PowerEdge R740XD Information Update - Tech Sheet

Notes, cautions, and warnings

(i) **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

Overview

The information in this document supersedes the information in the pertinent sections of the Installation and Service Manual, BIOS and UEFI Reference Guide, and Technical Specifications.

For a complete list of information, see the documents available at https://www.dell.com/poweredgemanuals.

Topics:

*   Revision history

Revision history

This section provides a description of document changes.

Table 1. Document Revision history

Document Revision	Date	Description of changes
2	Nov, 2022	1. Horizon_OM_PSU_Specs 2. Expansion card installation guidelines
1	June, 2022	1. Updated storage_controller_specs

Information Update

Topics:

*   PSU specifications

PSU specifications

The PowerEdge R740xd system supports up to two AC or DC power supply units (PSUs).

Table 2. PSU specifications

PSU	Class	Heat dissipation (maximum)	Frequency	Voltage	High line 200v-240 V	Low line 100– 140 V	DC	Current
495 W AC	Platinum	1908 BTU/hr	50/60 Hz	100–240 V AC, autoranging	495 W	495 W	NA	6.5 A–3 A
750 W AC	Platinum	2891 BTU/hr	50/60 Hz	100–240 V AC, autoranging	750 W	750 W	NA	10 A–5 A
750 W AC	Titanium	2843 BTU/hr	50/60 Hz	200–240 V AC	750 W		NA	5 A
750 W Mixed Mode HVDC (for China only)	Platinum	2891 BTU/hr	50/60 Hz	100–240 V AC, autoranging	750 W	750 W	NA	10 A–5 A
	N/A	2891 BTU/hr	N/A	240 V DC	NA	NA	750W	4.5 A
750 W Mixed Mode	Platinum	2891 BTU/hr	50/60 Hz	100–240 V AC, autoranging	750 W	750 W	NA	10 A–5 A
	(For China only)	2891 BTU/hr	N/A	240 V DC	NA	NA	750 W	5 A
1100 W AC	Platinum	4100 BTU/hr	50/60 Hz	100–240 V AC	1100 W	1050 W		12 A–6.5 A
1100 W DC	N/A	4416 BTU/hr	N/A	–(48 V to –60 V) DC	NA	NA	1100 W	32 A
1100 W Mixed Mode HVDC (for China and Japan only)	Platinum	4100 BTU/hr	50/60 Hz	100–240 V AC	1100 W	1050 W		12 A–6.5 A
	N/A	4100 BTU/hr	N/A	200–380 V DC	NA	NA	1100 W	6.4 A–3.2 A
1600 W AC	Platinum	6000 BTU/hr	50/60 Hz	100–240 V AC	1600 W	800 W	NA	10 A
2000 W AC	Platinum	7500 BTU/hr	50/60 Hz	100–240 V AC	2000 W	1000 W	NA	11.5 A
2400 W AC	Platinum	9000 BTU/hr	50/60 Hz	100–240 V AC	2400 W	1400 W	NA	16 A
1600 W AC	Titanium	5970 BTU/hr	50/60 Hz	200–240 V AC	1600 W	NA	NA	10 A

Table 2. PSU specifications (continued)

PSU	Class	Heat dissipation (maximum)	Frequency	Voltage	High line 200v-240 V	Low line 100– 140 V	DC	Current
2600 W AC	Titanium	9450 BTU/hr	50/60 Hz	200–240 V AC	2600 W	NA	NA	15 A

ⓘ **NOTE:** Heat dissipation is calculated using the PSU wattage rating.

ⓘ **NOTE:** This system is also designed to connect to the IT power systems with a phase to phase voltage not exceeding 240 V.

ⓘ **NOTE:** PSUs rated for 1100 W Mixed Mode HVDC or 1100 W AC and higher require high-line voltage (200–240 V AC) to supply their rated capacity.

Expansion card installation guidelines

ⓘ **NOTE:** A System Event Log (SEL) event is logged if an expansion card riser is not supported or missing. It does not prevent your system from turning on. However, if a F1/F2 pause occurs and an error message is displayed.

