Dell EMC PowerEdge C6420

Technical Specifications

Regulatory Model: E43S Series
Regulatory Type: E43S001
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Rev. A06

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

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Dell EMC PowerEdge C6420 overview

The PowerEdge C6420 sled supports up to two Intel Xeon Scalable processors with 28 cores per processor. The sled also supports dedicated mezzanine, PCIe and Open Compute Project (OCP) adapters for expansion and connectivity.

NOTE: The Intel Xeon Scalable processor with fabric connector is also known as Native Omnipath.

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Technical specifications

The technical and environmental specifications of your system are outlined in this section.

Topics:

Dimensions of the Dell EMC PowerEdge C6420 sled

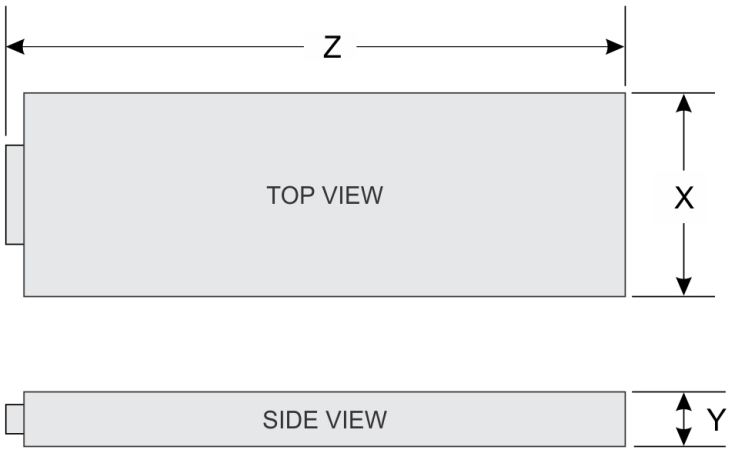

Figure 1. Dimensions of the PowerEdge C6420 sled

Table 1. Dimensions of the PowerEdge C6420 sled

X	Y	Z
174.4 mm (6.86 inches)	40.5 mm (1.59 inches)	574.5 mm (22.61 inches)

Chassis weight

Table 2. Chassis weight of the enclosure with the sleds

System	Maximum weight (with all sleds and drives)
12 x 3.5-inch hard drive systems	43.62 Kg (96.16 lb)
No backplane systems	34.56 Kg (76.19 lb)

Processor specifications

The Dell EMC PowerEdge C6420 sled supports up to two Intel Xeon Scalable processor in each of the four independent sleds. Each processor supports up to 28 cores.

NOTE: The fabric processor must be installed in the processor 2 socket in a mixed configuration of fabric and non-fabric processors.

Supported operating systems

The Dell EMC PowerEdge C6420 supports the following operating systems:

- Red Hat Enterprise Linux
- SUSE Linux Enterprise Server
- Microsoft Windows Server with Hyper-V
- Canonical Ubuntu LTS
- VMware ESXi
- Citrix XenServer

NOTE: For more information about the specific versions and additions, see https://www.dell.com/support/home/drivers/supportedos/poweredge-c6420

System battery

The PowerEdge C6420 sled uses a CR 2032 3V replaceable lithium coin cell battery.

NOTE: There is a system battery in each of the sleds.

Expansion bus specifications

The Dell EMC PowerEdge C6420 sled supports four Generation 3 capable PCIe slots.

Table 3. Expansion bus specifications

PCIe Slots	Description	Form factor
x8 Mezz PCIe riser	Slot 1: x8 PCIe Gen3 from processor 1	Custom form factor
x8+x8 OCP Mezz riser	Slot 2: x8 PCIe Gen3 from processor 1	Standard Open Compute Project (OCP) form factor
	Slot 3: x8 PCIe Gen3 from processor 1	
x16 PCIe main riser	Slot 4: x16 PCIe Gen3 processor 1	Standard Low Profile PCIe form factor
x16 buried PCIe riser	Slot 5: x16 PCIe Gen3 from processor 2	Custom form factor **NOTE: M.2 SATA riser is supported on the buried riser.**

Memory specifications

Table 4. Memory specifications

Memory module sockets	DIMM type	DIMM rank	DIMM capacity	Single processor		Dual processors	
				Minimum RAM	Maximum RAM	Minimum RAM	Maximum RAM
Sixteen 288-pins	LRDIMM	Quad rank	64 GB	64 GB	512 GB	128 GB	1024 GB
		Octal rank	128 GB	128 GB	1024 GB	256 GB	2048 GB
	RDIMM	Single rank	8 GB	8 GB	64 GB	16 GB	128 GB
		Dual rank	16 GB	16 GB	128 GB	32 GB	256 GB
			32 GB	32 GB	256 GB	64 GB	512 GB
			64 GB	64 GB	512 GB	128 GB	1024 GB

Drives and storage specifications

The Dell EMC PowerEdge C6420 sled supports SAS and SATA Drives and Solid State Drives (SSDs).

