

PROJECT CONSOLIDATION FORM FY 2027-2031

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- | | |
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**TOWN OF WATERFORD
CAPITAL PROJECT REQUEST FORM
2027-2031 FISCAL YEAR REQUEST**

DEPARTMENT/AGENCY IT Department	CONTACT PERSON Jeffrey Robillard
PROJECT NAME Eaton UPS Battery/Unit Replacement	DEPARTMENT PRIORITY 1

1	DESCRIPTION AND JUSTIFICATION (describe the type, purpose & anticipated accomplishments of the project)						
	The Dispatch and Police data rooms both have Eaton full room UPS units. Eaton has recently switched maintenance support companies for the Connecticut area and they have informed us of a highly recommended service schedule for battery replacement within the units as well as replacing the entire units prior to an end of life/end of service date. For FY27 we are required to replace the batteries in the Dispatch Unit at a cost of \$28,822.00. FY28 we need to replace the batteries in the Police Unit at a cost of \$25,978.00. In 2033 both units will be end of life/end of support, so in FY32 expect a request for \$120,000 to replace both units completely with the equivalent model for at that time.						
2	PROJECT STATUS IF IN PROGRESS						
	N/A						
3	LIST OTHER PROJECTS WITHIN YOUR DEPARTMENT OR ANOTHER DEPARTMENT THAT WILL BE IMPACTED BY THIS REQUEST						
	N/A						
4	DESCRIBE THE IMPACT ON DEPARTMENT OPERATING BUDGET (include cost estimate if applicable)						
	No Impact						
5	GRANT FUNDING/OTHER FUNDING, if applicable (detailed explanation of grant/other funding, including the amount, source of funding, status, town match, if any. Attach award letter if available)						
	N/A						
6	ATTACH PLAN ESTIMATE, SERVICE AREA MAP AND/OR OTHER SUPPORTING DOCUMENTATION (if none, simply state that in the area below)						
	Documents from Eaton attached.						
7	COST/FUNDING SOURCE						
	FUNDING SOURCE	APPROVED FUNDING TO DATE	FY2027	FY2028	FY2029	FY2030	FY2031
1	Current Year Capital		28,822	25,978			
2	Utility Budget/Sewer Cap Maint Fund						
3	Transfer to CNR						
4	Short/Long-term Bonds						
5	LoCIP (detail in section 5 above)						
6	CNR Undesignated Fund Balance						
7	Federal/State Grants (detail in section 5)						
8	Other Funding (detail in section 5 above)						
	TOTALS	0	28,822	25,978	0	0	0



Quote: Dispatch EOC Battery Replacement in 2027.

Date: 11/7/25

Site Contact:

Town of Waterford
15 Rope Ferry Rd
Waterford, CT 06385
Jeffrey Robillard
860-442-0553
jrobillard@waterfordct.org

Doug Riccio,
Bates & Associates
154 West Grove Street
Middleboro, MA 02346
339-788-1551
driccio@batesandassociates.net

Eaton Corporation terms and conditions (Eaton Corp. Service Agreement T-0 attachment) govern this proposal, and any purchase order submitted to Eaton pursuant thereto. Additional or different terms proposed by Buyer, whether in its purchase order or otherwise, shall not be binding upon Eaton Corporation and are hereby rejected unless expressly agreed to in writing by Eaton Corporation.

Serial Number
BH293KXX07

Model Description
9355-20-30KVA

Battery Type, Quantity
Internal Trays, 6 Trays
External, 72 Batteries

Turnkey Battery Replacement Cost for Dispatch UPS for 2027

Budgetary Net Price: \$28,822.00

Includes:

New Eaton Brand Batteries, freight (dock to dock only), removal and EPA approved disposal of old batteries, and 5x8 business hours installation. See attachment R-11

Batteries carry a 1 year full 2-year parts warranty. See attachment W-1

Notes:

Freight is for DOCK-TO-DOCK delivery. If your delivery requires a lift-gate truck or special INSIDE DELIVERY, there will be additional costs. Please advise before purchase.

Please refer to the Scopes of Work (SOW) for descriptions of service coverage and exclusions.

- Important Tax Notice: Tax is not included in the above purchase price. All orders will be subject to all applicable sales tax unless a current tax exemption certificate is on file covering the state shown in the ship-to address or service equipment location.
- Attach a copy of your company's PO made out to Eaton Corporation 29085 Network Place Chicago, IL 60673 referencing Quote# and listing payment terms as **Net 30**.
- Email to driccio@batesandassociates.net or fax both documents to 508-946-9395.
- If you have a UPS Emergency or would like to schedule a PM, please dial Eaton's 24/7 Customer Reliability Center at 800-843-9433 and have your 10-digit UPS Serial Number available.
- Eaton Corporation cannot be held liable, and Buyer shall not be entitled to any damages and/or indemnifications, in case Eaton Corporation is prevented, hindered or delayed from or in performing any of its obligations resulting from the impact of the outbreak of COVID-19 for reasons not attributable to Eaton Corporation.

Did you know? Eaton has PredictPulse remote monitoring and a suite of professional assessment and testing services (Load Bank, IR Scan, PQ Meter) that take traditional preventive maintenance to the next level by proactively identifying issues for greater peace of mind. Learn more at [Eaton.com/UPSservices](https://www.eaton.com/UPSservices)



Accepted By:	Name	Title	Date	Purchase Order Number
--------------	------	-------	------	-----------------------

Print Name:

Did you know? Eaton has PredictPulse remote monitoring and a suite of professional assessment and testing services (Load Bank, IR Scan, PQ Meter) that take traditional preventive maintenance to the next level by proactively identifying issues for greater peace of mind. Learn more at Eaton.com/UPSServices



Powering Business Worldwide

Quote: PD Battery Replacement in 2028.

Date: 11/7/25

Site Contact:

Town of Waterford
15 Rope Ferry Rd
Waterford, CT 06385
Jeffrey Robillard
860-442-0553
jrobillard@waterfordct.org

Doug Riccio,
Bates & Associates
154 West Grove Street
Middleboro, MA 02346
339-788-1551
driccio@batesandassociates.net

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Serial Number
BM231KXX02

Model Description
9355-20-30KVA

Battery Type, Quantity
Internal Trays, 6 Trays
External, 36 Batteries

Turnkey Battery Replacement Cost for PD UPS for 2028.

Budgetary Net Price: \$25,978.00

Includes:

New Eaton Brand Batteries, freight (dock to dock only), removal and EPA approved disposal of old batteries, and 5x8 business hours installation. See attachment R-11

Batteries carry a 1 year full 2-year parts warranty. See attachment W-1

Notes:

Freight is for DOCK-TO-DOCK delivery. If your delivery requires a lift-gate truck or special INSIDE DELIVERY, there will be additional costs. Please advise before purchase.

Please refer to the Scopes of Work (SOW) for descriptions of service coverage and exclusions.

- Important Tax Notice: Tax is not included in the above purchase price. All orders will be subject to all applicable sales tax unless a current tax exemption certificate is on file covering the state shown in the ship-to address or service equipment location.
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Powering Business Worldwide

**Quote: End of Life UPS Replacements in Year 2033,
with new UPS's.**

Date: 11/7/25

Site Contact:

Town of Waterford
15 Rope Ferry Rd
Waterford, CT 06385
Jeffrey Robillard
860-442-0553
jrobillard@waterfordct.org

**Doug Riccio,
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Budgetary Quote to purchase two new UPS's like for like with updated technology in 2033.

Budgetary Net Price for two units: \$120K, not including installation by your local electrician.

Includes:

2x Eaton UPS systems rated at 20 & 30KVA, with battery backup.

Please refer to the Scopes of Work (SOW) for descriptions of service coverage and exclusions.

- Important Tax Notice: Tax is not included in the above purchase price. All orders will be subject to all applicable sales tax unless a current tax exemption certificate is on file covering the state shown in the ship-to address or service equipment location.
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Print Name:

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**TOWN OF WATERFORD
CAPITAL PROJECT REQUEST FORM
2025-2026 FISCAL YEAR REQUEST**

DEPARTMENT/AGENCY IT DEPARTMENT	CONTACT PERSON JEFFREY ROBILLARD
PROJECT NAME SERVER UPGRADE REPLACEMENT	DEPARTMENT PRIORITY 2

