Dell VxRail E660, E660F, and E660N

Installation and Service Manual

October 2023
Rev. 11

DELL Technologies

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.

Contents

Revision history

Date	Revision	Description of change
October 2023	11	Updating the minimum memory, cores and networking details for vSAN ESA.
August 2023	10	Updated the slot priority details.
March 2023	9	Minor updates.
January 2023	8	Updated for VxRail software version 8.0.010.
December 2022	7	Updated for VxRail software version 8.0.000.
September 2022	6	Minor updates and corrections.
February 2022	5	Updated for VxRail software version 7.0.320; added support for BOSS-S1.
December 2021	4	Updated for VxRail self-deployment information.
November 2021	3	Updated for VxRail software version 7.0.300, updated the PSU as fault tolerant redundant, and added the support for 256 GB LRDIMM for VxRail E660 and E660F.
August 2021	2	Updated to include support for Intel Persistent Memory 200 series (BPS) and minor updates.
July 2021	1	Initial wide release.

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Introduction

The VxRail E660, E660F, and E660N Installation and Service Manual provides an overview about the system, diagnostic tools, and guidelines describing high-level operations.

The target audience for this document includes customers, field personnel, and partners who want to operate and maintain a VxRail E660, E660F, or E660N. This document is designed for people familiar with:

- Dell systems and software
- VMware virtualization products
- Data center appliances and infrastructure

For the most up-to-date list of VxRail documentation, see the VxRail Documentation Quick Reference List.

Dell Technologies Support

Create a Support account to access support resources for your VxRail. Link your Support account with VxRail Manager to access resources without a separate login.

If you already have an account, register your VxRail to access the available resources. You can link your Online Support account with VxRail Manager and access support resources without having to log in separately.

Register for a Dell Technologies Support account

Create a Dell Technologies Support account to obtain VxRail documentation, license files, and software updates.

About this task

If you already have an account, link your Support account with VxRail Manager and access support resources without having to log in separately.

After you register, you can:

- Access or download the SolVe Desktop application for customized procedures to replace hardware components and upgrade software components.
- Link your Support account with VxRail Manager to access resources.

For information about how to access a Dell Technologies Online Support account or to upgrade an existing account, see KB 21768.

Steps

1. Go to Dell Technologies Support.
2. Click **Create an Account** and follow the steps to create an account.
   It may take approximately 48 hours to receive a confirmation of account creation.

Where to go for support resources

Support resources are available for your VxRail.

Use the following resources to obtain support for your VxRail:

- In the VMware vSphere Web Client, select **VxRail**. Use the **Support** functions on the **VxRail Dashboard**.
- Go to Dell Technologies Support.

Use SolVe Online for VxRail procedures

To avoid potential data loss, always use SolVe Online for VxRail to generate procedures before you replace any hardware components or upgrade software.

CAUTION: If you do not use *SolVe Online for VxRail* to generate procedures to replace hardware components or perform software upgrades, data loss may occur for VxRail.

You must have a Dell Technologies Support account to use SolVe Online for VxRail.

See KB 124395 for more information about how to use SolVe.

Locate your VxRail serial number

If you contact Dell Technologies Support for your VxRail, provide the VxRail serial number, also known as the Product Serial Number Tag (PSNT).

Identify the VxRail serial number in VMware vSphere Web Client or locate the serial number that is printed on the physical VxRail.

Locate your VxRail serial number in VxRail Manager

The PSNT is the VxRail serial number in VxRail Manager.

Steps

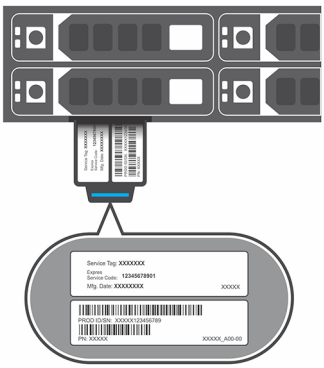
1. On the VMware vSphere Web Client, select the Inventory icon.
2. Select the VxRail cluster and click the **Monitor** tab.
3. Expand **VxRail**, and click **Physical View** to view the serial number.

Locate your physical VxRail serial number

Locate your VxRail serial number for models based on PowerEdge servers.

Steps

1. On the upper right corner of the VxRail chassis, locate the luggage tag.
2. Pull out the blue-tabbed luggage tag.
3. Locate the serial number label on the pull-out tag.



The Product Serial Number Tag (PSNT) is the 14-digit number that is on the front edge of the luggage tag.

Access VxRail content using the QRL

Use the Service Tag or QRL code on the Dell QRL site to access VxRail information for VxRail 15G, and later models.

About this task

If your VxRail has a QRL that is added to the luggage tag, you can use this tag to obtain factory configuration and warranty information. You can also enter the Service Tag to access information.

Steps

1. On the VxRail luggage tag, locate the QRL or Service Tag.

2. Using the camera on your phone or laptop, use the QRL code on the Service Tag to access information specific to your VxRail. You can also go to qrl.dell.com to enter the Service Tag information.

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System overview

An overview of the support capabilities of the VxRail E660 series.

VxRail E660 and E660F are a 1U server that supports:

- Up to two 3rd Generation Intel Xeon Scalable processors, with up to 40 cores per processor
- 32 DIMM slots
- Two fault tolerant redundant (FTR) AC power supply units
- Up to 10 x 2.5-inch drives (with two universal slots to support optional NVMe drives).

VxRail E660F supports DPU/SmartNIC.

VxRail E660N is a 1U server that supports:

- Up to two 3rd Generation Intel Xeon Scalable processors, with up to 40 cores per processor
- 32 DIMM slots
- Two FTR AC power supply units
- Up to 10 x 2.5-inch all NVMe drives

You cannot mix different capacity drives in VxRail E660N.

VxRail E660N vSAN ESA (Express Storage Architecture) supports:

- In the DIMM configuration, the minimum supported RAM capacity is 128 GB for systems with both single and dual processors
- vSAN ESA configuration supports a minimum of 4 drives and a maximum of 10 drives.
- Supports 10/25/100 Gbps Network Interface Controller (NIC) ports
- Minimum cores supported is 16 cores per processor.

NOTE: All instances of drives in this document indicate SAS, SATA, NVMe drives, unless specified otherwise.

For more information about supported drives, see the *Dell VxRail E660, E660F, and E660N Technical Specifications*.

Front view of the system

The following figure shows the front view of the VxRail E660, E660F, and E660N 10 x 2.5-inch drive system:

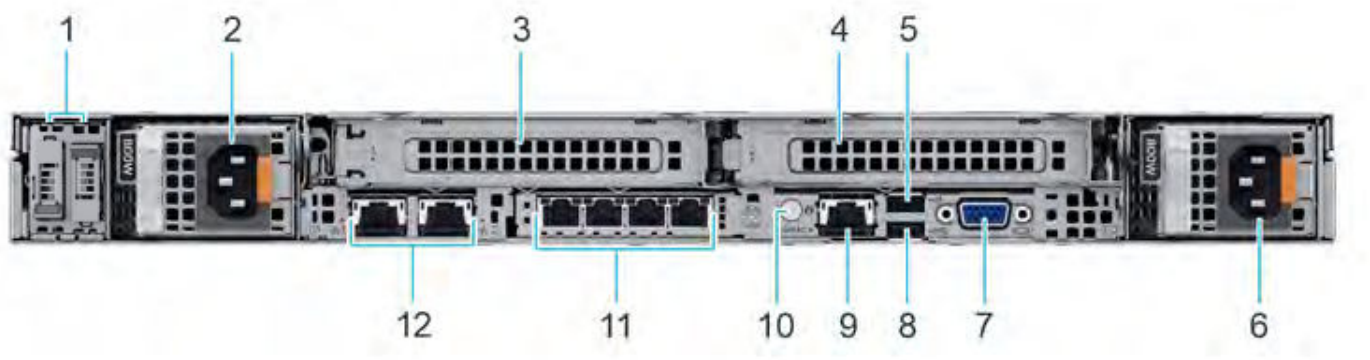
Item	Ports, panels, and slots	Icon	Description
1	Left control panel	N/A	Contains the system health, system ID, status LED, and the iDRAC Quick Sync 2 (wireless) indicator. **NOTE:** The iDRAC Quick Sync 2 indicator is an optional feature. • Status LED: Enables you to identify any failed hardware components. There are up to five status LEDs and an overall system health LED (Chassis health and system ID) bar. For more information, see Status LED indicators section. • Quick Sync 2 (wireless): Indicates a Quick Sync enabled system. The Quick Sync feature is optional. This feature allows management of the