Table 5. Supported drive options for the PowerEdge C6420 sled

Maximum number of drives in the enclosure	Maximum number of drives assigned per sled
12 x 3.5-inch drive systems	Three SAS or SATA Drives and SSDs per sled
24 x 2.5-inch drive systems	Six SAS or SATA Drives and SSDs per sled
24 x 2.5-inch drive systems with NVMe	The NVMe backplane supports either of these configurations: • Two NVMe drives and four SAS or SATA Drives and SSDs per sled • Six SAS or SATA Drives and SSDs per sled
M.2 SATA drive (optional)	The supported capacity of the M.2 SATA card is up to 240 GB **NOTE: The M.2 SATA card can be installed on the x8 (slot 1) mezzanine riser or the x16 riser slot (slot 5).**
microSD card (optional) for boot (up to 64 GB)	One on each PCIe riser of each sled

Table 6. Supported RAID options with M.2 SATA drives

Options	Single M.2 SATA drive without RAID	Dual M.2 SATA drives with hardware RAID
Hardware RAID	No	Yes
RAID Mode	N/A	RAID 1
Number of drives supported	1	2
Supported processors	processor 1	processor 1 and processor 2

Video specifications

The Dell EMC PowerEdge C6420 sled supports a Matrox G200 integrated graphics card with 16 MB RAM.

Table 7. Supported video resolution options

Resolution	Refresh rate (Hz)	Color depth (bits)
1024 x 768	60	up to 24

Table 7. Supported video resolution options (continued)

Resolution	Refresh rate (Hz)	Color depth (bits)
1280 x 800	60	up to 24
1280 x 1024	60	up to 24
1360 x 768	60	up to 24
1440 x 900	60	up to 24

Environmental specifications

The sections below contains information about the environmental specifications of the system.

NOTE: For additional information about environmental certifications, please refer to the Product Environmental Datasheet located with the Manuals & Documents on www.dell.com/poweredgemanuals.

Standard operating temperature specifications

NOTE:

1. **Not available: Indicates that the configuration is not offered by Dell EMC.**
2. **Not supported: Indicates that the configuration is not thermally supported.**

NOTE: All components including the DIMMs, communication cards, M.2 SATA, and PERC cards can be supported with sufficient thermal margin if the ambient temperature is equal to or below to the maximum continuous operating temperature listed in these tables except for the Mellanox DP LP card and Intel Rush Creek card.

Table 8. Standard operating temperature specifications

Standard operating temperature	Specifications
Temperature ranges (for altitude less than 950 m or 3117 ft)	10°C–35°C (50°F–95°F) with no direct sunlight on the equipment.

NOTE: Some configurations require a lower ambient temperature. For more information, see the following tables.

Table 9. Maximum continuous operating temperature for nonfabric dual processor configuration

TDP Watts	Processor model	Heat sink model	Max memory/ processor	3.5-inch chassis			2.5-inch chassis						No-BP Chassis
				12x Drives	8x Drives	4x Drives	24x Drives	20x Drives	16x Drives	12x Drives	8x Drives	4x Drives	N/A
205 W	8280	CPU1: FMM2M | CPU2: V2DRD	CPU1: 6 | CPU2: 8	Not Supported (2°C)	Not Supported (10°C)	Not Supported (11°C)	Not Supported(19°C)	20	21	21	21	21	30
	8280L	CPU1: FMM2M | CPU2: V2DRD	CPU1: 6 | CPU2: 8					20	21	21	21	21	30
	8280M	CPU1: FMM2M | CPU2: V2DRD	CPU1: 6 | CPU2: 8					20	21	21	21	21	30
	8270	CPU1: FMM2M |	CPU1: 6 |					20	21	21	21	21	30

Table 9. Maximum continuous operating temperature for nonfabric dual processor configuration (continued)