1	DESCRIPTION AND JUSTIFICATION (describe the type, purpose & anticipated accomplishments of the project)																																																																						
	This is a request is for three servers to replace the three current aging hosts that provide the on premise virtual server infrastructure for the town. It is vital that all the hosts have identical hardware and versioning to ensuring the virtual servers can migrate from one host to another without compatibility issues, and thus they need to be replaced all at the same time. These hosts will provide the backbone of our virtual infrastructure for another 6 years. This is the 2nd request for this project as it was half funded in FY26. Also part of this is to replace 3 of our physical servers that act as our physical active directory domain controllers in different buildings.																																																																						
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	We are not expecting any increase or decrease in the IT operating budget with this request.																																																																						
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	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;">FUNDING SOURCE</th> <th style="width: 10%;">APPROVED FUNDING TO DATE</th> <th style="width: 10%;">FY2027</th> <th style="width: 10%;">FY2028</th> <th style="width: 10%;">FY2029</th> <th style="width: 10%;">FY2030</th> <th style="width: 10%;">FY2031</th> </tr> </thead> <tbody> <tr> <td>1 Current Year Capital</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2 Utility Budget/Sewer Cap Maint Fund</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3 Transfer to CNR</td> <td style="text-align: right;">88,500</td> <td style="text-align: right;">110,052</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4 Short/Long-term Bonds</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5 LoCIP (detail in section 5 above)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6 CNR Undesignated Fund Balance</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>7 Federal/State Grants (detail in section 5)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8 Other Funding (detail in section 5 above)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr style="background-color: #e0f2f1;"> <td>TOTALS</td> <td style="text-align: right;">88,500</td> <td style="text-align: right;">110,052</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> </tr> </tbody> </table>	FUNDING SOURCE	APPROVED FUNDING TO DATE	FY2027	FY2028	FY2029	FY2030	FY2031	1 Current Year Capital							2 Utility Budget/Sewer Cap Maint Fund							3 Transfer to CNR	88,500	110,052					4 Short/Long-term Bonds							5 LoCIP (detail in section 5 above)							6 CNR Undesignated Fund Balance							7 Federal/State Grants (detail in section 5)							8 Other Funding (detail in section 5 above)							TOTALS	88,500	110,052	0	0	0	0
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TOTALS	88,500	110,052	0	0	0	0																																																																	

M8 Server Core Count Upgrade & Microsoft Data Center Licensing FY 2026

QUOTE # 002030 V3

PREPARED FOR

Waterford, Town Of

PREPARED BY

Eric Moore

Statement of Work

Scope still to be developed, labor covered by Platinum Service Plan (PSP)

Server Refresh

Description	Price	Qty	Ext. Price
Cisco UCS Hosts 3yrs SMARTnet (does not include VMware vSphere licenses)			
UCS M8 RACK MLB	\$0.00	1	\$0.00
Cisco Intersight SaaS	\$0.00	1	\$0.00
Intersight - Virtual adopt session http://cs.co/requestCSS	\$0.00	1	\$0.00
UCS Central Per Server - 1 Server License	\$0.00	3	\$0.00
Cisco Support Standard for DCM	\$0.00	1	\$0.00
Infrastructure Services SaaS/CVA - Essentials	\$430.77	3	\$1,292.31
UCS C240 M8 Rack w/o CPU, mem, drives, 2U w SFF backplane	\$4,870.67	3	\$14,612.01
3yrs SNTC-8X5XNBD UCS C240 M8 Rack wo CPU, mem, drives, 2U	\$3,007.62	3	\$9,022.86
C245 M8 2U Riser3 Filler Blank, Non-Perforated	\$0.00	3	\$0.00
UCS C-Series M7 SFF drive blanking panel	\$0.00	72	\$0.00
C240M8SFF NVMe cable for drive 21-24 (P2)	\$0.00	3	\$0.00
UCS C240 M8 Riser 1A PCIe Gen5 (x8, x16, x8)	\$658.10	3	\$1,974.30
1200w AC Titanium Power Supply for C-series Rack Servers	\$399.79	6	\$2,398.74
Power Cord, 125VAC 13A NEMA 5-15 Plug, North America	\$0.00	6	\$0.00
96GB DDR5-6400 RDIMM 2Rx4 (24Gb)	\$2,893.26	24	\$69,438.24
C240M8 Boot Raid Controller for Hot-swap M.2s by riser 3	\$407.17	3	\$1,221.51
Cisco-Intel X710T4LG 4x10 GbE RJ45 PCIe NIC	\$996.81	3	\$2,990.43
Cisco-Emulex LPe35002-M2-2x32GFC Gen 7 PCIe HBA	\$3,586.28	3	\$10,758.84
240GB M.2 SATA Micron G2 SSD	\$603.92	6	\$3,623.52
TPM 2.0 TCG FIPS140-2 CC+ Cert M7 Intel MSW2022 Compliant	\$40.18	3	\$120.54
Ball Bearing Rail Kit for C220 & C240 M7/M8 rack servers	\$166.36	3	\$499.08
IMC SW (Recommended) latest release for C-Series Servers.	\$0.00	3	\$0.00



Cisco UCS C240 M8 SFF Rack Server

A printed version of this document is only a copy and not necessarily the latest version. Refer to the following link for the latest released version:

<https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/datasheet-listing.html>



CISCO SYSTEMS
170 WEST TASMAN DR
SAN JOSE, CA, 95134
WWW.CISCO.COM

PUBLICATION HISTORY

REV A.12 DECEMBER 18, 2025

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OVERVIEW

The Cisco UCS C240 M8 SFF Rack Server extends the capabilities of Cisco's Unified Computing System portfolio in a 2U form factor with the Intel® Xeon® 6 Scalable Processors, 16 DIMM slots per CPU for DDR5-6400 Memory DIMMs with DIMM capacity points up to 256GB.

The Cisco UCS C240 M8 SFF Rack Server harnesses the power of the latest Intel® Xeon® 6 Scalable Processors and offers the following:

CPU: Up to 2x Intel® Xeon® 6 Scalable Processors with up to 86 cores per processor.

Memory: Up to 8TB with 32 x 256GB DDR5-6400 DIMMs, in a 2-socket configuration with Intel® Xeon® 6 Scalable Processors.

The server provides an internal slot for one of the following:

- Cisco 24G Tri-mode RAID controller with cache backup to control SAS/SATA/NVMe drives or
- Cisco 24G Tri-mode Pass-through HBA to control SAS/SATA/NVMe

mLOM: The UCS C240 M8 SFF Rack Server has a single integrated 1GbE management port. A modular LAN on motherboard (mLOM)/OCP 3.0 slot provides various connectivity options from 10GbE to 200GbE.

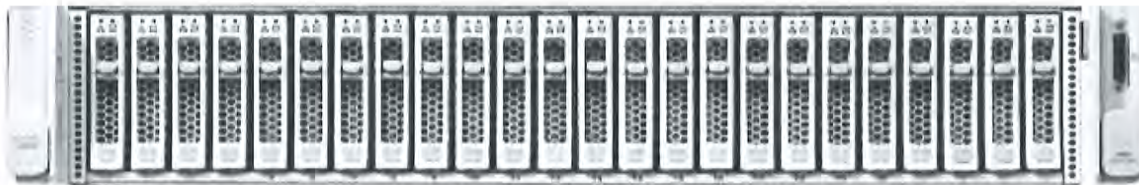
The Cisco UCS C240 M8 SFF Rack Server can be used standalone, or as part of the Cisco Unified Computing System, which unifies computing, networking, management, virtualization, and storage access into a single integrated architecture, enabling end-to-end server visibility, management, and control in both bare metal and virtualized environments.

See *Figure 1 on page 3* for front and rear views of the UCS C240 M8 SFF Rack Server.

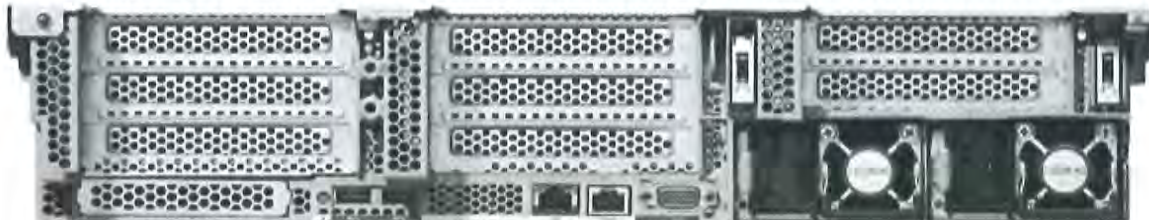
Figure 1 Cisco UCS C240 M8 SFF Rack Server

Up to 24 front facing SFF SAS/SATA HDDs or SAS/SATA SSDs or NVMe SSDs (optionally up to 8 of the slots can be direct-attach NVMe)

Front View (all slots shown unpopulated - see *Figure 2 on page 4* for details)



Rear View (all slots shown unpopulated - see *Figure 3 on page 5* for details)

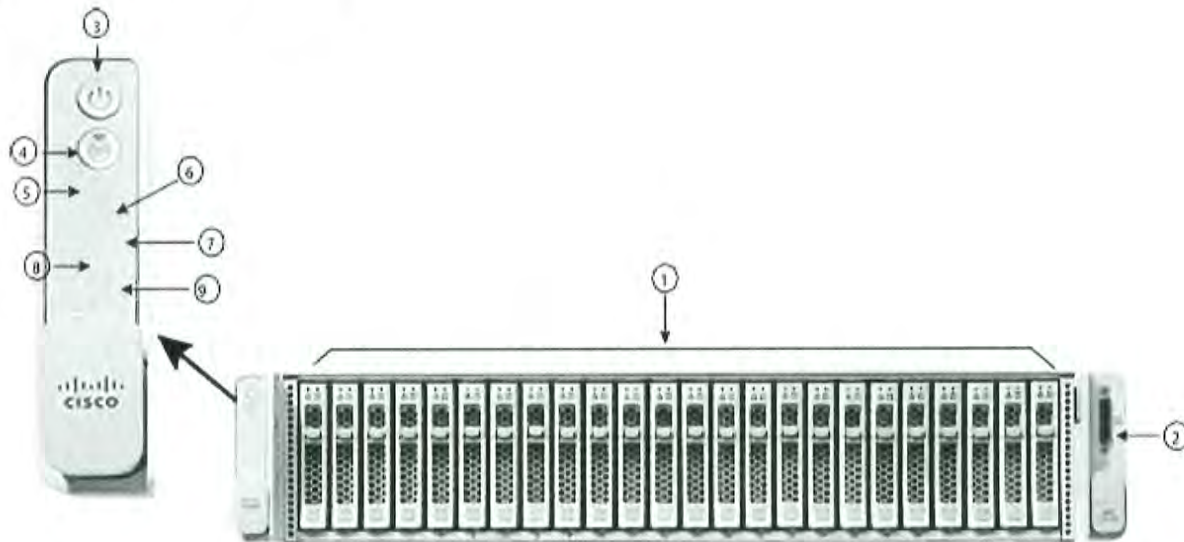


DETAILED VIEWS

Chassis Front View

Figure 2 shows the front view of rack server configured with 24 front drives.