Item	Ports, panels, and slots	Icon	Description
			system by using mobile devices called as OpenManage Mobile (OMM) feature. Using iDRAC Quick Sync 2 with OMM aggregates hardware or firmware inventory and various system level diagnostic and error information that can be used in troubleshooting the system. For more information, see the *Dell VxRail E660, E660F, and E660N Technical Specifications*.
2	Drive (10)	N/A	Enables you to install drives that are supported on your system.
3	Right control panel	N/A	Contains the power button, USB port, iDRAC Direct micro port, and the iDRAC Direct status LED.
4	VGA port		Enables you to connect a display device to the system.
5	Information tag	N/A	The Information tag is a slide-out label panel that contains system information such as Service Tag and PSNT. If you have opted for the secure default access to iDRAC, then the Information tag will also contain the iDRAC secure default password.

For more information about the ports, see the *Dell VxRail E660, E660F, and E660N Technical Specifications*.

Rear view of the system

The following figure shows the rear view of VxRail E660 and E660F with 2 x FH PCIe slots:

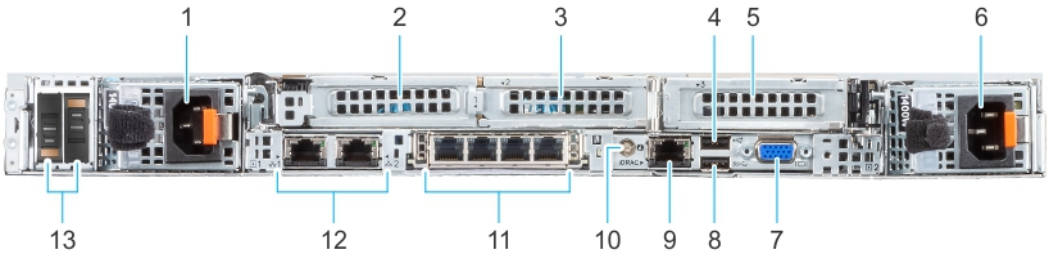


Item	Ports, panels, or slots	Icon	Description
1	BOSS S2 module	N/A	This slot supports the BOSS S2 module.
2	Power supply unit (PSU 1)		Indicates the PSU.
3	PCIe expansion card riser (slot 1 - FH)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
4	PCIe expansion card riser (slot 2 - FH)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
5	USB 2.0 port (1)		This port is USB 2.0-compliant.
6	Power supply unit (PSU 2)		Indicates the PSU.
7	VGA port (on STD RIO board)		Enables you to connect a display device to the system.

Item	Ports, panels, or slots	Icon	Description
8	USB 3.0 port (1)		This port is USB 3.0-compliant.
9	iDRAC dedicated port	iDRAC	Enables you to remotely access iDRAC.
10	System identification button		Press the system ID button: ● To locate a particular system within a rack. ● To turn the system ID on or off. To reset iDRAC, press and hold the button for more than 16 seconds. **NOTE:** ● To reset iDRAC using system ID, ensure that the system ID button is enabled in the iDRAC setup. ● If the system stops responding during POST, press and hold the system ID button (for more than 5 seconds) to enter the BIOS progress mode.
11	OCP NIC port	N/A	This port supports OCP 3.0. The NIC ports are integrated on the OCP card which is connected to the system board.
12	NIC port (2)		The NIC ports are embedded on the LOM card that is connected to the system board.

For more information, see the *Dell VxRail E660, E660F, and E660N Technical Specifications*.

The following figure shows the rear view of VxRail E660, E660F, and E660N with 3 x LP PCIe slots:



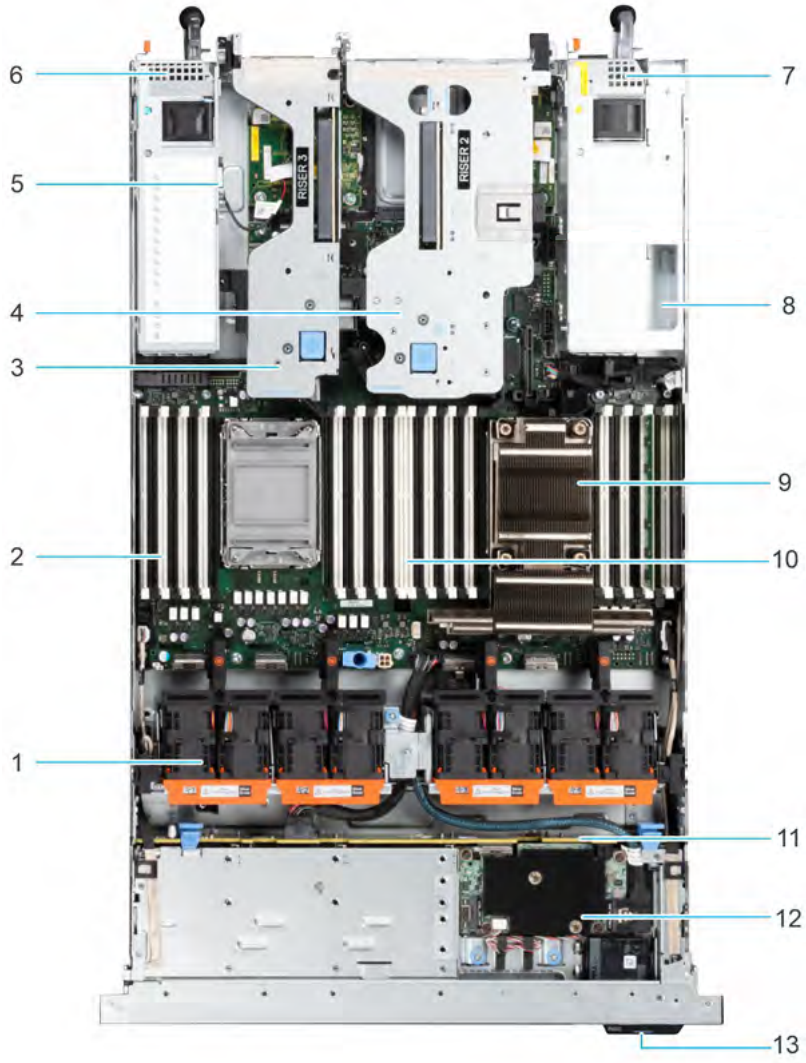
Item	Ports, panels, or slots	Icon	Description
1	Power supply unit (PSU 1)		Indicates the PSU.
2	PCIe expansion card riser (slot 1)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
3	PCIe expansion card riser (slot 2)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
4	USB 2.0 port (1)		This port is USB 2.0-compliant.
5	PCIe expansion card riser (slot 3)	N/A	The expansion card riser enables you to connect PCI Express expansion cards.
6	Power supply unit (PSU 2)		Indicates the PSU.
7	VGA port (on STD RIO board)		Enables you to connect a display device to the system.
8	USB 3.0 port (1)		This port is USB 3.0-compliant.
9	iDRAC dedicated port	iDRAC	Enables you to remotely access iDRAC.

Item	Ports, panels, or slots	Icon	Description
10	System identification button		Press the system ID button: ● To locate a particular system within a rack. ● To turn the system ID on or off. To reset iDRAC, press and hold the button for more than 16 seconds. **NOTE:** ● To reset iDRAC using system ID, ensure that the system ID button is enabled in the iDRAC setup. ● If the system stops responding during POST, press and hold the system ID button (for more than 5 seconds) to enter the BIOS progress mode.
11	OCP NIC port	N/A	This port supports OCP 3.0. The NIC ports are integrated on the OCP card which is connected to the system board.
12	NIC port (2)		The NIC ports are embedded on the LOM card that is connected to the system board.
13	BOSS S2 module	N/A	This slot supports the BOSS S2 module.