TDP Watts	Processor model	Heat sink model	Max memory/ processor	3.5-inch chassis			2.5-inch chassis						No-BP Chassis
				12x Drives	8x Drives	4x Drives	24x Drives	20x Drives	16x Drives	12x Drives	8x Drives	4x Drives	N/A
		CPU2: V2DRD	CPU2: 8										
	8268	CPU1: FMM2M | CPU2: V2DRD	CPU1: 6 | CPU2: 8					20	21	21	21	21	30
200 W	6254	CPU1: FMM2M | CPU2: V2DRD	CPU1: 6 | CPU2: 8	Not Supported(6°C)	Not Supported(14°C)	Not Supported(15°C)	20	21	22	22	22	22	30
165 W	8276	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	Not Supported(11°C)	Not Supported(18°C)	Not Supported(19°C)	30	30	30	30	30	35	35
	8276L	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8				30	30	30	30	30	35	35
	8276M	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8				30	30	30	30	30	35	35
	8260	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8				30	30	30	30	30	35	35
	8260L	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8				30	30	30	30	30	35	35
	8260M	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8				30	30	30	30	30	35	35
	8260C	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8				30	30	30	30	30	35	35
150 W	6252	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	Not Supported(14°C)	21	23	30	30	30	30	30	35	35
	6248	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8		21	23	30	30	30	30	30	35	35
	6240	CPU1: JYKMM |	CPU1: 8 |		21	23	30	30	30	30	30	35	35

Table 9. Maximum continuous operating temperature for nonfabric dual processor configuration (continued)

TDP Watts	Processor model	Heat sink model	Max memory/ processor	3.5-inch chassis			2.5-inch chassis						No-BP Chassis
				12x Drives	8x Drives	4x Drives	24x Drives	20x Drives	16x Drives	12x Drives	8x Drives	4x Drives	N/A
		CPU2: V2DRD	CPU2: 8										
	6242	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8		21	23	30	30	30	30	30	35	35
	6244	CPU1: FMM2M | CPU2: V2DRD	CPU1: 6 | CPU2: 8		21	23	30	30	30	30	30	35	35
	6240C	CPU1: FMM2M | CPU2: V2DRD	CPU1: 6 | CPU2: 8		21	23	30	30	30	30	30	35	35
125 W	6230	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	25	30	30	30	30	35	35	35	35	35
	5220	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	25	30	30	30	30	35	35	35	35	35
	5218	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	25	30	30	30	30	35	35	35	35	35
	5218B	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	25	30	30	30	30	35	35	35	35	35
	8253	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	25	30	30	30	30	35	35	35	35	35
	6238T	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	25	30	30	30	30	35	35	35	35	35
	6230N	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	25	30	30	30	30	35	35	35	35	35
115 W	5217	CPU1: FMM2M | CPU2: V2DRD	CPU1: 6 | CPU2: 8	25	30	30	30	30	35	35	35	35	35
105 W	5218T	CPU1: FMM2M |	CPU1: 6 |	30	35	35	35	35	35	35	35	35	35

Table 9. Maximum continuous operating temperature for nonfabric dual processor configuration (continued)

TDP Watts	Processor model	Heat sink model	Max memory/ processor	3.5-inch chassis			2.5-inch chassis						No-BP Chassis
				12x Drives	8x Drives	4x Drives	24x Drives	20x Drives	16x Drives	12x Drives	8x Drives	4x Drives	N/A
		CPU2: V2DRD	CPU2: 8										
	5218N	CPU1: FMM2M | CPU2: V2DRD	CPU1: 6 | CPU2: 8	30	35	35	35	35	35	35	35	35	35
	5222	CPU1: FMM2M | CPU2: V2DRD	CPU1: 6 | CPU2: 8	30	35	35	35	35	35	35	35	35	35
	8256	CPU1: FMM2M | CPU2: V2DRD	CPU1: 6 | CPU2: 8	30	35	35	35	35	35	35	35	35	35
100 W	4216	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	30	35	35	35	35	35	35	35	35	35
85 W	5215	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	35	35	35	35	35	35	35	35	35	35
	5215M	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	35	35	35	35	35	35	35	35	35	35
	5215L	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	35	35	35	35	35	35	35	35	35	35
	4215	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	35	35	35	35	35	35	35	35	35	35
	4214	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	35	35	35	35	35	35	35	35	35	35
	4214C	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	35	35	35	35	35	35	35	35	35	35
	4210	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	35	35	35	35	35	35	35	35	35	35
	4208	CPU1: JYKMM |	CPU1: 8 |	35	35	35	35	35	35	35	35	35	35

Table 9. Maximum continuous operating temperature for nonfabric dual processor configuration (continued)