Figure 2 Chassis Front View

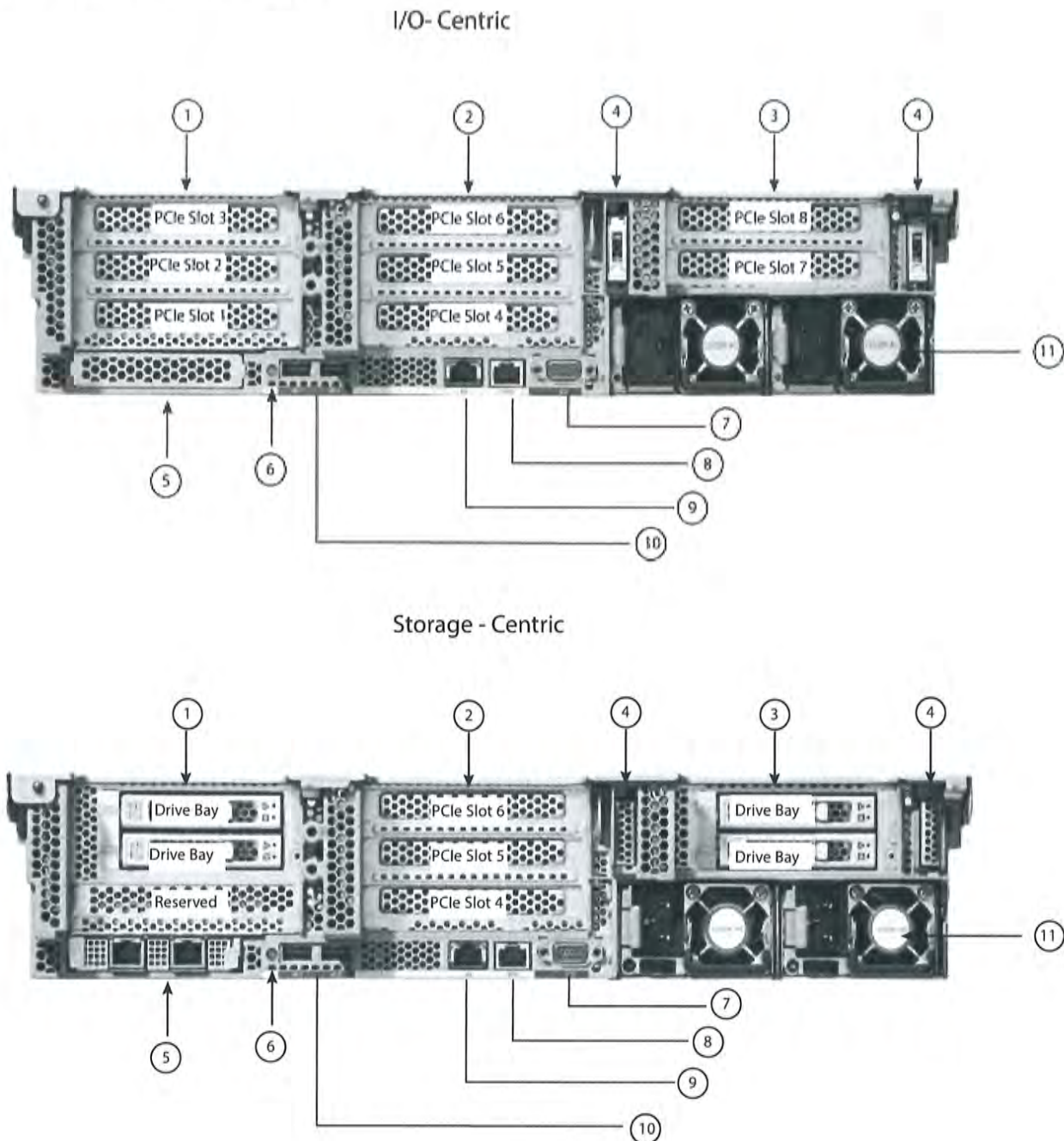


1	Drive bays 1 - 24 supports up to 24 front facing SFF SAS/SATA HDDs or SAS/SATA SSDs or U.3 NVMe SSDs with tri-mode RAID controller (optionally slots 1-4 and 21-24 can be direct-attach NVMe).	6	Fan status LED
2	KVM connector (used with KVM cable that provides two USB 2.0, one VGA, and one serial connector)	7	Temperature status LED
3	Power button/Power status LED	8	Power supply status LED
4	Unit Identification button/LED	9	Network link activity LED
5	System status LED	-	-

Chassis Rear View

Figure 3 shows the external features of the rear panel.

Figure 3 Chassis Rear View



DETAILED VIEWS

1	There are three Riser 1 options: Riser 1A (I/O-centric, Gen 5, CPU1 control) Supports three Gen 5 PCIe slots: ■ Slot 1 is full-height, 3/4 length, x8, NCSI, single wide GPU ■ Slot 2 is full-height, full-length, x16, NCSI, single/double wide GPU ■ Slot 3 is full-height, full-length, x8, no NCSI, single wide GPU Riser 1B (storage-centric, CPU1 control) Supports two drive bays: ■ Slot 1 is reserved ■ Drive bay 102, x4, SAS/SATA/NVMe ■ Drive bay 101, x4, SAS/SATA/NVMe Riser 1C (I/O-centric, Gen 5, CPU1 control) Supports two Gen 5 PCIe slots: ■ Slot 1 is full-height, 3/4 length, x16, NCSI, single wide GPU ■ Slot 2 is full-height, full-length, x16, no NCSI, single/double wide GPU	7	VGA display port (DB15 connector)
2	There are two Riser 2 options: Riser 2A (I/O-centric, Gen 5, CPU2 control) Supports three Gen 5 PCIe slots: ■ Slot 4 is full-height, 3/4 length, x8, NCSI, single wide GPU ■ Slot 5 is full-height, full-length, x16, NCSI, single/double wide GPU ■ Slot 6 is full-height, full length, x8, no NCSI, single wide GPU Riser 2C (I/O-centric, Gen 5, CPU2 control) Supports two Gen 5 PCIe slots: ■ Slot 4 is full-height, 3/4 length, x16, NCSI, single wide GPU ■ Slot 5 is full-height, full-length, x16, no NCSI, single/double wide GPU	8	COM port (RJ45 connector)
3	There are three Riser 3 options Riser 3A (I/O-centric, CPU2 control) Supports two PCIe slots: ■ Slot 7 is full-height, full-length, x8, no NCSI, single wide GPU ■ Slot 8 is full-height, full-length, x8, no NCSI, single wide GPU Riser 3B (storage-centric, CPU2 control) Supports two drive bays: ■ Drive bay 104, x4, SAS/SATA/NVMe ■ Drive bay 103, x4, SAS/SATA/NVMe Riser 3C (for GPU, CPU2 control) Supports one PCIe Slot: ■ Slot 7 is one full-height, full-length, x16, no NCSI, double wide GPU ■ Slot 8 is blocked by double wide GPU (not used)	9	1 GbE dedicated Ethernet management port
4	Drive bays 243 and 244, support SATA M.2 drives or hot-swappable M.2	10	USB 3.0 ports (two)
5	Modular LAN on motherboard (mLOM)/OCP 3.0 slot or hot-swappable M.2 module (drive bays 241 and 242).	11	Power supplies (two)
6	System ID pushbutton/LED	-	-

BASE SERVER STANDARD CAPABILITIES and FEATURES

Table 1 lists the capabilities and features of the base server. Details about how to configure the server for a particular feature or capability (for example, number of processors, disk drives, or amount of memory) are provided in *CONFIGURING the SERVER*, page 10.