The PowerEdge R740xd system supports up to eight PCI express (PCIe) generation 3 expansion cards, that can be installed on the system board using expansion card risers. The following table provides detailed information about the expansion card riser specifications:

Table 3. Expansion card riser specifications

Riser configuration and supported risers	Slot description	PCIe slots on riser 1 (Height and length)	Processor connection	PCIe slots on riser 2 (Height and length)	Processor connection	PCIe slots on riser 3 (Height and length)	Processor connection
Riser configuration 0 with or without rear storage (No riser)	No PCIe slots (only rear storage)	N/A	N/A	N/A	N/A	N/A	N/A
Riser configuration 1 with or without rear storage (1B+2 B)	Four x8 slots and rear storage	Slot 1: x8 full-height, full length	Processor 1	Slot 4: x8 low profile, half length	Processor 1	N/A	N/A
		Slot 2: x8 full-height, full length	Processor 1				
		Slot 3: x8 full-height, half length	Processor 1				
Riser configuration 2 with or without rear storage (1B+2C)	Three x8 and one x16 slots and rear storage	Slot 1: x8 full-height, full length	Processor 1	Slot 4: x16 low profile, half length	Processor 2	N/A	N/A
		Slot 2: x8 full-height, full length	Processor 1				
		Slot 3: x8 full-height, half length	Processor 1				
Riser configuration 3 (1A+2A)	Two x8 and three x16 slots	Slot 1: x16 full-height, full length	Processor 1	Slot 4: x16 full-height, full length	Processor 2	N/A	N/A
		N/A	N/A	Slot 5: x8 full-height, full length	Processor 2		
		Slot 3: x16 full-height, half length	Processor 1	Slot 6: x8 low profile, half length	Processor 1		
Riser configuration 4 (1A+2A+3A)	Three x8 and four x16 slots	Slot 1: x16 full-height, full length	Processor 1	Slot 4: x16 full-height, full length	Processor 2	Slot 7: x8 full-height, full length	Processor 2

Table 3. Expansion card riser specifications (continued)

Riser configuration and supported risers	Slot description	PCIe slots on riser 1 (Height and length)	Processor connection	PCIe slots on riser 2 (Height and length)	Processor connection	PCIe slots on riser 3 (Height and length)	Processor connection
		N/A	N/A	Slot 5: x8 full-height, full length	Processor 2	Slot 8: x16 full-height, full length	Processor 2
		Slot 3: x16 full-height, half length	Processor 1	Slot 6: x8 low profile, half length	Processor 1		
Riser configuration 15 (1A+2E+3B)	Three x8 and four x16 slots	Slot 1: x16 full-height, full length	Processor 1	Slot 4: x16 full-height, full length	Processor 2	Slot 7: x8 full-height, full length	Processor 2
		N/A	N/A	Slot 5: x8 full-height, full length	Processor 2	Slot 8: x16 full-height, full length	Processor 2
		Slot 3: x16 full-height, half length	Processor 1	Slot 6: x8 low profile, half length	Processor 1		
Riser configuration 5 (1B+2A+3A)	Six x8 and two x16 slots	Slot 1: x8 full-height, full length	Processor 1	Slot 4: x16 full-height, full length	Processor 2	Slot 7: x8 full-height, full length	Processor 2
		Slot 2: x8 full-height, full length	Processor 1	Slot 5: x8 full-height, full length	Processor 2	Slot 8: x16 full-height, full length	Processor 2
		Slot 3: x8 full-height, half length	Processor 1	Slot 6: x8 low profile, half length	Processor 1		
Riser configuration 6 (1D+2A+3A)	Five x8 and three x16 slots	Slot1: x16 full-height, full length	Processor 1	Slot 4: x16 full-height, full length	Processor 2	Slot 7: x8 full-height, full length	Processor 2
		Slot 2: x8 full-height, full length	Processor 1	Slot 5: x8 full-height, full length	Processor 2	Slot 8: x16 full-height, full length	Processor 2
		Slot 3: x8 full-height, half length	Processor 1	Slot 6: x8 low profile, half length	Processor 1		
Riser configuration 16 (1D+2E+3B)	Five x8 and three x16 slots	Slot1: x16 full-height, full length	Processor 1	Slot 4: x16 full-height, full length	Processor 2	Slot 7: x8 full-height, full length	Processor 2
		Slot 2: x8 full-height, full length	Processor 1	Slot 5: x8 full-height, full length	Processor 2	Slot 8: x16 full-height, full length	Processor 2
		Slot 3: x8 full-height, half length	Processor 1	Slot 6: x8 low profile, half length	Processor 1		
Riser configuration 9 (1A+2D+3A) or Riser configuration 17 (1A+2F+3B)	Three x8 and four x16 slots	Slot 1: x16 full-height, full length	Processor 1	Slot 4: x16 full-height, full length	Processor 2	Slot 7: x8 full-height, full length	Processor 2
		N/A	N/A	Slot 5: x8 full-height, full length	Processor 2	Slot 8: x16 full-height, full length	Processor 2