TDP Watts	Processor model	Heat sink model	Max memory/ processor	3.5-inch chassis			2.5-inch chassis						No-BP Chassis
				12x Drives	8x Drives	4x Drives	24x Drives	20x Drives	16x Drives	12x Drives	8x Drives	4x Drives	N/A
		CPU2: V2DRD	CPU2: 8										
	3204	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	35	35	35	35	35	35	35	35	35	35
70 W	4209T	CPU1: JYKMM | CPU2: V2DRD	CPU1: 8 | CPU2: 8	35	35	35	35	35	35	35	35	35	35

Table 10. Maximum continuous operating temperature for non-fabric single processor configuration

TDP Watts	Processor model	Heat sink model	Max memory/ processor	3.5-inch chassis			2.5-inch chassis						No-BP Chassis
				12x Drives	8x Drives	4x Drives	24x Drives	20x Drives	16x Drives	12x Drives	8x Drives	4x Drives	N/A
205W	8280	CPU1: FMM2M	CPU1: 6	30	30	30	35	35	35	35	35	35	35
	8280L	CPU1: FMM2M	CPU1: 6	30	30	30	35	35	35	35	35	35	35
	8280M	CPU1: FMM2M	CPU1: 6	30	30	30	35	35	35	35	35	35	35
	8270	CPU1: FMM2M	CPU1: 6	30	30	30	35	35	35	35	35	35	35
	8268	CPU1: FMM2M	CPU1: 6	30	30	30	35	35	35	35	35	35	35
200 W	6254	CPU1: FMM2M	CPU1: 6	30	30	30	35	35	35	35	35	35	35
165 W	6212U	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35
	8276	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35
	8276L	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35
	8276M	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35
	8260	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35
	8260L	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35
	8260M	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35
	8260C	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35

Table 10. Maximum continuous operating temperature for non-fabric single processor configuration (continued)

TDP Watts	Processor model	Heat sink model	Max memory/ processor	3.5-inch chassis			2.5-inch chassis						No-BP Chassis
				12x Drives	8x Drives	4x Drives	24x Drives	20x Drives	16x Drives	12x Drives	8x Drives	4x Drives	N/A
150 W	6210U	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35
	6252	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35
	6248	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35
	6240	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35
	6242	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35
	6244	CPU1: FMM2M	CPU1: 6	30	35	35	35	35	35	35	35	35	35
	6240C	CPU1: FMM2M	CPU1: 6	30	35	35	35	35	35	35	35	35	35
125W	6230	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
	5220	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
	5218	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
	5218B	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
	8253	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
	6238T	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
	6230N	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
115 W	5217	CPU1: FMM2M	CPU1: 6	30	35	35	35	35	35	35	35	35	35
105 W	5218T	CPU1: FMM2M	CPU1: 6	30	35	35	35	35	35	35	35	35	35
	5218N	CPU1: FMM2M	CPU1: 6	30	35	35	35	35	35	35	35	35	35
	5222	CPU1: FMM2M	CPU1: 6	30	35	35	35	35	35	35	35	35	35
	8256	CPU1: FMM2M	CPU1: 6	30	35	35	35	35	35	35	35	35	35
100 W	4216	CPU1: JYKMM	CPU1: 8	30	35	35	35	35	35	35	35	35	35
85 W	5215	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35

Table 10. Maximum continuous operating temperature for non-fabric single processor configuration (continued)

TDP Watts	Processor model	Heat sink model	Max memory/ processor	3.5-inch chassis			2.5-inch chassis						No-BP Chassis
				12x Drives	8x Drives	4x Drives	24x Drives	20x Drives	16x Drives	12x Drives	8x Drives	4x Drives	N/A
	5215M	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
	5215L	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
	4215	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
	4214	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
	4214C	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
	4210	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
	4208	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
	3204	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35
70 W	4209T	CPU1: JYKMM	CPU1: 8	35	35	35	35	35	35	35	35	35	35

Table 11. Configuration Restrictions with Mellanox Navi Dual Port Card with Active (Optical) connectivity