Table 1 Capabilities and Features

Capability/Feature	Description
Chassis	Two rack unit (2RU) chassis
CPU	■ One or two Intel® Xeon® 6 Scalable Processors ■ Each CPU has 8 channels with up to 2 DIMMs per channel, for up to 16 DIMMs per CPU ■ UPI Links: Up to 4 at 24GT/s
Memory	■ 32 total DDR5-6400 MT/s DIMM slots with Intel® Xeon® 6 Scalable Processors (16 per CPU) ■ Up to 16x MRDIMM 8000MT/s
Video	The Cisco Integrated Management Controller (CIMC) provides video using the Matrox G200e video/graphics controller: ■ Integrated 2D graphics core with hardware acceleration ■ Embedded DDR memory interface supports up to 512 MB of addressable memory (8 MB is allocated by default to video memory) ■ Supports display resolutions up to 1920 x 1200 16bpp @ 60Hz ■ High-speed integrated 24-bit RAMDAC ■ Single lane PCI-Express host interface running at Gen 1 speed
Power subsystem	Up to two of the following hot-swappable power supplies: ■ 1050W (DC) ■ 1200W (AC) ■ 1600 W (AC) ■ 2300 W (AC) One power supply is mandatory; one more can be added for 1 + 1 redundancy.
Front Panel	A front panel controller provides status indications and control buttons
ACPI	This server supports the advanced configuration and power interface (ACPI) 6.2 standard.
Fans	Six hot-swappable fans for front-to-rear cooling
Expansion slots	■ Riser 1A (three Gen 5 PCIe slots) ■ Riser 1B (two drive bays) ■ Riser 1C (two Gen 5 PCIe slots) ■ Riser 2A (three Gen 5 PCIe slots) ■ Riser 2C (two Gen 5 PCIe slots) ■ Riser 3A (two Gen 5 PCIe slots) ■ Riser 3B (two drive bays) ■ Riser 3C (one Gen5 PCIe Slot)

Table 1 Capabilities and Features *(continued)*

Capability/Feature	Description
Interfaces	■ Rear panel: • One 1Gbase-T RJ-45 management port • One RS-232 serial port (RJ45 connector) • One DB15 VGA connector • Two USB 3.0 port connectors • One flexible modular LAN on motherboard (mLOM)/OCP 3.0 slot that can accommodate various interface cards. ■ Front panel: • One KVM console connector (supplies two USB 2.0 connectors, one VGA DB15 video connector, and one serial port (RS232) RJ45 connector)
Integrated management processor	■ Baseboard Management Controller (BMC) running Cisco Integrated Management Controller (CIMC) firmware. ■ Depending on your CIMC settings, the CIMC can be accessed through the 1GE dedicated management port. Cisco virtual interface card (VIC). ■ CIMC manages certain components within the server, such as the Cisco 24G SAS HBA.
Internal storage devices	Drive storage: ■ Up to 24 SFF SAS/SATA hard drives (HDDs) or SAS/SATA/NVMe solid state drives (SSDs). ■ Optionally, up to eight of the slots can be direct-attach NVMe. These drives must be placed in front drive bays 1- 4 and 21-24 only. The rest of the bays (5 - 20) can be populated with SAS/SATA SSDs/HDDs or U.3 NVMe SSDs with tri-mode controller. Other storage: ■ A Boot Optimized RAID Controller supports • Up to two internal SATA M.2 SSDs, or • Up to two rear-accessible hot-swappable SATA M.2 SSDs ■ 8GB FlexMMC utility storage for staging of firmware and other user data. 8GB FlexMMC storage is built into the motherboard on M8.
Storage controllers	Internal storage controllers: ■ 24G Tri-Mode M1 HBA for 16 Drives ■ 24G Tri-Mode M1 RAID Controller w/4GB FBWC 32Drv
Modular LAN on Motherboard (mLOM)/ Open Compute Project (OCP) 3.0 slot	The dedicated mLOM/Open Compute Project (OCP) 3.0 slot on the motherboard can flexibly accommodate the following cards: ■ Cisco Virtual Interface Cards ■ Open Compute Project (OCP) 3.0 network interface card
Fabric Interconnect	■ Compatible with the Cisco UCS 6454, 64108, 6536, 6664 and UCSX-S9108-100G fabric interconnects. ■ In addition to direct-connect of rack-server to the Fabric Interconnect, the rack-server can also connect via the “Nexus 93180YC-FX3 FEX” for having up to 160 servers behind a pair of Fabric Interconnect.
CIMC	Cisco Integrated Management Controller 4.3(6) or later
Intersight	Intersight provides server management capabilities

Table 1 Capabilities and Features *(continued)*

Capability/Feature	Description
Firmware standards	UEFI Spec 2.9
	ACPI 6.5
	SMBIOS Ver 3.7

CONFIGURING the SERVER

Follow these steps to configure the Cisco UCS C240 M8 SFF Rack Server:

- *STEP 1 SELECT SERVER SKU, page 11*
- *STEP 2 SELECT RISER CARDS (REQUIRED), page 12*
- *STEP 3 SELECT CPU(s) (REQUIRED), page 14*
- *STEP 4 SELECT MEMORY (REQUIRED), page 17*
- *STEP 5 SELECT DRIVE CONTROLLERS (OPTIONAL), page 20*
- *STEP 6 SELECT DRIVES (OPTIONAL), page 22*
- *STEP 7 SELECT OPTION CARD(s) (OPTIONAL), page 25*
- *STEP 8 ORDER GPU CARDS (OPTIONAL), page 30*
- *STEP 9 ORDER M.2 BOOT RAID CONTROLLER and SATA SSDs (OPTIONAL), page 32*
- *STEP 10 ORDER POWER SUPPLY (REQUIRED), page 34*
- *STEP 11 SELECT INPUT POWER CORD(s) (REQUIRED), page 35*
- *STEP 12 ORDER TOOL-LESS RAIL KIT (REQUIRED) AND REVERSIBLE CABLE MANAGEMENT ARM (OPTIONAL), page 39*
- *STEP 13 SELECT MANAGEMENT CONFIGURATION (OPTIONAL), page 40*
- *STEP 14 ORDER SECURITY DEVICES (REQUIRED), page 41*
- *STEP 15 SELECT LOCKING SECURITY BEZEL (OPTIONAL), page 42*
- *STEP 16 SELECT OPERATING SYSTEM AND THIRD PARTY SOFTWARE, page 43*
- *STEP 17 CHOOSE OPTIONAL OPERATING SYSTEM MEDIA KIT, page 51*
- *SUPPLEMENTAL MATERIAL, page 54*

STEP 1 SELECT SERVER SKU

Top level ordering product ID (PID) is shown in *Table 2*.

Table 2 Top Level Major Line Bundle ordering PIDs (MLB)

Product ID (PID)	Description
UCS-M8-MLB	UCS M8 RACK MLB This major line bundle (MLB) consists of the Rack Server (UCSC-C240-M8SX, UCSC-C240-M8L or UCSC-C240-M8E3S) with software PIDs. Use this PID to begin a new configuration.

Select one product ID (PID) as shown in *Table 3*.



CAUTION: This product may not be purchased outside of the approved bundles (must be ordered under the MLB)

Table 3 PID of the Rack Base Server

Product ID (PID)	Description
UCSC-C240-M8SX	■ Small form-factor (SFF) drives, with 24-drive backplane. ■ Front facing drive bays 1-24 support 2.5in SAS/SATA/SATA HDDs/SSDs or U.3 NVMe SSDs with tri-mode controller installed. ■ Optionally, front-loading drive bays 1-4, 21-24 support 2.5-inch direct-attach NVMe SSDs. ■ Optionally, 4 rear facing SAS/SATA/NVMe drives

The Cisco UCS C240 M8 SFF Rack Server:

- Includes a 24 drive backplane.
- Does not include power supply, CPU, memory, hard disk drives (HDDs), solid-state drives (SSDs), NVMe drives, SD cards, riser 1, riser 2, riser 3, tool-less rail kit, or PCIe cards.
- Use the steps on the following pages to configure the server with the components that you want to include.

STEP 2 SELECT RISER CARDS (REQUIRED)

Select desired risers from *Table 4*.

Table 4 PIDs of the Risers

Product ID (PID)	Description
Riser 1 Options	
UCSC-RIS1A-240M8 (I/O riser)	UCS C240 M8 Riser 1A PCIe Gen5 (x8, x16, x8) ■ Slot 1 is full-height, 3/4 length, x8, Supports NCSI and single wide GPU ■ Slot 2 is full-height, full-length, x16, Supports NCSI and single/double wide GPU ■ Slot 3 is full-height, full-length, x8, Supports single wide GPU
UCSC-RIS1B-240M8 (storage riser)	UCS C240 M8 Riser 1B support 2xSFF drives ■ Slot 1 is reserved ■ Drive bay 102, x4, Supports SAS/SATA/NVMe drives ■ Drive bay 101, x4, Supports SAS/SATA/NVMe drives
UCSC-RIS1C-240M8 (I/O riser)	UCS C240 M8 Riser 1C PCIe Gen5 (2x16) FH ■ Slot 1 is full-height, 3/4 length, x16, Supports NCSI and single wide GPU ■ Slot 2 is full-height, full-length, x16, supports single/double wide GPU
Riser 2 Options (2-CPU must be selected)	
UCSC-RIS2A-240M8 (I/O riser)	UCS C240 M8 Riser 2A PCIe Gen5 (x8, x16, x8) (controlled with CPU2) ■ Slot 4 is full-height, 3/4 length, x8, Supports NCSI and single wide GPU ■ Slot 5 is full-height, full-length, x16, Supports NCSI and single/double wide GPU ■ Slot 6 is full-height, full length, x8, Supports single wide GPU
UCSC-RIS2C-240M8 (I/O riser)	UCS C240 M8 Riser 2C PCIe Gen5 (2x16) (controlled with CPU2) ■ Slot 4 is full-height, 3/4 length, x16, Supports NCSI and single wide GPU ■ Slot 5 is full-height, full-length, x16, Supports single/double wide GPU
Riser 3 Options (2-CPU must be selected)	
UCSC-RIS3A-240M8 (I/O riser)	UCS C240 M8 Riser 3A PCIe Gen5 (controlled with CPU2) ■ Slot 7 is full-height, full-length, x8 ■ Slot 8 is full-height, full-length, x8
UCSC-RIS3B-240M8 (storage riser)	UCS C240 M8 Riser 3B support 2xSFF drives (controlled with CPU2) ■ Drive bay 104, x4, SAS/SATA/NVMe drives ■ Drive bay 103, x4, SAS/SATA/NVMe drives
UCSC-RIS3C-240M8	UCS C240 M8 Riser 3C PCIe Gen5 (x16) (controlled with CPU2) ■ Slot 7 is one full-height, full-length, x16, Supports double wide GPU ■ Slot 8 is blocked by double wide GPU (not used)