Table 3. Expansion card riser specifications (continued)

Riser configuration and supported risers	Slot description	PCIe slots on riser 1 (Height and length)	Processor connection	PCIe slots on riser 2 (Height and length)	Processor connection	PCIe slots on riser 3 (Height and length)	Processor connection
		Slot 3: x16 full-height, half length	Processor 1	Slot 6: x8 low profile, half length	Processor 1		

Table 4. Riser configurations with 4 PCIe slots [Riser configuration 1 with or without rear storage (1B+2B) and Riser configuration 2 with or without rear storage (1B+2C)], and Riser configuration 3 with or without rear storage(1A+2A)

Card Type	Slot priority	Maximum number of cards
GPU (double width)	N/A	N/A
GPU (single width)	N/A	N/A
PCIe Bridge	4 (config 2) or N/A (config 1 or 3)	1 or 0
Internal storage adapter	6,5 (config 3) or 4, 3 (Config 1 or 2)	1 or 2
HCA EDR	1,4,3 (config 3) or N/A (config 1 or 2)	3 or 0
100 GB NIC	1,4,3 (config 3) or N/A (config 1 or 2)	3 or 0
100 G OPA	1,4,3 (config 3) or N/A (config 1 or 2)	3 or 0
HCA FDR	4 (config 1 or 2) or 6 (config 3)	1
40 GB NIC	1, 2, 3 (c1/c2) or 5, 1, 4, 3 (config 3)	3
40 GB NIC	4 (config 1 or 2) or 6 (config 3)	1
HBA FC32	1, 2, 3 (c1/c2) or 5, 1, 4, 3 (config 3)	3
HBA FC32	4 (config 1 or 2) or 6 (config 3)	1
25 GB NIC	1, 2, 3 (c1/c2) or 5, 1, 4, 3 (config 3)	3
25 GB NIC	4 (config 1 or 2) or 6 (config 3)	1
HBA FC16	1, 2, 3 (c1/c2) or 5, 1, 4, 3 (config 3)	3
HBA FC16	4 (config 1 or 2) or 6 (config 3)	1
10 GB NIC	1, 2, 3 (c1/c2) or 5, 1, 4, 3 (config 3)	3
10 GB NIC	4 (config 1 or 2) or 6 (config 3)	1
HBA FC8	1, 2, 3 (c1/c2) or 5, 1, 4, 3 (config 3)	3
HBA FC8	4 (config 1 or 2) or 6 (config 3)	1
1 GB NIC	1, 2, 3 (c1/c2) or 5, 1, 4, 3 (config 3)	3
1 GB NIC	4 (config 1 or 2) or 6 (config 3)	1
External storage adapter	1, 2, 3 (c1/c2) or 5, 1, 4, 3 (config 3)	3
External storage adapter	4 (config 1 or 2) or 6 (config 3)	1
BOSS	1, 2, 3 (c1/c2) or 5, 1, 4, 3 (config 3)	1
BOSS	4 (config 1 or 2) or 6 (config 3)	1
ACLR (Full Height DW)	NA	0

Table 5. Riser configurations with greater than 4 PCIe slots [Riser configuration 3 (1A+2A), 4 (1A+2A+3A), Riser configuration 5 (1B+2A+3A), Riser configuration 6 (1D+2A+3A) and Riser configuration 9 (1A+2D+3A), Riser configuration 15 (1A+2E+3B), Riser Configuration 16 (1D+2A+3A), and Riser configuration 17 (1A+2F+3B)]