For more information, see the *Dell VxRail E660, E660F, and E660N Technical Specifications*.

Inside the system

The following figure shows the components inside the system:



1. Cooling fan
2. Memory DIMM slot for processor 2 (B2)
3. Riser 3
4. Riser 2
5. Intrusion switch
6. Power supply unit (PSU 2)
7. Power supply unit (PSU 1)
8. BOSS S2 module
9. Processor socket
10. Memory DIMM slot for processor 1 (A6)
11. Drive backplane
12. fPERC (front mounted)
13. Service Tag

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Initial setup and configuration

To install and deploy VxRail, you can purchase deployment services from Dell Technologies or select the VxRail self-deployment option (no installation services).

If you are using VxRail deployment services from Dell Technologies, do not rack the VxRail or connect power. Contact your Dell Technologies account team or reseller to arrange for deployment by Dell Technologies certified technicians.

Self deployment

For self-deployment, select the VxRail self-deployment option (no installation services). For self-deployment guidance and preparatory instructions, see KB 187954. You must have extensive network experience, understanding of VxRail infrastructure planning, and deployment knowledge to perform a VxRail self-deployment. Go to the VxRail Configuration Portal to perform self deployment.

Contact your sales representative for Dell Technologies Services if you are:

- Uncertain you can complete the end-to-end deployment process
- Unable to complete the deployment.

During the VxRail deployment, iDRAC creates a **vxadmin** or **PTAdmin** account. This account provides hardware information to the **VxRail Manager** and is required for the **VxRail Manager** and the cluster to function properly. Do not modify or delete the **vxadmin** or **PTAdmin** account.

CAUTION: If the vxadmin or PTAdmin account is modified or deleted, VxRail Manager and the cluster may not function properly.

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Pre-operating system management applications

You can manage basic settings and features of the VxRail without booting into the operating system by using the system firmware.

Dell Technologies optimizes your VxRail with the settings during installation and configuration. Do not change any basic settings or features set by Dell Technologies to ensure best performance.

CAUTION: Performance may be impacted if settings and features configured by Dell Technologies are changed.

Manage the pre-operating system applications

VxRail contains options to manage the pre-operating system applications.

The following options are available:

- System Setup
- Boot Manager
- Dell Lifecycle Controller
- Preboot Execution Environment (PXE)

Your VxRail was optimized by Dell Technologies during the initial configuration. Do not change any of the basic settings or features set by Dell Technologies to ensure best performance.

iDRAC configuration

The Integrated Dell Remote Access Controller (iDRAC) allows administrators to be more productive and improve the overall availability of Dell products. iDRAC alerts administrators to issues, perform remote management, and reduce the need for physical access.

You can log in to iDRAC as the following users:

- iDRAC user
- Microsoft Active Directory user
- LDAP user

If secure default access to iDRAC is used, the iDRAC secure default password is available on the back of the appliance Information tag. If you have not opted for secure default access to iDRAC, then the default user name and password are `root` and `calvin`. You can also log in by using Dell SSO or Smart Card.

The following prerequisites are a must to log in to iDRAC:

- You must have iDRAC credentials.
- Change the default user name and password after setting up the iDRAC IP address.

The iDRAC IP address is pre-configured for DHCP. This can be changed to a static IP address by logging into iDRAC.

- To access iDRAC, connect the network cable to the Ethernet connector 1 on the system board.
- Change the default username and password after setting up the iDRAC IP address.

Log in to iDRAC

You can log in to iDRAC as the following users:

- iDRAC user
- Microsoft Active Directory user

- LDAP user

If secure default access to iDRAC is used, the iDRAC secure default password is available on the back of the appliance Information tag. If you have not opted for secure default access to iDRAC, then the default user name and password are `root` and `calvin`. You can also log in by using Dell SSO or Smart Card.

The following prerequisites are a must to log in to iDRAC:

- You must have iDRAC credentials.
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The iDRAC IP address is pre-configured for DHCP. This can be changed to a static IP address by logging into iDRAC.

- To access iDRAC, connect the network cable to the Ethernet connector 1 on the system board.
- Ensure that you change the default username and password after setting up the iDRAC IP address.

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Replacement of hardware components

You can replace hardware components on your VxRail such as hard disk drives (HDDs), solid-state drives (SSDs), power supply units.

See the table in the Supported hardware components section to know the components that you can replace. In addition to these components, there are some hardware components that require you to contact the Dell Technologies support to arrange for repair or replacement.

Before you proceed with the replacement, go to SolVe and generate the replacement procedure of the component that you want to replace. For more information about how to use SolVe, see Using SolVe Online for VxRail procedures.

Use SolVe Online for VxRail procedures

To avoid potential data loss, always use SolVe Online for VxRail to generate procedures before you replace any hardware components or upgrade software.

CAUTION: If you do not use *SolVe Online for VxRail* to generate procedures to replace hardware components or perform software upgrades, data loss may occur for VxRail.

You must have a Dell Technologies Support account to use SolVe Online for VxRail.

See KB 124395 for more information about how to use SolVe.

Supported hardware components

Refer to the Support site or SolVe Online for VxRail for hardware-specific information.

The following table contains the not exhaustive list of FRU and CRU components:

Hardware Components	Customer Replaceable Unit (CRU)	Field Replaceable Unit (FRU)
BOSS S2 Module	Yes	No
M.2 SSD with BOSS S2	Yes	Yes
BOSS S1 Adapter	No	Yes
M.2 SSD with BOSS S1	No	Yes
PCIe Network Interface Cards	Yes	No
DPU/SmartNIC **NOTE:** Applicable only for VxRail E660F.	No	Yes
Power Supply Unit	Yes	No
Processor	No	Yes
Solid State Drive (NVMe)	Yes	No
Solid State Drive (SAS or SATA)	Yes	No
Integrated Storage Controller Card (HBA355i or H755)	Yes	No
GPU	Yes	No
Air Shroud	Yes	No
Cooling Fan Module	Yes	No

Hardware Components	Customer Replaceable Unit (CRU)	Field Replaceable Unit (FRU)
System Board	No	Yes
System Memory	Yes	No
System Battery	Yes	No
Right control panel	Yes	No
Left control panel	Yes	No
Drive backplane cover	Yes	No

System memory guidelines

The VxRail E660 series supports DDR4 registered DIMMs (RDIMMs), Load Reduced DIMM (LRDIMMs) and Intel Persistent Memory 200 series (BPS). System memory holds the instructions that are started by the processor.

Your system memory is organized into eight channels per processor (two memory sockets per channel),16 memory sockets per processor, and 32 memory sockets per system.