Table 4 PIDs of the Risers

Product ID (PID)	Description
Accessories/spare included along with selected risers:	
■ UCSC-FBRS2-C240-D for riser 2 and UCSC-FBRS3-C245 riser filler blank for riser 3 is auto included, if riser 2 or riser 3 are not selected. ■ CBL-SASR1B-C24XM7 is auto included with selection of riser 1B and Raid controller (UCSC-RAID-MP1L32, or UCSC-HBA-M1L16). ■ CBL-SASR3B-C24XM7 is auto included with selection of riser 3 and Raid controller (UCSC-RAID-MP1L32, or two UCSC-HBA-M1L16).	
NOTE: Please note, if you are adding additional risers and raid controller later, you may need to order the accessories with it.	



NOTE: For GPU support on a particular riser slot, see *Table 12 on page 30*

STEP 3 SELECT CPU(s) (REQUIRED)

The standard CPU features are:

- Up to 86 cores
- Cache size of up to 336 MB
- Power: Up to 350 Watts
- UPI Links: Up to 4 at 24GT/s

Select CPUs from *Table 5*

CAUTION:



- Normal operating temperature is limited to 35° C [95° F], and is lowered to 28° C [82.4° F], with a fan fault. When rear drives are installed, the normal operating temperature is lowered to 30° C [86° F], and 26° C [78.8° F], respectively with a fan fault.
- With multiple GPU>75W installed, normal operating temperature is 30° C [86° F], lowered to 25° C [77° F], with a fan fault.
- When a GPU>75W is installed, CPUs with TDP greater than 330W are not supported

Table 5 Available Intel® Xeon® 6 Scalable CPUs

Product ID	Segment/ Workload	Maximum Socket	Cores	Clock Freq	Power	Cache Size	Highest DDR5 DIMM Clock	MRDIMM Support
(PID)		(S)	(C)	(GHz)	(W)	(MB)	(MT/s)	
UCS-CPU-I6787P	Performance	2S	86	2.00	350	336	6400	Yes
UCS-CPU-I6781P ¹	Single Socket	1S	80	2.00	350	336	6400	Yes
UCS-CPU-I6767P	Performance	2S	64	2.40	350	336	6400	Yes
UCS-CPU-I6761P ¹	Single Socket	1S	64	2.50	350	336	6400	Yes
UCS-CPU-I6760P	Mainline	2S	64	2.20	330	320	6400	No
UCS-CPU-I6747P	Performance	2S	48	2.70	330	288	6400	Yes
UCS-CPU-I6741P ¹	Single Socket	1S	48	2.50	300	288	6400	No
UCS-CPU-I6740P	Mainline	2S	48	2.10	270	288	6400	No
UCS-CPU-I6736P	Performance	2S	36	2.00	205	144	6400	No
UCS-CPU-I6745P	Performance	2S	32	3.10	300	336	6400	No
UCS-CPU-I6737P	Performance	2S	32	2.90	270	144	6400	No
UCS-CPU-I6731P ¹	Single Socket	1S	32	2.50	245	144	6400	No
UCS-CPU-I6730P	Performance	2S	32	2.50	250	288	6400	No

Table 5 Available Intel® Xeon® 6 Scalable CPUs

Product ID	Segment/ Workload	Maximum Socket	Cores	Clock Freq	Power	Cache Size	Highest DDR5 DIMM Clock	MRDIMM Support
(PID)		(S)	(C)	(GHz)	(W)	(MB)	(MT/s)	
UCS-CPU-I6530P	Mainline	2S	32	2.30	225	144	6400	No
UCS-CPU-I6728P	Socket scalable	4S	24	2.70	210	144	6400	No
UCS-CPU-I6527P	Performance	2S	24	3.00	255	144	6400	No
UCS-CPU-I6521P ¹	Single Socket	1S	24	2.60	225	144	6400	No
UCS-CPU-I6520P	Mainline	2S	24	2.40	210	144	6400	No
UCS-CPU-I6511P ¹	Single Socket	1S	16	2.50	150	72	6400	No
UCS-CPU-I6724P	Performance	4S	16	3.60	210	72	6400	No
UCS-CPU-I6517P	Performance	2S	16	3.20	190	72	6400	No
UCS-CPU-I6515P	Mainline	2S	16	2.30	150	72	6400	No
UCS-CPU-I6505P	Mainline	2S	12	2.20	150	48	6400	No
UCS-CPU-I6714P	Performance	4S	8	4.00	165	48	6400	No
UCS-CPU-I6507P	Performance	2S	8	3.50	150	48	6400	No
Accessories/spare included with CPU configuration: ■ UCSC-HSLP-C240M8 ■ UCSC-HSLP-C220M8 if UCSC-GPUAD-240M8 is selected NOTE: if you are adding a second CPU later, you may need to order accessories spares with it.								

Notes:

1. Single Socket only CPUs

Table 6 CPU PID Decoder

Identifier#1	Identifier#2	Identifier#3	Identifier#4	Identifier#5	Identifier#6	Identifier#7
Cisco Product Family	CPU supplier	CPU Generation	SKU Tier	CPU SKU (2 digits)	Core Architecture	Option/Spare CPU
UCS	I: Intel	6: 6th Generation	5: GNR-SP Mid Tier 7: GNR-SP High Tier	Examples: 20, 34, 48 See detailed SKUs stack from supplier 11, 21, 31, 41, 61, 81: single-socket	P: P-Core	Blank: Option =: Spare

Supported Configurations

■ 1-CPU Configuration:

- Choose one CPU from *Table 5*
- Up to 4 front facing direct-attach NVMe drives are allowed
- Up to 2 rear facing direct-attach NVMe drives are allowed

■ 2-CPU Configuration:

- Choose two identical CPUs from *Table 5*
- Up to 4-8 front facing direct-attach NVMe drives are allowed
- Up to 4 rear facing direct-attach NVMe drives are allowed

The selection of 1 or 2 CPUs depends on the desired server functionality. See the following sections:

- *STEP 2 SELECT RISER CARDS (REQUIRED), page 12*
- *STEP 4 SELECT MEMORY (REQUIRED), page 17*
- *STEP 5 SELECT DRIVE CONTROLLERS (OPTIONAL), page 20*
- *STEP 6 SELECT DRIVES (OPTIONAL), page 22*
- *STEP 7 SELECT OPTION CARD(s) (OPTIONAL), page 25*

STEP 4 SELECT MEMORY (REQUIRED)

The *Table 7* below describes the main memory DIMM features supported on the server.