Card Type	Slot priority	Configuration	Maximum number of cards
GPU (double width)	1, 8, 4	1A+2A+3A	3 ⓘ **NOTE:** Does not support double width Nvidia A-Series GPUs.
	1,8	1A+2D+3A	2 ⓘ **NOTE:** Does not support double width Nvidia A-Series GPUs.
GPU (single width)	1, 8, 4	1D+2A+3A	3 ⓘ **NOTE:** Factory install maximum of 3 x GPU cards in slots 1, 8, 4 with x16 max PCIe width. Customers can order 3 additional Custom Kits and install in the order of slots 7, 2, 5, however slots are limited to x8 max PCIe width. This does not apply to the NVIDIA A10 due to reduced performance in x8 slots.
	1, 8	1A+2D+3A	2
Nvidia A2	1,8,4,7,2,5	1D+2E+3B	6
	1,8	1A+2F+3B	2
Nvidia A10	1, 8, 4	1D+2E+3B	3
	1, 8	1A+2F+3B	2
Nvidia A16, A30, A40, A100, A800	1, 8, 4	1A+2E+3B	3
	1, 8	1A+2F+3B	2
ACLR	1, 8, 4	1A+2A+3A	3
	1, 8, 4	1D+2A+3A	3
	1, 8	1A+2D+3A	2
PCIe Bridge	1, 4, 8	1D+2A+3A	3
	3, 4	1A+2D+3A	2
Internal storage adapter	6, 5	all	1
200 G NIC	1	1A+2A+3A	1
	1	1D+2A+3A	1
	1	1A+2D+3A	1
HCA EDR	1, 8, 4, 3	1A+2A+3A	4
	8, 4	1B+2A+3A	2
	1, 8	1D+2A+3A	2
	1, 8	1A+2D+3A	2
100 G NIC	1, 8, 4, 3	1A+2A+3A	4
	8, 4	1B+2A+3A	2

Table 5. Riser configurations with greater than 4 PCIe slots [Riser configuration 3 (1A+2A), 4 (1A+2A+3A), Riser configuration 5 (1B+2A+3A), Riser configuration 6 (1D+2A+3A) and Riser configuration 9 (1A+2D+3A), Riser configuration 15 (1A+2E+3B), Riser Configuration 16 (1D+2A+3A), and Riser configuration 17 (1A+2F+3B)] (continued)

Card Type	Slot priority	Configuration	Maximum number of cards
	1, 8, 4	1D+2A+3A	3
	1, 8	1A+2D+3A	2
100 G OPA	1, 8, 4, 3	1A+2A+3A	4
	8, 4	1B+2A+3A	2
	1,8	1D+2A+3A	2
	1,8	1A+2D+3A	2
HCA FDR	6	All	1
40 G NIC	7, 5, 1, 8, 4, 3 for other supplier	1A+2A+3A	6
	1, 8, 4, 3, 7, 5 for Mellanox	1A+2A+3A	6
	1, 7, 2, 3, 5, 8, 4 for other supplier	1B+2A+3A	7
	8, 4, 1, 7, 2, 3, 5 for Mellanox	1B+2A+3A	7
	7, 2, 3, 5, 1, 8, 4 for other supplier	1D+2A+3A	7
	1, 8, 4, 7, 2, 3, 5 for Mellanox	1D+2A+3A	7
	7, 5, 1, 8 for other supplier	1A+2D+3A	4
	1, 8, 7, 5 for Mellanox	1A+2D+3A	4
40 G NIC LP	6	All	1
HBA FC32	7, 5, 1, 8, 4, 3	1A+2A+3A	6
	1, 7, 2, 3, 5, 8, 4	1B+2A+3A	7
	7, 2, 3, 5, 1, 8, 4	1D+2A+3A	7
	7, 5, 1, 8, 6	1A+2D+3A	4
HBA FC32 LP	6	All	1
25 G NIC	7, 5, 1, 8, 4, 3 for other supplier	1A+2A+3A	6
	1, 8, 4, 3, 7, 5 for Mellanox	1A+2A+3A	6
	1, 7, 2, 3, 5, 8, 4 for other supplier	1B+2A+3A	7
	8, 4, 1, 7, 2, 3, 5 for Mellanox	1B+2A+3A	7
	7, 2, 3, 5, 1, 8, 4 for other supplier	1D+2A+3A	7
	1, 8, 4, 7, 2, 3, 5 for Mellanox	1D+2A+3A	7
	7, 5, 1, 8 for other supplier	1A+2D+3A	4
	1, 8, 7, 5 for Mellanox	1A+2D+3A	4
25 G NIC LP	6	All	1
HBA FC16	7, 5, 1, 8, 4, 3	1A+2A+3A	6
	1, 7, 2, 3, 5, 8, 4	1B+2A+3A	7

Table 5. Riser configurations with greater than 4 PCIe slots [Riser configuration 3 (1A+2A), 4 (1A+2A+3A), Riser configuration 5 (1B+2A+3A), Riser configuration 6 (1D+2A+3A) and Riser configuration 9 (1A+2D+3A), Riser configuration 15 (1A+2E+3B), Riser Configuration 16 (1D+2A+3A), and Riser configuration 17 (1A+2F+3B)] (continued)