TDP Watts	3.5-inch chassis			2.5-inch chassis				No-BP Chassis
	12x HDDs	8x HDDs	4x HDDs	24x HDDs	16x HDDs	8x HDDs	4x HDDs	N/A
205 W	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	23
200 W	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	23
173 W	Not supported	Not supported	Not supported	Not supported	Not supported	24	24	28
165 W	Not supported	Not supported	Not supported	24	25	25	26	29
160 W	Not supported	Not supported	Not supported	24	25	26	26	30
150 W	Not supported	Not supported	Not supported	26	27	28	28	31
140 W	Not supported	23	25	28	29	29	30	33
135 W	Not supported	24	25	29	30	30	31	33
130 W	Not supported	24	26	30	31	31	31	34
125 W	20	25	27	30	31	32	32	35
115 W	21	27	28	32	33	34	34	>35

Table 11. Configuration Restrictions with Mellanox Navi Dual Port Card with Active (Optical) connectivity (continued)

TDP Watts	3.5-inch chassis			2.5-inch chassis				No-BP Chassis
	12x HDDs	8x HDDs	4x HDDs	24x HDDs	16x HDDs	8x HDDs	4x HDDs	N/A
113 W	21	27	28	32	33	34	34	>35
105 W	22	28	30	34	35	>35	>35	>35
85 W	23	32	33	>35	>35	>35	>35	>35
70 W	25	34	>35	>35	>35	>35	>35	>35

Table 12. Configuration Restrictions with Intel Rush Creek

TDP Watts	3.5-inch chassis			2.5-inch chassis				No-BP Chassis
	12x HDDs	8x HDDs	4x HDDs	24x HDDs	16x HDDs	8x HDDs	4x HDDs	N/A
205 W	Not supported	Not supported	Not supported	Not supported	Not supported	20	20	23
200 W	Not supported	Not supported	Not supported	Not supported	Not supported	21	21	24
173 W	Not supported	Not supported	Not supported	20	20	23	24	28
165 W	Not supported	Not supported	Not supported	22	22	24	25	29
160 W	Not supported	Not supported	Not supported	22	22	24	26	29
150 W	Not supported	Not supported	Not supported	24	24	26	27	30
140 W	Not supported	Not supported	Not supported	26	26	27	28	31
135 W	Not supported	Not supported	20	26	26	28	29	32
130 W	Not supported	Not supported	20	27	27	29	29	33
125 W	Not supported	Not supported	21	28	28	30	30	33
115W	Not supported	21	23	29	31	31	32	34
105 W	20	23	24	30	33	33	34	>35
85 W	24	26	27	34	>35	>35	>35	>35
70 W	25	28	29	>35	>35	>35	>35	>35

Table 13. Configuration Restrictions with Intel NVMe SSD AIC P4800X

TDP Watts	3.5-inch chassis			2.5-inch chassis				No-BP Chassis
	12x HDDs	8x HDDs	4x HDDs	24x HDDs	16x HDDs	8x HDDs	4x HDDs	N/A
205 W	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported
200 W	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported

Table 13. Configuration Restrictions with Intel NVMe SSD AIC P4800X (continued)

TDP Watts	3.5-inch chassis			2.5-inch chassis				No-BP Chassis
	12x HDDs	8x HDDs	4x HDDs	24x HDDs	16x HDDs	8x HDDs	4x HDDs	N/A
173 W	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	20
165 W	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	20
160 W	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	Not supported	25
150 W	Not supported	Not supported	Not supported	Not supported	20	20	20	25
140 W	Not supported	Not supported	Not supported	20	20	20	20	25
135 W	Not supported	Not supported	Not supported	20	20	20	20	25
130 W	Not supported	Not supported	Not supported	20	20	20	20	25
125 W	Not supported	Not supported	Not supported	20	25	25	25	30
115 W	Not supported	Not supported	Not supported	25	25	25	25	30
105 W	Not supported	Not supported	Not supported	25	25	25	25	30
85 W	Not supported	Not supported	Not supported	30	30	30	30	>35
70 W	Not supported	Not supported	Not supported	>35	>35	>35	>35	>35

Expanded operating temperature specifications

Table 14. Expanded operating temperature

Expanded operating temperature	Specifications
Continuous operation	5°C–40°C at 5% to 85% RH with maximum 29°C dew point. **NOTE: Outside the standard operating temperature (10°C–35°C), the system can operate continuously in temperatures as low as 5°C and as high as 40°C.**
	For temperatures between 35°C-40°C, derate maximum allowable temperature by 1°C per 175 m above 950 m (1°F per 319 ft).
≤ 1% of annual operating hours	–5°C–45°C at 5% to 90% RH with maximum 29°C dew point. **NOTE: Outside the standard operating temperature (10°C–35°C), the system can operate down to –5°C-45°C for a maximum of 1% of its annual operating hours.**
	For temperatures between 40°C-45°C, derate maximum allowable temperature by 1°C per 125 m above 950 m (1°F per 228 ft).