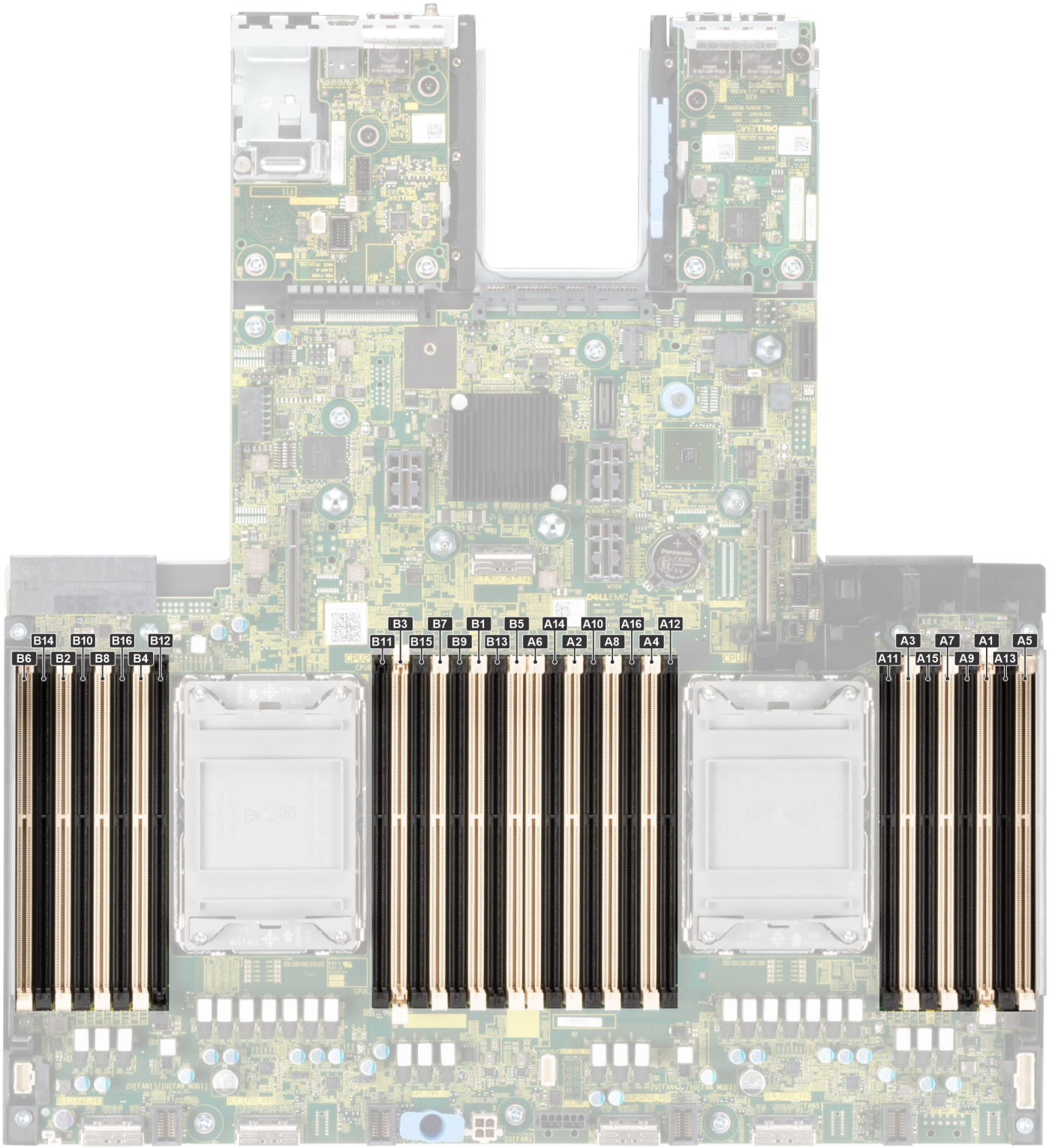


Figure 1. Memory channels

The following table describes memory channels and how the channels are organized:

Processor	Channel A	Channel B	Channel C	Channel D	Channel E	Channel F	Channel G	Channel H
Processor 1	Slots A1 and A9	Slots A5 and A13	Slots A3 and A15	Slots A7 and A15	Slots A2 and A10	Slots A6 and A14	Slots A4 and A12	Slots A8 and A16
Processor 2	Slots B1 and B9	Slots B5 and B13	Slots B3 and B15	Slots B7 and B15	Slots B2 and B10	Slots B6 and B14	Slots B4 and B12	Slots B8 and B16

The following table describes the supported memory matrix:

DIMM type	Rank type	Capacity	DIMM rated voltage and speed	Operating Speed	
				1 DIMM per channel (DPC)	2 DIMMs per channel (DPC)
RDIMM	2 R	16 GB, 32 GB, 64 GB	DDR4 (1.2 V), 3200 MT/s	3200 MT/s	3200 MT/s
LRDIMM	4 R	128 GB	DDR4 (1.2 V), 3200 MT/s	3200 MT/s	3200 MT/s
	8 R	256 GB	DDR4 (1.2 V), 3200 MT/s	3200 MT/s	3200 MT/s
Intel Persistent Memory 200 series (BPS)	2 R	128 GB, 256 GB, 512 GB	DDR4 (1.2 V), 3200 MT/s	3200 MT/s	3200 MT/s

General memory module installation guidelines

To ensure optimal performance of your system, observe the following general guidelines when configuring your system memory. If your system's memory configurations fail to observe these guidelines, your system might not boot, stop responding during memory configuration, or operate with reduced memory.

The memory bus operates at a speed of 3200 MT/s depending on the following factors:

- System profile selected. For example, Performance Optimized, or Custom (can be run at high speed or lower).
- Maximum supported DIMM speed of the processors.
- Maximum supported speed of the DIMMs.

MT/s indicates DIMM speed in MegaTransfers per second.

The memory bus supports Fault Resilient Memory-Non Uniform Memory Access.

The 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:

- All DIMMs must be DDR4.
- x4 and x8 DRAM based memory modules can be mixed.
- If memory modules with different speeds are installed, they operate at the speed of the slowest installed memory module(s).
- Populate memory module sockets only if a processor is installed.
  - For single-processor systems, sockets A1 to A16 are available.
  - For dual-processor systems, sockets A1 to A16 and sockets B1 to B16 are available.
- In Optimizer mode, the DRAM controllers operate independently in the 64-bit mode and provide optimized memory performance.
- The following table describes the memory population rules:

Processor	Configuration	Memory population	Memory population information
Single processor	Optimizer (Independent channel) population order	A{1}, A{2}, A{3}, A{4}, A{5}, A{6}, A{7}, A{8}, A{9}, A{10}, A{11}, A{12}, A{13}, A{14}, A{15}, A{16}	1, 2, 4, 6, 8, 12 or 16 DIMMs are allowed.
Dual processor (Start with processor1. Processor 1 and processor 2 population should match)	Optimizer (Independent channel) population order	A{1}, B{1}, A{2}, B{2}, A{3}, B{3}, A{4}, B{4}, A{5}, B{5}, A{6}, B{6}, A{7}, B{7} A{8}, B{8}, A{9}, B{9}, A{10}, B{10}, A{11}, B{11}, A{12}, B{12}, A{13}, B{13}, A{14}, B{14}, A{15}, B{15}, A{16}, B{16}	2, 4, 8, 12, 16, 24 and 32 DIMMs are supported per system. **NOTE:** Optimizer population order is not traditional for 8 and 16 DIMMs installations for dual processor.

- Populate all the sockets with white release tabs first, followed by the black release tabs.
- Memory modules of different capacities can be mixed provided other memory population rules are followed.
- Unbalanced or odd memory configuration results in a performance loss and system may not identify the memory modules being installed, so always populate memory channels identically with equal DIMMs for best performance.
- Supported RDIMM / LRDIMM configurations are 4, 8, 16, or 32 DIMMs per system.

  NOTE: In the E660N vSAN ESA, the minimum supported DIMM configuration for RAM capacity is 128 GB, and this is applicable to systems with both single and dual processors.

Intel Persistent Memory 200 series (BPS) installation guidelines

The following are the recommended guidelines for installing Intel Persistent Memory 200 series (BPS) memory modules:

- Each system supports maximum of one Intel Persistent Memory 200 series (BPS) memory module per channel.