CAUTION: 256GB DIMMs cannot be combined with GPU card

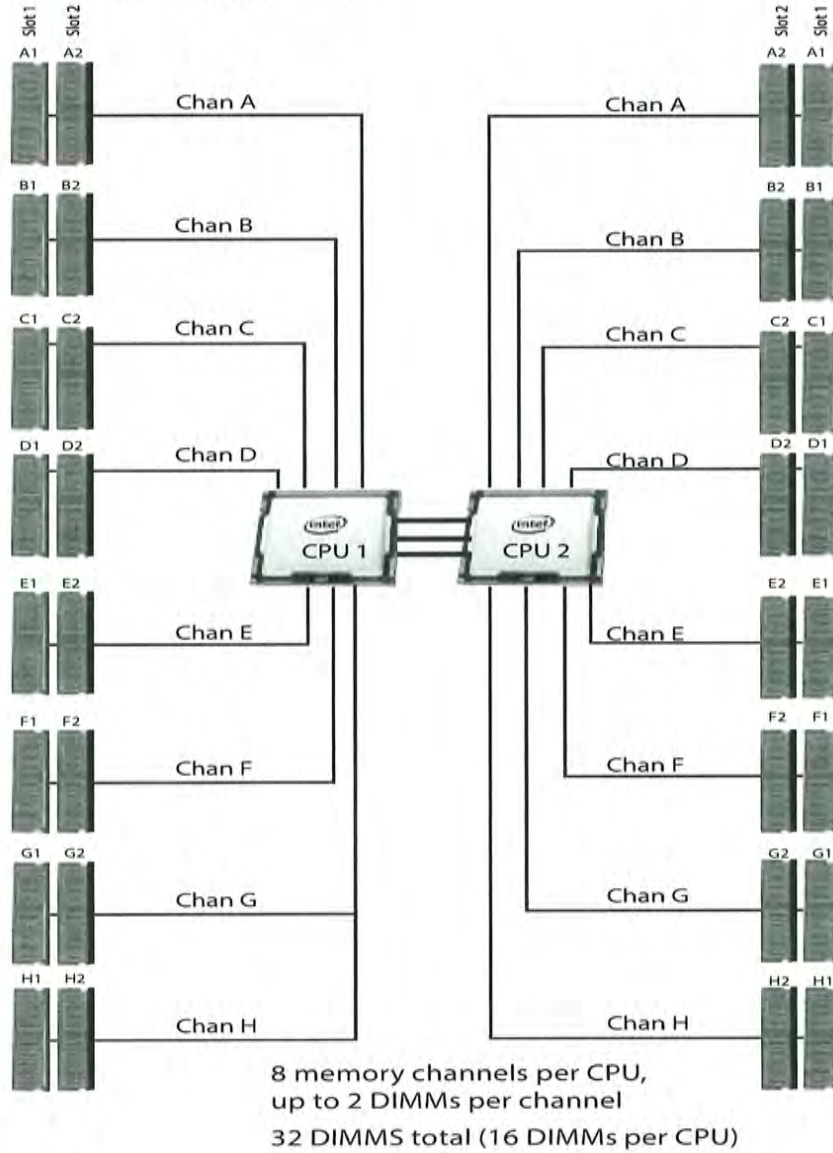
Table 7 Server Main Memory Features

Memory server technologies	Description	
	DIMM	MRDIMM ¹
Intel® Xeon® CPU generation	Intel® Xeon® 6 CPUs	
DDR5 memory clock speed	Up to 6400 MT/s 1DPC; Up to 5200 MT/s 2DPC	Up to 8000 MT/s 1DPC
Operational voltage	1.1 Volts	
DRAM fab density	16Gb, 24Gb and 32Gb	16Gb
Memory type	RDIMM (Registered DDR5 DIMM)	MRDIMM (Multiplexed Rank DDR5 DIMM)
Memory DRAM DIMM/MRDIMM organization	Eight memory DIMM channels per CPU; up to 2 DIMMs Per Channel	Eight MRDIMM channels per CPU; 1 DIMM Per Channel
Maximum number of DRAM DIMM/MRDIMM per server	32 (2-Socket)	16 (2-Socket)
DRAM DIMM/MRDIMM Densities and Ranks	16GB 1Rx8, 32GB 1Rx4, 32GB 2Rx8, 48GB 1Rx4, 64GB 2Rx4, 96GB 2Rx4, 128GB 2Rx4, 256GB 4Rx4	32GB 2Rx8, 64GB 2Rx4
Maximum system memory capacity	8TB (32x256GB)	1TB (16x64GB)

Notes:

1. Intel® Xeon® 6 SKUs 6787P, 6781P, 6767P, 6761P, and 6747P support MRDIMM, Per Intel® Xeon® 6 documentation

Figure 4 Memory Organization



Select DIMMs and Memory Mirroring

Select the memory configuration and whether or not you want the memory mirroring option. The available memory DIMMs and mirroring option are listed in *Table 8*.



NOTE: When memory mirroring is enabled, the memory subsystem simultaneously writes identical data to two channels. If a memory read from one of the channels returns incorrect data due to an uncorrectable memory error, the system automatically retrieves the data from the other channel. A transient or soft error in one channel does not affect the mirrored data, and operation continues unless there is a simultaneous error in exactly the same location on a DIMM and its mirrored DIMM. Memory mirroring reduces the amount of memory available to the operating system by 50% because only one of the two populated channels provides data.

Table 8 Memory Options for UCS M8 servers with Intel® Xeon® 6th Gen. CPUs

Product ID (PID)	PID Description	Ranks/DIMM
DDR5-6400 MT/s Cisco Memory PIDs list		
UCS-MRX16G1RE5	16GB RDIMM 1Rx8 1.1Volts (16Gb)	1
UCS-MRX32G1RE5	32GB RDIMM 1Rx4 1.1Volts (16Gb)	1
UCS-MRX32G2RE5	32GB RDIMM 2Rx8 1.1Volts (16Gb)	2
UCS-MRX48G1RF5	48GB RDIMM 1Rx4 1.1Volts (24Gb)	1
UCS-MRX64G2RE5	64GB RDIMM 2Rx4 1.1Volts (16Gb)	2
UCS-MRX96G2RF5	96GB RDIMM 2Rx4 1.1Volts (24Gb)	2
UCS-MR128G2RG5	128GB RDIMM 2Rx4 1.1Volts (32Gb)	2
UCS-MR256G4RG5	256GB RDIMM 4Rx4 1.1Volts (32Gb)	4
DDR5 MRDIMM-8800 MT/s Cisco Memory PIDs list		
UCS-MCX32G2RE11 ¹	32GB DDR5 MRDIMM 8800 2Rx8 (16Gb)	2
UCS-MCX64G2RE11 ¹	64GB DDR5 MRDIMM 8800 2Rx4 (16Gb)	2
Memory Mirroring Option		
N01-MMIRRORD	Memory mirroring option	
Accessories/spare included with Memory configuration:		
■ UCS-DDR5-BLK ¹ is auto included for the unselected DIMMs slots		

Notes:

- Any empty DIMM slot must be populated with a DIMM blank to maintain proper cooling airflow.

Memory configurations and mixing rules

- **Golden Rule:** Memory on every CPU socket shall be configured identically.
- For full details on supported memory configurations, count rules, population rules and mixing rules see the Intel M8 Memory guide.

STEP 5 SELECT DRIVE CONTROLLERS (OPTIONAL)

The following list summarizes how drives are controlled on the server:

- Up to 28 SAS/SATA/U.3 NVMe drives are controlled through a Cisco 24G Tri-Mode M1 RAID Controller
- Up to 28 SAS/SATA/U.3 NVMe drives are controlled through a two Cisco 24G Tri-Mode M1 HBA



NOTE:

- **UCSC-RAID-MP1L32:** 64 Virtual drives (VDs) per controller, with up to 64 VD per disk group. OOB limited to 8 VD per disk group.
- If the Raid controllers are selected, it is factory-installed in a dedicated slot.
- For NVMe Hardware RAID, only U.3 NVMeS are supported

Table 9 Hardware Controller Options

Product ID (PID)	PID Description
Controllers for Internal Drives	
UCSC-RAID-M1L32 ^{1,2}	24G Tri-Mode M1 RAID Controller w/4GB FBWC 32 Drvies ■ This RAID controller supports up to 28, 2.5in (SFF) SAS/SATA HDD, SAS/SATA SSD, and U.3 NVMe operating at 3Gbps, 6Gbps, 12Gbps and 24Gbps. It includes a SuperCap and a 4GB flash-back write cache (FBWC). ■ Supports RAID0, 1, 5, 6, 10, 50, 60, and JBOD mode and supports mixed RAID and JBOD mode. ■ The RAID controller plugs directly into a dedicated slot. ■ For all self-encrypting drives (SED), standalone Management (CIMC/UCSM) is supported for configuring and managing local keys. For now, SED drives are managed with local key management only. Third-party key management will be supported (KMIP compliant).
UCSC-RAID-M1L16	24G Tri-Mode M1 RAID Controller w/4GB FBWC 16Drv ■ This RAID controller supports up to 16, 2.5in (SFF) SAS/SATA HDD, SAS/SATA SSD, and U.3 NVMe operating at 3Gbps, 6Gbps, 12Gbps and 24Gbps. It includes a SuperCap and a 4GB flash-back write cache (FBWC). ■ Supports RAID0, 1, 5, 6, 10, 50, 60, and JBOD mode and supports mixed RAID and JBOD mode. ■ The RAID controller plugs directly into a dedicated slot. ■ For all self-encrypting drives (SED), standalone Management (CIMC/UCSM) is supported for configuring and managing local keys. For now, SED drives are managed with local key management only. Third-party key management will be supported (KMIP compliant).

Table 9 Hardware Controller Options (*continued*)

Product ID (PID)	PID Description
UCSC-HBA-M1L16	24G Tri-Mode M1 HBA for 14 Drives ■ This Tri-mode HBA supports up to 14 SAS HDDs and SAS/SATA/U.3 NVMe operating at 3Gbps, 6Gbps, 12Gbps and 24Gbps. ■ Up to 2 Tri-mode HBA controllers supported on UCSC-C240-M8SX ■ No RAID support ■ Supports JBOD or pass-through mode ■ The 24G Tri-mode HBA plugs directly into a dedicated slot.
Accessories/spare included with drive controller: ■ UCSC-RAID-MP1L32: CBL-RAID16-240M8 and UCSC-SDBKT-24XM7 are included. ■ UCSC-HBA-M1L16: • In a 2-CPU system, CBL-RAID16-240M8 and UCSC-HPBKT-24XM7 are included per controller • In a 1-CPU system, CBL-RAID16-240M8 and UCSC-HPBKT-24XM7 for a single controller configuration; CBL-HBA-240M8-P1, CBL-HBA-240M8-P2 and UCSC-HPBKT-24XM7 are included for a dual controller configuration ■ UCSC-RAID-M1L16: In a 2-CPU system, CBL-RAID16-240M8 and UCSC-HPBKT-24XM7 are included per controller NOTE: If you are adding drive controller later as spare, you may need to order cables/supercap/super cables and controllers bracket with it.	