NOTE: When operating in the expanded temperature range, system performance may be impacted.

NOTE: When operating in the expanded temperature range, ambient temperature warnings may be reported in the System Event Log.

Operating temperature derating specifications

Table 15. Operating temperature

Operating temperature derating	Specifications
≤ 35°C (95°F)	Maximum temperature is reduced by 1°C/300 m (1°F/547 ft) above 950 meters (3,117 ft)
35°C–40°C (95°F–104°F)	Maximum temperature is reduced by 1°C/175 m (1°F/319 ft) above 950 meters (3,117 ft)
≥ 45°C (113°F)	Maximum temperature is reduced by 1°C/125 m (1°F/228 ft) above 950 meters (3,117 ft)

Relative humidity specifications

Table 16. Relative humidity specifications

Relative humidity	Specifications
Storage	5% to 95% RH with 33°C (91°F) maximum dew point. Atmosphere must be non-condensing at all times.
Operating	10% to 80% relative humidity with 29°C (84.2°F) maximum dew point

Temperature specifications

Table 17. Temperature specifications

Temperature	Specifications
Storage	–40°C–65°C (–40°F-149°F)
Continuous operation (for altitude less than 950 m or 3117 ft)	10°C–35°C (50°F-95°F) with no direct sunlight on the equipment.
Fresh air	For information about fresh air, see Expanded Operating Temperature section.
Maximum temperature gradient (operating and storage)	20°C/h (68°F/h)

NOTE: Some configurations require a lower ambient temperature for more information, see the Standard operating temperature specifications.

Thermal restrictions

Table 18. Thermal restrictions matrix for dual processors

Maximum continuous operating inlet temperature (°C)														
				3.5" Chassis			2.5" Chassis						No-BP Chassis	
TDP Watts	Proc No.	DPN of	Max DIMM	12x HDDs	8x HDDs	4x HDDs	24x HDDs	20x HDDs	16x HDDs	12x HDDs	8x HDDs	4x HDDs	N/A	

Table 18. Thermal restrictions matrix for dual processors (continued)

Maximum continuous operating inlet temperature (°C)													
		CPU Heat Sinks	**counts**										
165W	6238R	CPU1: | CPU2:	CPU1: 8 | CPU2: 8	Not Supported			30	30	30	30	30	35	35
	6240R	CPU1: | CPU2:	CPU1: 8 | CPU2: 8	Not Supported	Not Supported		30	30	30	30	30	35	35
150W	6230R	CPU1: | CPU2:	CPU1: 8 | CPU2: 8		21	23	30	30	30	30	30	35	35
	6226R	CPU1: | CPU2:	CPU1: 8 | CPU2: 8		21	23	30	30	30	30	30	35	35
	6208U	CPU1: | CPU2:	CPU1: 8 | CPU2: 8		21	23	30	30	30	30	30	35	35
150W	5220R	CPU1: | CPU2:	CPU1: 8 | CPU2: 8		21	23	30	30	30	30	30	35	35
130W	4215R	CPU1: | CPU2:	CPU1: 8 | CPU2: 8		25	25	30	30	35	35	35	35	35
125W	5218R	CPU1: | CPU2:	CPU1: 8 | CPU2: 8	25	30	30	30	30	35	35	35	35	35
100W	4214R	CPU1: | CPU2:	CPU1: 8 | CPU2: 8	30	35	35	35	35	35	35	35	35	35
	4210R	CPU1: 8 | CPU2: 8	CPU1: 8 | CPU2: 8	30	35	35	35	35	35	35	35	35	
95W	4210T	CPU1: | CPU2:	CPU1: 8 | CPU2: 8	30	35	35	35	35	35	35	35	35	
85W	3206R	CPU1: | CPU2:	CPU1: 8 | CPU2: 8	35	35	35	35	35	35	35	35	35	35