  NOTE: If two different Intel Persistent Memory 200 series capacities are mixed, an F1/F2 warning is displayed as the configuration is not supported.
- Intel Persistent Memory 200 series can be mixed with RDIMM, LRDIMM, and 3DS LRDIMM.
- Mixing of DDR4 DIMM types (RDIMM, LRDIMM, and 3DS LRDIMM), within channels, for Integrated Memory Controller (iMC), or across sockets are not supported.
- Mixing of Intel Persistent Memory 200 series operating modes (App Direct Mode, Memory Mode) is not supported.
- If only one DIMM is populated on a channel, then the DIMM should always be populated in the first slot in that channel (white slot).
- If a Intel Persistent Memory 200 series and a DDR4 DIMM are populated on the same channel, always plug Intel Persistent Memory 200 series on second slot (black slot).
- If the Intel Persistent Memory 200 series is configured in Memory Mode, the recommended DDR4 to Intel Persistent Memory 200 series capacity ratio is 1:4 to 1:16 per iMC.
- Intel Persistent Memory 200 series cannot be mixed with other capacities of Intel Persistent Memory 200 series or with NVDIMMs.
- Intel Persistent Memory 200 series of different capacities are not allowed.
- VMware ESXi boot takes longer time when higher capacity of Intel Persistent Memory 200 series are configured in App Direct Mode (AP). This behavior is known as Address Range Scrub (ARS). This is an expected behavior as the background ARS is going on the interleave sets and it must be completed prior to mounting the pMem datastore on ESXi.
- In App Direct Mode, sockets can be populated symmetrically or asymmetrically.
- In Memory Mode (MM), sockets can be populated symmetrically.
- Memory mode is not supported for the 6+1, 8+1 and 12+2 configurations irrespective of DDR to Intel Persistent Memory 200 series capacity ratio.
- In VMware ESXI environment, if BPS goal is changed between App Direct Mode and Memory Mode, it is recommended to sanitize the Intel Persistent Memory 200 series before creating a new goal.
- Populate Intel Persistent Memory 200 series in DIMM slot 1, unless Intel Persistent Memory 200 series is the only DIMM in that channel, and then populate in DIMM slot 0.

For more information about the supported Intel Persistent Memory 200 series (BPS) configurations, see the *Dell Intel Persistent Memory 200 series (BPS) User's Guide* at https://www.dell.com/support/home/products/server_int/server_int_poweredge.

NOTE: There are limited configurations available for dual socket servers with only one processor populated.

The following table describes the internal memory channels of the listed BPS configurations:

Configuration	Shorthand	Number of CPU per system	Number of RDIMM/LRDIMMs per CPU	Number of BPS per CPU	Mode support		iMC 2				iMC 3				iMC 1				iMC 0			
					App Direct	Memory Mode	Channel 1 (5/F)		Channel 0 (4/E)		Channel 1 (7/H)		Channel 0 (6/G)		Channel 0 (2/C)		Channel 1 (3/D)		Channel 0/A		Channel 1/B	
							A/B7	A/B15	A/B3	A/B11	A/B8	A/B16	A/B4	A/B12	A/B10	A/B2	A/B14	A/B6	A/B9	A/B1	A/B13	A/B5
							A/B6	A/B14	A/B2	A/B10	A/B8	A/B16	A/B4	A/B12	A/B11	A/B3	A/B15	A/B7	A/B9	A/B1	A/B13	A/B5
BPS1	4+4	1 or 2	4	4	Y	NA	B	-	R	-	B	-	R	-	-	R	-	B	-	R	-	B

Configuration	Shorthand	Number of CPU per system	Number of RDIMM/LRDIMMs per CPU	Number of BPS per CPU	Mode support		iMC 2				iMC 3				iMC 1				iMC 0			
					App Direct	Memory Mode	Channel 1 (5/F)		Channel 0 (4/E)		Channel 1 (7/H)		Channel 0 (6/G)		Channel 0 (2/C)		Channel 1 (3/D)		Channel 0/A		Channel 1/B	
							A/B7	A/B15	A/B3	A/B11	A/B8	A/B16	A/B4	A/B12	A/B10	A/B2	A/B14	A/B6	A/B9	A/B1	A/B13	A/B5
							A/B6	A/B14	A/B2	A/B10	A/B8	A/B16	A/B4	A/B12	A/B11	A/B3	A/B15	A/B7	A/B9	A/B1	A/B13	A/B5
BPS2	6+1	1 or 2	6	1	Y	NA	R	-	R	-	-	-	R	-	-	R	-	B	-	R	-	R
BPS3	8+1	1 or 2	8	1	Y	NA	R	-	R	-	R	-	R	-	-	R	-	R	B	R	-	R
BPS4	8+4	1 or 2	8	4	Y	Y	R	-	R	B	R	-	R	B	B	R	-	R	B	R	-	R
BPS5	8+8	1 or 2	8	8	Y	Y	R	B	R	B	R	B	R	B	B	R	B	R	B	R	B	R
BPS6	12+2	1 or 2	12	2	Y	NA	B	-	R	R	R	R	R	R	R	R	R	R	R	R	-	B
BPS7	-	2	28	4	Y	NA	R	B	R	R	R	B	R	R	R	R	B	R	R	R	B	R

The following table lists the BPS configurations in App Direct Mode for the single-socket configurations of VxRail E660 and E660F:

Configuration	Total No of RDIMMs / LRDIMMs	Total No of Intel Persistent Memory 200 series (BPS) DIMMs	1 RDIMM/ LRDIMM capacity (GB)	1 Intel Persistent Memory 200 series (BPS) capacity (GB)	Total Standard Memory Capacity (GB)	Total PM Capacity (GB)	Total Memory (GB)
BPS1	4	4	16	128	64	1024	576
	4	4	32	128	128	1024	640
	4	4	64	128	256	1024	768
	4	4	128	128	512	1024	1024
	4	4	16	256	64	2048	1088
	4	4	32	256	128	2048	1152
	4	4	64	256	256	2048	1280
	4	4	128	256	512	2048	1536
	4	4	16	512	64	4096	2112
	4	4	32	512	128	4096	2176
	4	4	64	512	256	4096	2304
	4	4	128	512	512	4096	2560
BPS2	6	1	16	128	96	256	224
	6	1	32	128	192	256	320
	6	1	64	128	384	256	512
	6	1	128	128	768	256	896

Configuration	Total No of RDIMMs / LRDIMMs	Total No of Intel Persistent Memory 200 series (BPS) DIMMs	1 RDIMM/ LRDIMM capacity (GB)	1 Intel Persistent Memory 200 series (BPS) capacity (GB)	Total Standard Memory Capacity (GB)	Total PM Capacity (GB)	Total Memory (GB)
	6	1	16	256	96	512	352
	6	1	32	256	192	512	448
	6	1	64	256	384	512	640
	6	1	128	256	768	512	1024
	6	1	16	512	96	1024	608
	6	1	32	512	192	1024	704
	6	1	64	512	384	1024	896
	6	1	128	512	768	1024	1280
BPS3	8	1	16	128	128	256	256
	8	1	32	128	256	256	384
	8	1	64	128	512	256	640
	8	1	128	128	1024	256	1152
	8	1	16	256	128	512	384
	8	1	32	256	256	512	512
	8	1	64	256	512	512	768
	8	1	128	256	1024	512	1280
	8	1	16	512	128	1024	640
	8	1	32	512	256	1024	768
	8	1	64	512	512	1024	1024
	8	1	128	512	1024	1024	1536
BPS4	8	4	16	128	128	1024	640
	8	4	32	128	256	1024	768
	8	4	64	128	512	1024	1024
	8	4	128	128	1024	1024	1536
	8	4	16	256	128	2048	1152
	8	4	32	256	256	2048	1280
	8	4	64	256	512	2048	1536
	8	4	128	256	1024	2048	2048
	8	4	16	512	128	4096	2176
	8	4	32	512	256	4096	2304
	8	4	64	512	512	4096	2560
	8	4	128	512	1024	4096	3072
BPS5	8	8	16	128	128	2048	1152
	8	8	32	128	256	2048	1280
	8	8	64	128	512	2048	1536

Configuration	Total No of RDIMMs / LRDIMMs	Total No of Intel Persistent Memory 200 series (BPS) DIMMs	1 RDIMM/ LRDIMM capacity (GB)	1 Intel Persistent Memory 200 series (BPS) capacity (GB)	Total Standard Memory Capacity (GB)	Total PM Capacity (GB)	Total Memory (GB)
	8	8	128	128	1024	2048	2048
	8	8	16	256	128	4096	2176
	8	8	32	256	256	4096	2304
	8	8	64	256	512	4096	2560
	8	8	128	256	1024	4096	3072
	8	8	16	512	128	8192	4224
	8	8	32	512	256	8192	4352
	8	8	64	512	512	8192	4608
	8	8	128	512	1024	8192	5120
BPS6	12	2	16	128	192	256	448
	12	2	32	128	384	256	640
	12	2	64	128	768	256	1024
	12	2	128	128	1536	256	1792
	12	2	16	256	192	512	704
	12	2	32	256	384	512	896
	12	2	64	256	768	512	1280
	12	2	128	256	1536	512	2048
	12	2	16	512	192	1024	1216
	12	2	32	512	384	1024	1408
	12	2	64	512	768	1024	1792
	12	2	128	512	1536	1024	2560