Notes:

1. U.3 NVMe drives selected with this Tri-mode RAID controller will be set to RAID attached as the factory default. The U.3 drives in slots 1-4, 21-24 can however operate in U.2 mode, directly attached to the CPU. This mode can be changed from the Cisco IMC if desired.
2. When ordering this Tri-mode RAID controller, please note that mixing SAS/SATA and NVMe drives in a single RAID volume is not supported. Virtual drives can only be created with drives of the same type



CAUTION: All RAID options require drives of same sector size and media type. The smallest drive capacity will be used to calculate the RAID volume size.

STEP 6 SELECT DRIVES (OPTIONAL)

The standard disk drive features are:

- 2.5-inch small form factor
- Hot-pluggable
- Drives come mounted in sleds

Select Drives

- The available SAS and SATA SSDs/HDDs and NVMe drives are listed in *Table 10*



CAUTION: Cisco uses solid state drives (SSDs) from a number of vendors. All solid state drives (SSDs) are subject to physical write limits and have varying maximum usage limitation specifications set by the manufacturer. Cisco will not replace any solid state drives (SSDs) that have exceeded any maximum usage specifications set by Cisco or the manufacturer, as determined solely by Cisco.

Table 10 Available SAS/SATA SSD and HDDs

Product ID (PID)	PID Description	Drive Type	Capacity
HDDs			
HDDs (10K RPM)			
UCS-HDB1T2GS10K2N	1.2TB 2.5in 12G SAS 10K RPM 512n HDD	SAS	1.2 TB
UCS-HDB2T4GS10K4K	2.4TB 2.5in 12G SAS 10K RPM 4K HDD	SAS	2.4 TB
UCS-HDB300GS10K2N	300GB 2.5in 12G SAS 10K RPM 512n HDD	SAS	300 GB
UCS-HDB600GS10K2N	600GB 2.5in 12G SAS 10K RPM 512n HDD	SAS	600 GB
Enterprise Performance SAS/SATA SSDs (High endurance, supports up to 10X or 3X DWPD (drive writes per day))			
SATA			
UCS-SD19TBM3XEP-D	1.9TB 2.5in Enter Perf 6G SATA Micron G2 SSD (3X)	SATA	1.9 TB
UCS-SD960GBM3XEPD	960GB 2.5in Enter Perf 6G SATA Micron G2 SSD (3X)	SATA	960 GB
UCS-SD480GBM3XEPD	480GB 2.5in Enter Perf 6G SATA Micron G2 SSD (3X)	SATA	480 GB
UCS-SDB1T9OA1P	1.9TB 2.5in 15mm Solidigm S4620 Enter Perf 6G SATA 3X SSD	SATA	1.9 TB
UCS-SDB3T8OA1P	3.8TB 2.5in 15mm Solidigm S4620 Enter Perf 6G SATA 3X SSD	SATA	3.8 TB
UCS-SDB960OA1P	960GB 2.5in 15mm Solidigm S4620 Enter Perf 6G SATA 3X SSD	SATA	960 GB
UCS-SDB480OA1P	480GB 2.5in 15mm Solidigm S4620 Enter Perf 6G SATA 3X SSD	SATA	480 GB
SAS			
UCS-SD32TKA3XEP-D	3.2TB 2.5in Enter Perf 24G SAS Kioxia G2 SSD (3X)	SAS	3.2 TB
UCS-SD16TKA3XEP-D	1.6TB 2.5in Enter Perf 24G SAS Kioxia G2 SSD (3X)	SAS	1.6 TB
Enterprise Value SAS/SATA SSDs (Low endurance, supports up to 1X DWPD (drive writes per day))			
SATA			
UCS-SD76TBM1XEVD	7.6TB 2.5in Enter Value 6G SATA Micron G2 SSD	SATA	7.6 TB
UCS-SD38TBM1XEVD	3.8TB 2.5in Enter Value 6G SATA Micron G2 SSD	SATA	3.8 TB

Table 10 Available SAS/SATA SSD and HDDs (continued)

Product ID (PID)	PID Description	Drive Type	Capacity
UCS-SD19TBM1XEVD	1.9TB 2.5in Enter Value 6G SATA Micron G2 SSD	SATA	1.9 TB
UCS-SD960GBM1XEVD	960GB 2.5in Enter Value 6G SATA Micron G2 SSD	SATA	960 GB
UCS-SD480GBM1XEVD	480 GB 2.5in Enter Value 6G SATA Micron G2 SSD	SATA	480 GB
UCS-SD240GBM1XEVD	240GB 2.5in Enter Value 6G SATA Micron G2 SSD	SATA	240 GB
UCS-SDB7T6SA1VD	7.6TB 2.5in 6G SATA Enter Value 1X Samsung G1PM893A SSD	SATA	7.6 TB
UCS-SDB3T8SA1VD	3.8TB 2.5in 6G SATA Enter Value 1X Samsung G1PM893A SSD	SATA	3.8 TB
UCS-SDB1T9SA1VD	1.9TB 2.5in 6G SATA Enter Value 1X Samsung G1PM893A SSD	SATA	1.9 TB
UCS-SDB960SA1VD	960GB 2.5in 6G SATA Enter Value 1X Samsung G1PM893A SSD	SATA	960 GB
UCS-SDB3T8OA1V	3.8TB 2.5in 15mm Solidigm S4520 Enter Value 6G SATA 1X SSD	SATA	3.8 TB
UCS-SDB960OA1V	960GB 2.5in 15mm Solidigm S4520 Enter Value 6G SATA 1X SSD	SATA	960 GB
SAS			
UCS-SD15TKA1XEVD	15.3TB 2.5in Enter Value 24G SAS Kioxia G2 SSD	SAS	15.3 TB
UCS-SD76TKA1XEVD	7.6TB 2.5in Enter Value 24G SAS Kioxia G2 SSD	SAS	7.6 TB
UCS-SD38TKA1XEVD	3.8TB 2.5in Enter Value 24G SAS Kioxia G2 SSD	SAS	3.8 TB
UCS-SD19TKA1XEVD	1.9TB 2.5in Enter Value 24G SAS Kioxia G2 SSD	SAS	1.9 TB
Self-Encrypted Drives (SED) (1X or 3X)			
SATA			
UCS-SD960GM2NK9-D	960GB 2.5in Enter Value 6G SATA Micron G2 SSD (SED)	SATA	960 GB
SAS			
UCS-SD76TBKANK9-D	7.6TB 2.5in Enter Value 12G SAS Kioxia G2 SSD (SED-FIPS)	SAS	7.6 TB
UCS-SD38TBKANK9-D	3.8TB 2.5in Enter Value 12G SAS Kioxia G2 SSD (SED-FIPS)	SAS	3.8 TB
UCS-SD16TBKANK9-D	1.6TB 2.5in Enter Perf 12G SAS Kioxia G2 SSD (3X SED-FIPS)	SAS	1.6 TB
PCIe/NVMe SFF (2.5-inch) SFF drives			
UCS-NVMEG4-M1536D	15.3TB 2.5in U.3 15mm P7450 Hg Perf Med End NVMe	U.3	15.3 TB
UCS-NVMEG4-M7680D	7.6TB 2.5in U.3 15mm P7450 Hg Perf Med End NVMe	U.3	7.6 TB
UCS-NVMEG4-M6400D	6.4TB 2.5in U.3 15mm P7450 Hg Perf Hg End NVMe (3X)	U.3	6.4 TB
UCS-NVMEG4-M3840D	3.8TB 2.5in U.3 15mm P7450 Hg Perf Med End NVMe	U.3	3.8 TB
UCS-NVMEG4-M3200D	3.2TB 2.5in U.3 15mm P7450 Hg Perf Hg End NVMe (3X)	U.3	3.2 TB
UCS-NVMEG4-M1920D	1.9TB 2.5in U.3 15mm P7450 Hg Perf Med End NVMe	U.3	1.9 TB
UCS-NVMEG4-M1600D	1.6TB 2.5in U.3 15mm P7450 Hg Perf Hg End NVMe (3X)	U.3	1.6 TB
UCS-NVMEG4-M960-D	960GB 2.5in U.3 15mm P7450 Hg Perf Med End NVMe	U.3	960 GB
UCS-NVB1T9M2V9	1.9TB 2.5in U.3 15mm Micron 7500 HgPerf MedEnd 1X NVMe FIPS	U.3	1.9 TB
UCS-NVB3T8M2V9	3.8TB 2.5in U.3 15mm Micron 7500 HgPerf MedEnd 1X NVMe FIPS	U.3	3.8 TB
UCS-NVB3T8M2V9 ¹	3.8TB 2.5in U.3 15mm Micron 7500 HgPerf MedEnd 1X NVMe FIPS	U.3	3.8 TB
UCS-NVB1T9M2V9 ¹	1.9TB 2.5in U.3 15mm Micron 7500 HgPerf MedEnd 1X NVMe FIPS	U.3	1.9 TB
UCS-NVB7T6M2V9 ¹	7.6TB 2.5in U.3 15mm Micron 7500 HgPerf MedEnd 1X NVMe FIPS	U.3	7.6 TB
UCS-NVB15T3M2V9 ¹	15.3TB 2.5in U.3 15mm Micron 7500 HgPerf MedEnd 1X NVMe FIPS	U.3	15.3 TB