Table 19. Thermal restrictions matrix for single processor

Maximum continuous operating inlet temperature (°C)													
				3.5" Chassis			2.5" Chassis						No-BP Chassis
TDP Watts	Proc No.	DPN of CPU Heat Sinks	Max DIMM counts	12x HDDs	8x HDDs	4x HDDs	24x HDDs	20x HDDs	16x HDDs	12x HDDs	8x HDDs	4x HDDs	N/A
165W	6238R	CPU1:| CPU2:	CPU1:8 | CPU2:8	30	35	35	35	35	35	35	35	35	35
	6240R	CPU1:| CPU2:	CPU1:8 | CPU2:8	30	35	35	35	35	35	35	35	35	35
150W	6230R	CPU1:| CPU2:	CPU1:8 | CPU2:8	30	35	35	35	35	35	35	35	35	35
	6226R	CPU1:| CPU2:	CPU1:8 | CPU2:8	30	35	35	35	35	35	35	35	35	35
	6208U	CPU1:| CPU2:	CPU1:8 | CPU2:8	30	35	35	35	35	35	35	35	35	35
	5220R	CPU1:| CPU2:	CPU1:8 | CPU2:8	30	35	35	35	35	35	35	35	35	35
130W	4215R	CPU1:| CPU2:	CPU1:8 | CPU2:8	35	35	35	35	35	35	35	35	35	35
125W	5218R	CPU1:| CPU2:	CPU1:8 | CPU2:8	35	35	35	35	35	35	35	35	35	35
100W	4214R	CPU1:| CPU2:	CPU1:8 | CPU2:8	35	35	35	35	35	35	35	35	35	35
	4210R	CPU1:| CPU2:	CPU1:8 | CPU2:8	35	35	35	35	35	35	35	35	35	35
95W	4210T	CPU1:| CPU2:	CPU1:8 | CPU2:8	35	35	35	35	35	35	35	35	35	35
85W	3206R	CPU1:| CPU2:	CPU1:8 | CPU2:8	35	35	35	35	35	35	35	35	35	35

Particulate and gaseous contamination specifications

Table 20. Particulate contamination specifications

Particulate contamination	Specifications	
Air filtration	Data center air filtration as defined by ISO Class 8 per ISO 14644-1 with a 95% upper confidence limit.	
NOTE: This condition applies only to data center environments. Air filtration requirements do not apply to IT equipment designed to be used outside a data center, in environments such as an office or factory floor.		
NOTE: Air entering the data center must have MERV11 or MERV13 filtration.		
Conductive dust	Air must be free of conductive dust, zinc whiskers, or other conductive particles.	
NOTE: This condition applies to data center and non-data center environments.		
Corrosive dust	Air must be free of corrosive dust.	
Residual dust present in the air must have a deliquescent point less than 60% relative humidity.		
NOTE: This condition applies to data center and non-data center environments.		

Table 21. Gaseous contamination specifications

Gaseous contamination	Specifications
Copper coupon corrosion rate	<300 Å/month per Class G1 as defined by ANSI/ISA71.04-2013
Silver coupon corrosion rate	<200 Å/month per Class G1 as defined by ANSI/ISA71.04-2013
NOTE: Maximum corrosive contaminant levels measured at ≤50% relative humidity.	

Maximum vibration specifications

Table 22. Maximum vibration specifications

Maximum vibration	Specifications
Operating	0.26 Grms at 5 Hz to 350 Hz (all operation orientations).
Storage	1.88 Grms at 10 Hz to 500 Hz for 15 min (all six sides tested).

Maximum shock specifications

Table 23. Maximum shock specifications

Maximum shock	Specifications
Operating	24 executed shock pulses 6 G in the positive and negative x, y, z axis for up to 11 ms (four pulses on each side of the system).
Storage	Six consecutively executed shock pulses of 71 G in the positive and negative x, y, z axes for up to 2 ms (one pulse on each side of the system).

Maximum altitude specifications

Table 24. Maximum altitude specifications

Maximum altitude	Specifications
Operating	3048 m (10,000 ft)
Storage	12,000 m (39,370 ft)

Fresh Air Operation

Fresh Air operation restrictions

- Processors with a TDP greater than 105 W are not supported
- Support for processors of 85 W and below without PERC restrictions
- 3.5-inch drive configuration is not supported
- 114-mm heat sink is required for the processor in CPU1 socket
- Kerby-flat OCP is not supported
- M.2 card on DCS Mezzanine slot is not supported.
- NVMe SSD is not supported
- AEP DIMM and LRDIMM are not supported
- PCIe cards greater than 25 W are not supported
- H730 PERC and H330 support for 105-W processors
- No PERC restrictions for 85 W and lesser TDP processors

3

Documentation resources

This section provides information about the documentation resources for your system.

To view the document that is listed in the documentation resources table:

- From the Dell EMC support site:
  1. Click the documentation link that is provided in the Location column in the table.
  2. Click the required product or product version.