The following table lists the BPS configurations in App Direct Mode for the dual-socket configurations of VxRail E660 and E660F:

Configuration	Total No of RDIMMs / LRDIMMs	Total No of Intel Persistent Memory 200 series (BPS) DIMMs	1 RDIMM/ LRDIMM capacity (GB)	1 Intel Persistent Memory 200 series (BPS) capacity (GB)	Total Standard Memory Capacity (GB)	Total PM Capacity (GB)	Total Memory (GB)
BPS1	8	8	16	128	128	1024	1152
	8	8	32	128	256	1024	1280
	8	8	64	128	512	1024	1536
	8	8	128	128	1024	1024	2048
	8	8	16	256	128	2048	2176
	8	8	32	256	256	2048	2304
	8	8	64	256	512	2048	2560
	8	8	128	256	1024	2048	3072

Configuration	Total No of RDIMMs / LRDIMMs	Total No of Intel Persistent Memory 200 series (BPS) DIMMs	1 RDIMM/ LRDIMM capacity (GB)	1 Intel Persistent Memory 200 series (BPS) capacity (GB)	Total Standard Memory Capacity (GB)	Total PM Capacity (GB)	Total Memory (GB)
	8	8	16	512	128	4096	4224
	8	8	32	512	256	4096	4352
	8	8	64	512	512	4096	4608
	8	8	128	512	1024	4096	5120
BPS2	12	2	16	128	192	256	448
	12	2	32	128	384	256	640
	12	2	64	128	768	256	1024
	12	2	128	128	1536	256	1792
	12	2	16	256	192	512	704
	12	2	32	256	384	512	896
	12	2	64	256	768	512	1280
	12	2	128	256	1536	512	2048
	12	2	16	512	192	1024	1216
	12	2	32	512	384	1024	1408
	12	2	64	512	768	1024	1792
	12	2	128	512	1536	1024	2560
BPS3	16	2	16	128	256	256	512
	16	2	32	128	512	256	768
	16	2	64	128	1024	256	1280
	16	2	128	128	2048	256	2304
	16	2	16	256	256	512	768
	16	2	32	256	512	512	1024
	16	2	64	256	1024	512	1536
	16	2	128	256	2048	512	2560
	16	2	16	512	256	1024	1280
	16	2	32	512	512	1024	1536
	16	2	64	512	1024	1024	2048
	16	2	128	512	2048	1024	3072
BPS4	16	8	16	128	256	1024	1280
	16	8	32	128	512	1024	1536
	16	8	64	128	1024	1024	2048
	16	8	128	128	2048	1024	3072
	16	8	16	256	256	2048	2304
	16	8	32	256	512	2048	2560
	16	8	64	256	1024	2048	3072

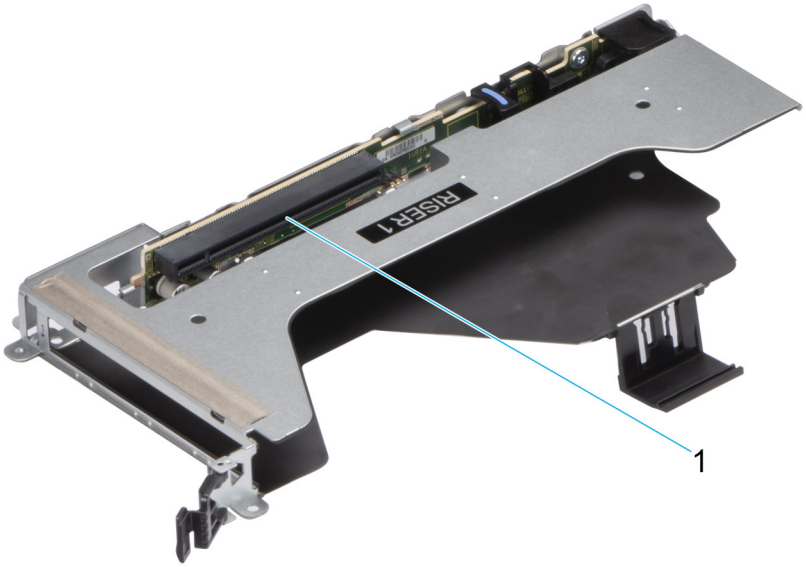
Configuration	Total No of RDIMMs / LRDIMMs	Total No of Intel Persistent Memory 200 series (BPS) DIMMs	1 RDIMM/ LRDIMM capacity (GB)	1 Intel Persistent Memory 200 series (BPS) capacity (GB)	Total Standard Memory Capacity (GB)	Total PM Capacity (GB)	Total Memory (GB)
	16	8	128	256	2048	2048	4096
	16	8	16	512	256	4096	4352
	16	8	32	512	512	4096	4608
	16	8	64	512	1024	4096	5120
	16	8	128	512	2048	4096	6144
BPS5	16	16	16	128	256	2048	2304
	16	16	32	128	512	2048	2560
	16	16	64	128	1024	2048	3072
	16	16	128	128	2048	2048	4096
	16	16	16	256	256	4096	4352
	16	16	32	256	512	4096	4608
	16	16	64	256	1024	4096	5120
	16	16	128	256	2048	4096	6144
	16	16	16	512	256	8192	8448
	16	16	32	512	512	8192	8704
	16	16	64	512	1024	8192	9216
	16	16	128	512	2048	8192	10240
BPS6	24	4	16	128	384	512	896
	24	4	32	128	768	512	1280
	24	4	64	128	1536	512	2048
	24	4	128	128	3072	512	3584
	24	4	16	256	384	1024	1408
	24	4	32	256	768	1024	1792
	24	4	64	256	1536	1024	2560
	24	4	128	256	3072	1024	4096
	24	4	16	512	384	2048	2432
	24	4	32	512	768	2048	2816
	24	4	64	512	1536	2048	3584
	24	4	128	512	3072	2048	5120

Expansion card installation guidelines

This section contains the riser configurations and slot priority details.

