includes the following information about your system:

- How-to videos

- Reference materials, including the Owner's Manual, LCD diagnostics, and mechanical overview
- Your system service tag to quickly access your specific hardware configuration and warranty information
- A direct link to Dell to contact technical assistance and sales teams

**Steps**

1 Go to **Dell.com/QRL** and navigate to your specific product or

2 Use your smartphone or tablet to scan the model-specific Quick Resource (QR) code on your appliance or in the Quick Resource Locator section.

# Quick resource locator for XC430 Xpress


**Figure 38. Quick Resource locator**