     NOTE: To locate the product name and model, see the front of your system.
  3. On the Product Support page, click **Manuals & documents**.
- Using search engines:
  - Type the name and version of the document in the search box.

Table 25. Additional documentation resources for your system

Task	Document	Location
Setting up your system	For more information about installing and securing the system into a rack, see the Rail Installation Guide included with your rack solution. For information about setting up your system, see the *Getting Started Guide* document that is shipped with your system.	www.dell.com/poweredgemanuals
Configuring your system	For information about the iDRAC features, configuring and logging in to iDRAC, and managing your system remotely, see the Integrated Dell Remote Access Controller User's Guide. For information about understanding Remote Access Controller Admin (RACADM) subcommands and supported RACADM interfaces, see the RACADM CLI Guide for iDRAC. For information about Redfish and its protocol, supported schema, and Redfish Eventing are implemented in iDRAC, see the Redfish API Guide. For information about iDRAC property database group and object descriptions, see the Attribute Registry Guide.	www.dell.com/poweredgemanuals
	For information about earlier versions of the iDRAC documents, see the iDRAC documentation. To identify the version of iDRAC available on your system, on the iDRAC web interface, click **?** > **About**.	www.dell.com/idracmanuals

Table 25. Additional documentation resources for your system (continued)

Task	Document	Location	
	For information about installing the operating system, see the operating system documentation.	www.dell.com/operatingsystemmanuals	
	Managing your system	For information about systems management software offered by Dell, see the Dell OpenManage Systems Management Overview Guide.	www.dell.com/poweredgemanuals
For information about setting up, using, and troubleshooting OpenManage, see the Dell OpenManage Server Administrator User's Guide.		www.dell.com/openmanagemanuals > OpenManage Server Administrator	
For information about installing, using, and troubleshooting Dell OpenManage Essentials, see the Dell OpenManage Essentials User's Guide.		www.dell.com/openmanagemanuals > OpenManage Essentials	
	For information about installing, using, and troubleshooting Dell OpenManage Enterprise, see the Dell OpenManage Enterprise User's Guide.	www.dell.com/openmanagemanuals > OpenManage Enterprise	
	For information about installing and using Dell SupportAssist, see the Dell EMC SupportAssist Enterprise User's Guide.	https://www.dell.com/serviceabilitytools	
	For information about partner programs enterprise systems management, see the OpenManage Connections Enterprise Systems Management documents.	www.dell.com/openmanagemanuals	
	Working with the Dell PowerEdge RAID controllers	For information about understanding the features of the Dell PowerEdge RAID controllers (PERC), Software RAID controllers, or BOSS card and deploying the cards, see the Storage controller documentation.	www.dell.com/storagecontrollermanuals
Understanding event and error messages	For information about the event and error messages that are generated by the system firmware and agents that monitor system components, see the Error Code Lookup.	www.dell.com/qrl	
Troubleshooting your system	For information about identifying and troubleshooting the PowerEdge server issues, see the Server Troubleshooting Guide.	www.dell.com/poweredgemanuals	

4

Getting help

Topics:

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

Steps

1. Go to www.dell.com/support/home.
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 e-mail 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) located on the information tag in the front of the system, to access the information about the PowerEdge 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 Installtion and Service Manual, 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 www.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 system or in the Quick Resource Locator section.

Quick Resource Locator for C6400 and C6420 systems

Figure 2. Quick Resource Locator for PowerEdge C6400 and C6420 systems

Receiving automated support with SupportAssist

Dell EMC SupportAssist is an optional Dell EMC Services offering that automates technical support for your Dell EMC server, storage, and networking devices. By installing and setting up a SupportAssist application in your IT environment, you can receive the following benefits:

- **Automated issue detection** — SupportAssist monitors your Dell EMC devices and automatically detects hardware issues, both proactively and predictively.
- **Automated case creation** — When an issue is detected, SupportAssist automatically opens a support case with Dell EMC Technical Support.
- **Automated diagnostic collection** — SupportAssist automatically collects system state information from your devices and uploads it securely to Dell EMC. This information is used by Dell EMC Technical Support to troubleshoot the issue.
- **Proactive contact** — A Dell EMC Technical Support agent contacts you about the support case and helps you resolve the issue.

The available benefits vary depending on the Dell EMC Service entitlement purchased for your device. For more information about SupportAssist, go to www.dell.com/supportassist.

Recycling or End-of-Life service information

Take back and recycling services are offered for this product in certain countries. If you want to dispose of system components, visit www.dell.com/recyclingworldwide and select the relevant country.