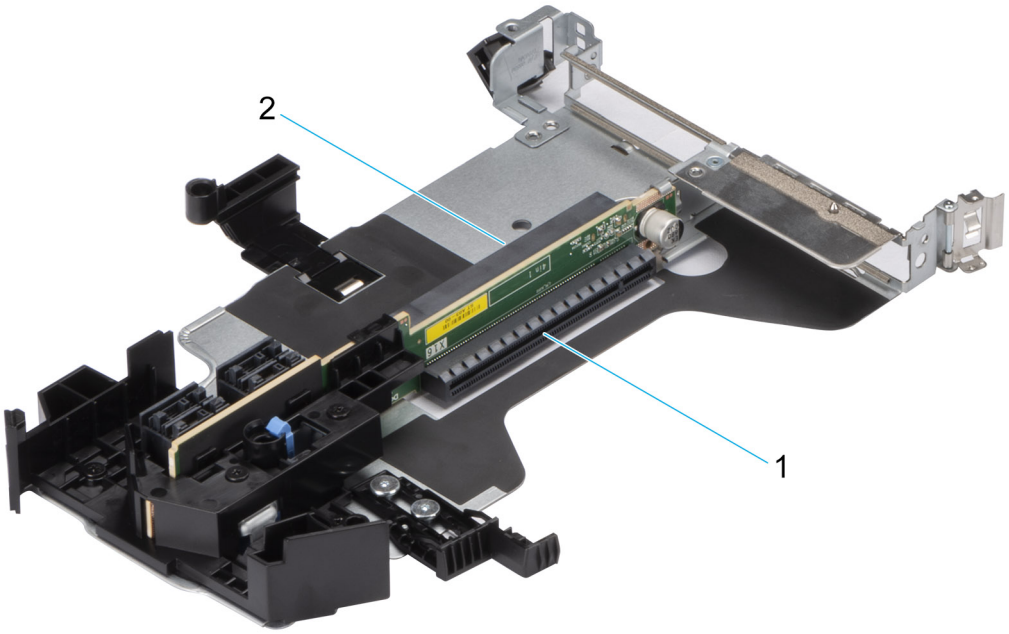
Riser 1A - Full height

1. Slot 1



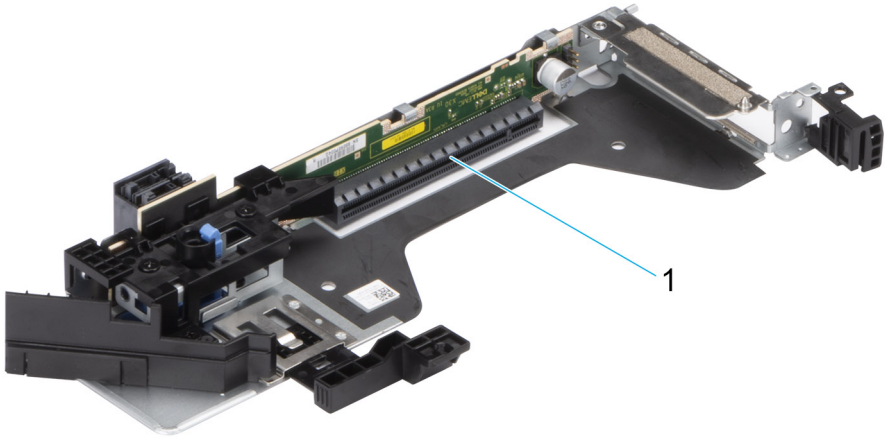
Riser 2A - Low profile

1. Slot 1
2. Slot 2



Riser 3A - Low profile

1. Slot 3



Riser 4 -Full height

1. Slot 2

The following tables show the riser configurations and slot priority information of VxRail E660 and VxRail E660F:

Riser configuration 0-1: R2A + R3A

NOTE: PCIe slot-1 supports single-socket configuration only.

Location	Width	Length	Height	Processor 1	Processor 2	
				Riser 2A	Riser 2A	Riser 3A
PCIe Slot-1	Single-wide	Half length	Low profile	x16	-	-
PCIe Slot-2	DO NOT USE					
PCIe Slot-3						

Card type	Slot priority	Form factor
HWRAID BOSS S2	Integrated slot	N/A
HBA355i front	Integrated slot	N/A
H755 fPERC	Integrated slot	N/A
Network Daughter Card (OCP)	Integrated slot	N/A
BOSS-S1	1	Low profile

Card type	Slot priority	Form factor
PCIe NIC 25 GbE	1	Low profile
PCIe NIC 10 GbE	1	Low profile
PCIe NIC 100 GbE	1	Low profile
PCIe FC HBA	1	Low profile

Riser configuration 0-2: R2A + R3A

Location	Width	Length	Height	Processor 1	Processor 2	
				Riser 2A	Riser 2A	Riser 3A
PCIe Slot-1	Single-wide	Half length	Low profile	x16	-	-
PCIe Slot-2	Single-wide	Half length	Low profile	-	x16	-
PCIe Slot-3	Single-wide	Half length	Low profile	-		x16

Card type	Slot priority	Form factor
HWRAID BOSS S2	Integrated slot	N/A
HBA355i front	Integrated slot	N/A
H755 fPERC	Integrated slot	N/A
Network Daughter Card (OCP)	Integrated slot	N/A
BOSS-S1	2,1,3	Low profile
PCIe NIC 25 GbE	2,1,3	Low profile
PCIe NIC 10 GbE	2,1,3	Low profile
PCIe NIC 100 GbE	2,1,3	Low profile
PCIe FC HBA	2,1,3	Low profile
Single wide GPU	2,1,3	Low profile

Riser configuration 3: R1A + R4C + R4D

Location	Width	Length	Height	Processor 1	Processor 2	
				Riser 2A	Riser 4C	Riser 4D
PCIe Slot-1	Single-wide	3/4 length	Full height	x16	-	
PCIe Slot-2	Single-wide	3/4 length	Full height	-	x16	

Card type	Slot priority	Form factor
HWRAID BOSS S2	Integrated slot	N/A
HBA355i front	Integrated slot	N/A
H755 fPERC	Integrated slot	N/A
Network Daughter Card (OCP)	Integrated slot	N/A
BOSS-S1	2,1	Full height
PCIe NIC 25 GbE	2,1	Full height
PCIe NIC 10 GbE	2,1	Full height
PCIe NIC 100 GbE	2,1	Full height
PCIe FC HBA	2,1	Full height

Card type	Slot priority	Form factor
Single wide GPU	2,1	Full height

The following tables show the riser configuration and slot priority information of VxRail E660N that supports riser configuration 4: R2A + R3A + R1D Paddle card:

Location	Width	Length	Height	Processor 1	Processor 2	
				Riser 2A	Riser 2A	Riser 3A
PCIe Slot-1	Single-wide	Half length	Low profile	x16	-	-
PCIe Slot-2	Single-wide	Half length	Low profile	-	x16	-
PCIe Slot-3	Single-wide	Half length	Low profile	-		x16

Card type	Slot priority	Form factor
HWRAID BOSS S2	Integrated slot	N/A
Network Daughter Card (OCP)	Integrated slot	N/A
BOSS-S1	1	Low profile
PCIe NIC 25 GbE	2,1,3	Low profile
PCIe NIC 10 GbE	2,1,3	Low profile
PCIe NIC 100 GbE	2,1,3	Low profile
PCIe FC HBA	2,1,3	Low profile
Single wide GPU	2,1,3	Low profile

6

System diagnostics and indicator codes

This section describes the chassis LEDs and diagnostic indicators on the front panel of VxRail E660 series. These diagnostic indicators display the system status during system startup.

Status LED indicators

The status LED indicators are located on the chassis and they indicate the condition of the system. If any error occurs, the indicators turn solid amber in color.

Icon	Description	Condition	Corrective action
	Drive indicator	The indicator turns solid amber if there is a drive error.	• Check the System Event Log to determine if the drive has an error. • Run the appropriate Online Diagnostics test. Restart the system and run embedded diagnostics (ePSA). • If the drives are configured in a RAID array, restart the system, and enter the host adapter configuration utility program.
	Temperature indicator	The indicator turns solid amber if the system experiences a thermal error (for example, the ambient temperature is out of range or there is a fan failure).	Ensure that none of the following conditions exist: • A cooling fan has been removed or has failed. • System cover, air shrouds, or back filler bracket has been removed. • Ambient temperature is too high. • External airflow is obstructed. If the problem persists, see Dell Technologies Support.
	Electrical indicator	The indicator turns solid amber if the system experiences an electrical error (for example, voltage out of range, or a failed power supply unit (PSU) or voltage regulator).	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 Dell Technologies Support.
	Memory indicator	The indicator turns solid 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 Dell Technologies Support.
	PCIe indicator	The indicator turns solid amber if a PCIe card experiences an error.	Restart the system. Update any required drivers for the PCIe card. Reinstall the card. If the problem persists, see Dell Technologies Support.

System health and system ID indicator codes

The system health and system ID indicator is located on the left control panel of the system.