Card Type	Slot priority	Configuration	Maximum number of cards
	7, 2, 3, 5, 1, 8, 4	1D+2A+3A	7
	7, 5, 1, 8	1A+2D+3A	4
HBA FC16 LP	6	All	1
10 G NIC	7, 5, 1, 8, 4, 3 for other supplier	1A+2A+3A	6
	1, 8, 4, 3, 7, 5 for Mellanox	1A+2A+3A	6
	1, 7, 2, 3, 5, 8, 4 for other supplier	1B+2A+3A	7
	8, 4, 1, 7, 2, 3, 5 for Mellanox	1B+2A+3A	7
	7, 2, 3, 5, 1, 8, 4 for other supplier	1D+2A+3A	7
	1, 8, 4, 7, 2, 3, 5 for Mellanox	1D+2A+3A	7
	7, 5, 1, 8 for other supplier	1A+2D+3A	4
	1, 8, 7, 5	1A+2D+3A	4
10 G NIC LP	6	All	1
HBA FC8	7, 5, 1, 8, 4, 3	1A+2A+3A	6
	1, 7, 2, 3, 5, 8, 4	1B+2A+3A	7
	7, 2, 3, 5, 1, 8, 4	1D+2A+3A	7
	7, 5, 1, 8	1A+2D+3A	4
HBA FC8 LP	6	All	1
1 G NIC	7, 5, 1, 8, 4, 3	1A+2A+3A	6
	1, 7, 2, 3, 5, 8, 4	1B+2A+3A	7
	7, 2, 3, 5, 1, 8, 4	1D+2A+3A	7
	7, 5, 1, 8	1A+2D+3A	4
1 G NIC LP	6	All	1
External storage adapter	1, 8, 4, 3, 7, 5	1A+2A+3A	2
	1, 2, 3, 8, 4, 7, 5	1B+2A+3A	2
	2, 3, 1, 8, 4, 7, 5	1D+2A+3A	2
	1, 8, 7, 5	1A+2D+3A	2
External storage adapter LP	6	All	1
Express Flash NVMe PCIe SSD adapter	7, 5, 1, 8, 4, 3, 6	1A+2A+3A	6
	1, 6 for P4800X	1A+2A+3A	2
	1, 7, 2, 3, 5, 8, 4, 6	1B+2A+3A	6
	1, 2, 6 for P4800X	1B+2A+3A	3
	7, 2, 3, 5, 1, 8, 4, 6	1D+2A+3A	6
	1, 6 for P4800X	1D+2A+3A	2

Table 5. Riser configurations with greater than 4 PCIe slots [Riser configuration 3 (1A+2A), 4 (1A+2A+3A), Riser configuration 5 (1B+2A+3A), Riser configuration 6 (1D+2A+3A) and Riser configuration 9 (1A+2D+3A), Riser configuration 15 (1A+2E+3B), Riser Configuration 16 (1D+2A+3A), and Riser configuration 17 (1A+2F+3B)] (continued)

Card Type	Slot priority	Configuration	Maximum number of cards
	7, 5, 1, 8, 6	1A+2D+3A	5
BOSS	7, 5, 1, 8, 4, 3	1A+2A+3A	1
	1, 7, 2, 3, 5, 8, 4	1B+2A+3A	1
	7, 2, 3, 5, 1, 8, 4	1D+2A+3A	1
	7, 5, 1, 8	1A+2D+3A	1
BOSS LP	6	All	1

ⓘ **NOTE:** H750 and HBA350i cards cannot be mixed with H730P, H740P, HBA330 or 12G SAS cards.

ⓘ **NOTE:** For information about slot form factor, see the Expansion card riser configurations table.

ⓘ **NOTE:** The expansion card slots are not hot-swappable.

ⓘ **NOTE:** Riser configuration 9 supports both double width GPUs and single width GPUs. Double width GPUs are supported only on riser configuration 4, and single width GPUs are supported only on riser configuration 6.

ⓘ **NOTE:** Ensure that x16 cards are installed only in x16 slots. Depending on the riser configuration slots 2, 7, or 8 may not be available.

ⓘ **NOTE:** Only half length PCIe cards are supported on riser 2 when NVDIMM-Ns with NVDIMM-N battery are installed on the air shroud.

ⓘ **NOTE:** For 24x2.5 inch 24 NVMe drive configuration, the PCIe bridge cards must be installed in slots 3 and 4.