System health and system ID indicator code	Condition
Solid blue	Indicates that the system is powered on, is healthy, and system ID mode is not active. Press the system health and system ID button to switch to system ID mode.
Blinking blue	Indicates that the system ID mode is active. Press the system health and system ID button to switch to system health mode.
Solid amber	Indicates that the system is in fail-safe mode. If the problem persists, see Dell Technologies Support.
Blinking amber	Indicates that the system is experiencing a fault. Check the System Event Log for specific error messages. For information about the event and error messages generated by the system firmware and agents that monitor system components, go to qrl.dell.com > **Look Up** > **Error Code**, type the error code, and then click **Look it up**.

iDRAC Quick Sync 2 indicator codes

iDRAC Quick Sync 2 module (optional) is on the left control panel of the system.

iDRAC Quick Sync 2 indicator code	Condition	Corrective action
Off (default state)	Indicates that the iDRAC Quick Sync 2 feature is powered off. Press the iDRAC Quick Sync 2 button to power on the iDRAC Quick Sync 2 feature.	If the LED fails to power on, reseat the left control panel flex cable and check. If the problem persists, see Dell Technologies Support.
Solid white	Indicates that iDRAC Quick Sync 2 is ready to communicate. Press the iDRAC Quick Sync 2 button to power off.	If the LED fails to power off, restart the system. If the problem persists, see Dell Technologies Support.
Blinks white rapidly	Indicates data transfer activity.	If the indicator continues to blink indefinitely, see Dell Technologies Support.
Blinks white slowly	Indicates that firmware update is in progress.	If the indicator continues to blink indefinitely, see Dell Technologies Support.
Blinks white five times rapidly and then powers off	Indicates that the iDRAC Quick Sync 2 feature is disabled.	Check if the iDRAC Quick Sync 2 feature is disabled by iDRAC. If the problem persists, see Dell Technologies Support. www.dell.com/poweredgemanuals or *Dell OpenManage Server Administrator User's Guide* at https://www.dell.com/openmanagemanuals.

iDRAC Quick Sync 2 indicator code	Condition	Corrective action
Solid amber	Indicates that the system is in fail-safe mode.	Restart the system. If the problem persists, see Dell Technologies Support.
Blinking amber	Indicates that the iDRAC Quick Sync 2 hardware is not responding properly.	Restart the system. If the problem persists, see Dell Technologies Support.

iDRAC Direct LED indicator codes

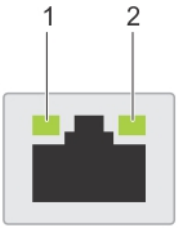
The iDRAC Direct LED indicator lights up to indicate that the port is connected and is being used as a part of the iDRAC subsystem.

You can configure iDRAC Direct by using a USB to micro USB (type AB) cable, which you can connect to your laptop or tablet. Cable length should not exceed 3 feet (0.91 meters). Performance could be affected by cable quality. The following table describes iDRAC Direct activity when the iDRAC Direct port is active:

iDRAC Direct LED indicator code	Condition
Solid green for two seconds	Indicates that the laptop or tablet is connected.
Blinking green (on for two seconds and off for two seconds)	Indicates that the laptop or tablet connected is recognized.
LED Indicator off	Indicates that the laptop or tablet is unplugged.

NIC indicator codes

Each NIC on the back of the system has indicators that provide information about the activity and link status. The activity LED indicator indicates if data is flowing through the NIC, and the link LED indicator indicates the speed of the connected network.



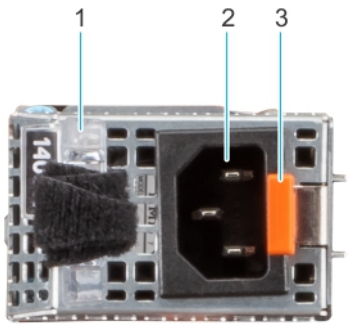
1. Link LED indicator
2. Activity LED indicator

The following table describes different NIC indicator codes and condition of the connectivity:

NIC indicator codes	Condition
Link and activity indicators are off.	Indicates that the NIC is not connected to the network.
Link indicator is green, and activity indicator is blinking green.	Indicates that the NIC is connected to a valid network at its maximum port speed, and data is being sent or received.
Link indicator is amber, and activity indicator is blinking green.	Indicates that the NIC is connected to a valid network at less than its maximum port speed, and data is being sent or received.
Link indicator is green, and activity indicator is off.	Indicates that the NIC is connected to a valid network at its maximum port speed, and data is not being sent or received.
Link indicator is amber, and activity indicator is off.	Indicates that the NIC is connected to a valid network at less than its maximum port speed, and data is not being sent or received.
Link indicator is blinking green, and activity is off.	Indicates that the NIC identity is enabled through the NIC configuration utility.

Power supply unit indicator codes

AC power supply units (PSUs) have an illuminated translucent handle that serves as an indicator. The indicator shows if power is present or if a power fault has occurred.



1. AC PSU handle
2. Socket
3. Release latch

The following table describes the power indicator codes:

Power indicator codes	Condition
Green	Indicates that a valid power source is connected to the PSU and the PSU is operational.
Blinking amber	Indicates an issue with the PSU.
Not powered on	Indicates that the power is not connected to the PSU.
Blinking green	Indicates that the firmware of the PSU is being updated. **CAUTION: Do not disconnect the power cord or unplug the PSU when updating firmware. If firmware update is interrupted, the PSUs will not function.**
Blinking green and powers off	When hot-plugging a PSU, it blinks green five times at a rate of 4 Hz and powers off. This indicates a PSU mismatch due to efficiency, feature set, health status, or supported voltage. If two PSUs are installed, you must ensure that: • Both PSUs must have the same type of label. For example, Extended Power Performance (EPP) label. • They must be of the same type and have the same maximum output power. **CAUTION: Do not mix PSUs from previous generations of PowerEdge servers, even if the PSUs have the same power rating. This results in a PSU mismatch condition or failure to power on the system.** **CAUTION: When correcting a PSU mismatch, replace the PSU with the blinking indicator. Do not swap the PSU to make a matched pair. This can result in an erroneous condition and an unexpected system shutdown.** **CAUTION: To change from a high output configuration to a low output configuration or vice versa, you must power off the system.** **CAUTION: AC PSUs support both 240 V and 120 V input voltages with the exception of Titanium PSUs, which support only 240 V. When two identical PSUs receive different input voltages, they can output different wattages, and trigger a mismatch.**

Drive indicator codes

The LEDs on the drive carrier indicate the state of each drive. Each drive carrier has two LEDs: an activity LED (green) and a status LED (bicolor, green/amber). The activity LED blinks whenever the drive is accessed.

1. Drive activity LED indicator
2. Drive status LED indicator
3. Drive capacity label

NOTE: If the drive is in the Advanced Host Controller Interface (AHCI) mode, the status LED indicator does not power on.

NOTE: Drive status indicator behavior is managed by Storage Spaces Direct. Not all drive status indicators may be used.

Drive status indicator code	Condition
Blinks green twice per second	Indicates that the drive is being identified or preparing for removal.
Off	Indicates that the drive is ready for removal. **NOTE:** The drive status indicator remains off until all drives are initialized after the system is powered on. Drives are not ready for removal during this time.
Blinks green, amber, and then powers off	Indicates that there is an unexpected drive failure.
Blinks amber four times per second	Indicates that the drive has failed.
Blinks green slowly	Indicates that the drive is rebuilding.
Solid green	Indicates that the drive is online.
Blinks green for three seconds, amber for three seconds, and then powers off after six seconds	Indicates that the rebuild has stopped.

Using system diagnostics

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

Dell Embedded System Diagnostics

The Dell Embedded System Diagnostics is also known as Enhanced Pre-boot System Assessment (ePSA) diagnostics. The Embedded System Diagnostics provide 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 issues encountered during testing

Run the Embedded System Diagnostics from the Dell Lifecycle Controller

Steps

1. When the system is booting, 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 start executing the tests on all the detected devices.

Run the Embedded System Diagnostics from Boot Manager

If your system does not boot, run the Embedded System Diagnostics (ePSA).

Steps

1. When the system is booting, press F11.
2. Use the up arrow and down arrow keys to select **System Utilities** > **Launch Diagnostics**.
3. Alternatively, when the system is booting, press F10, 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

The following table describes the options available on the **System diagnostic controls** screen:

Menu	Description
Configuration	Displays the configuration and status information of all detected devices.
Results	Displays the results of all tests that are run.
System health	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.