Table 10 Available SAS/SATA SSD and HDDs (*continued*)

Product ID (PID)	PID Description	Drive Type	Capacity
UCS-NVB30T7M3L	30.7TB 2.5in U.2 15mm Micron6550 HgPerf EcoEnd G4/5 <1X NVMe	U.2	30.7 TB
UCS-NVB61T4M3L	61.4TB 2.5" U.2 15mm Micron 6550 HgPerf EcoEnd G4/5 <1X NVMe	U.2	61.4 TB
NOTE: ■ Depending on the configuration, NVMe cables CBL-NVME-240M8-P4, CBL-NVME-240M8-P2 are included. If you are adding drive later as spare, you may need to order cables with it. ■ UCSC-BBLKD-M7 is included for the unselected front and rear storage device.			

Notes:

1. Micron 7500 SED-FIPS cannot be used for boot in direct attach mode. They can be used for boot via RAID controller.

Caveats

- Unless a tri-mode controller is installed:
 - Front SFF NVMe drives 1-4 are connected directly to CPU2
 - Front SFF NVMe drives 21-24 are connected directly to CPU1
 - Rear NVMe drives in riser 1B are connected directly to CPU1
 - Rear NVMe drives in riser 3B are connected directly to and require CPU 2
- If you order more than 4 front direct-attach NVMe drives, you must also order two CPUs
- SFF NVMe drives are bootable in UEFI mode only.
- You can mix SAS HDDs and SAS/SATA SSDs as long as you don't mix them in the same RAID Volume. Virtual drives can only be created with drives of the same type.
- SED drives can be mixed with the non-SED drives in *Table 10 on page 22*

STEP 7 SELECT OPTION CARD(S) (OPTIONAL)

For up-to-date server compatibility, please check the Hardware and Software compatibility list (HCL) at <https://ucshcltool.cloudapps.cisco.com/public/>.

The standard PCIe card offerings are:

- Modular LAN on Motherboard (mLOM)
- Open Compute Project (OCP) 3.0
- Virtual Interface Cards (VICs)
- Network Interface Cards (NICs)
- Host Bus Adapters (HBAs)

Select Option Cards



NOTE:

- If a double-wide (DW) GPU is selected in Riser 1 Slot 2, it blocks the use of Riser 1 Slot 3; similarly, if a DW GPU is selected in Riser 2 Slot 5, it blocks Riser 2 Slot 6, preventing simultaneous selection of these adjacent PCIe slots
- Refer to *Cisco UCS C240 M8 Installation Guide* for the more information

The available option cards are listed in *Table 11*

Table 11 Available PCIe Option Cards

Product ID (PID)	PID Description	Location	Card Size ¹
Modular LAN on Motherboard (mLOM)²			
UCSC-M-V5Q50GV2-D	Cisco VIC 15427 4x 10/25/50G mLOM C-Series w/Secure Boot	mLOM	HHHL, SS
UCSC-M-V5D200GV2D	Cisco VIC 15237 2x 40/100/200G mLOM C-Series w/Secure Boot	mLOM	HHHL, SS
Open Compute Project (OCP)³			
UCSC-O-ID10GC-D	Intel X710T2LOCPV3G1L 2x10GbE RJ45 OCP3.0 NIC	OCP	SFF
UCSC-O-N6CD25GFO	NVIDIA OEM MCX631432AC-ADAB CX6Lx 2x25G SFP28 x8 OCP NIC	OCP	SFF
UCSC-O-N6CD100GFO	NVIDIA OEM MCX623436AC-CDAB CX6Dx 2x100G QSFP56 x16 OCP NIC	OCP	SFF
Virtual Interface Cards (VICs)²			
UCSC-P-V5Q50G-D	Cisco VIC 15425 4x 10/25/50G PCIe C-Series w/Secure Boot	Riser 1 or 3	HHHL, SS
UCSC-P-V5D200G-D	Cisco VIC 15235 2x 40/100/200G PCIe C-Series w/Secure Boot	Riser 1 or 3	HHHL, SS
Network Interface Cards (NICs)			
1GbE NICs			
UCSC-P-IQ1GC	Cisco-Intel I710-T4L 4x1GBASE-T NIC	Riser 1, 2, or 3	HHHL, SS

Table 11 Available PCIe Option Cards (*continued*)

Product ID (PID)	PID Description	Location	Card Size ¹
10GbE NICs			
UCSC-P-ID10GC-D	Cisco-Intel X710T2LG 2x10GBE RJ45 PCIe NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-IQ10GC-D	Cisco-Intel X710T4LG 4x10GBE RJ45 PCIe NIC	Riser 1, 2, or 3	HHHL, SS
25GbE NICs			
UCSC-P-I8D25GF-D	Cisco-Intel E810XXVDA2 2x25/10GBE SFP28 PCIe NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-N6D25GFO	NVIDIA OEM MCX631102AS-ADAT CX6Lx 2x25GbE SFP28 x8 PCIe NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-N7Q25GF	CX713104AS-ADAT: 4x25GbE SFP56 Gen4x16, PCIe NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-I8Q25GF-D	Cisco-Intel E810XXVDA4L 4x25/10 GbE SFP28 PCIe NIC	Riser 1, 2, or 3	FHHL, SS
UCSC-P-N7Q25GFO	NVIDIA OEM CX713104AS-ADAT: 4x25GbE SFP56 Gen4x16, PCIe NIC	Riser 1, 2, or 3	HHHL, SS
100GbE NICs			
UCSC-P-M6CD100GFO	NVIDIA OEM MCX623106AC-CDAT, 2x100 GbE QSFP56 PCIe Crypto	Riser 1, 2, or 3	HHHL, SS
UCSC-P-M6DD100GFO	NVIDIA OEM MCX623106AS-CDAT, 2x100 GbE QSFP56 PCIe No Crypto	Riser 1, 2, or 3	HHHL, SS
UCSC-P-I8D100GF-D	Cisco-Intel E810CQDA2 2x100 GbE QSFP28 PCIe NIC	Riser 1, 2, or 3	HHHL, SS
200GbE NICs			
UCSC-P-N7D200GF	MCX755106AS-HEAT: CX-7 2x200GbE QSFP112 PCIe Gen5x16, VPI NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-N7D200GF	MCX755106AS-HEAT: CX-7 2x200GbE QSFP112 PCIe Gen5x16, VPI NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-N7D200GFO	NVIDIA OEM MCX755106AS-HEAT 2x200GbE QSFP112 PCIe Gen5 NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-N3220L	Nvidia OEM BlueField-3 B3220L SuperNIC 2x200G	Riser 1, 2, or 3	FHHL, SS
UCSC-P-N3220	Nvidia OEM BlueField-3 B3220 DPU 2x200G	Riser 1, 2, or 3	FHHL, SS
400GbE NICs			
UCSC-P-N7S400GF	MCX715105AS-WEAT CX-7 1x400GbE QSFP112 PCIe Gen5 x16 VPI NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-N7S400GFO	NVIDIA OEM MCX715105AS-WEAT 1x400GbE QSFP112 PCIe Gen5 NIC	Riser 1, 2, or 3	HHHL, SS
Host Bus Adapters (HBAs)			
UCSC-P-Q6D32GF-D	Cisco-QLogic QLE2772 2x32GFC Gen 6 Enhanced PCIe HBA	Riser 1, 2, or 3	HHHL, SS
UCSC-P-B7D32GF-D	Cisco-Emulex LPe35002-M2-2x32GFC Gen 7 PCIe HBA	Riser 1, 2, or 3	HHHL, SS
UCSC-PCIEBD16GF-D	Emulex LPe31002 dual port 16G FC HBA	Riser 1, 2, or 3	HHHL, SS
UCSC-P-Q7D64GF	Cisco-QLogic QLE2872, 2x64GFC Gen 7 PCIe HBA	Riser 1, 2, or 3	HHHL, SS
Accessories/spare included with PCI Card.			
■ UCSC-OC3-KIT-D is included along with the selection Open Compute Project (OCP) card			

Notes:

1. HHHL = half-height, half-length; FHHL = full-height, half-length; SS = single-slot; DS = double-slot.
SFF = small form factor.

2. 50G speed on the 4-port and 200G speed on the 2-port are only supported on standalone servers with supported cables. Please refer to the VIC 15000 series datasheet for supported switches and cables.
3. For installation in the mLOM slot, you can order either an mLOM VIC, or the OCP NIC - but not both. If ordering the OCP NIC, the OCP Mechanical Kit (UCSC-OC3-KIT) must also be installed in order to mount OCP NIC in the mLOM slot.
4. This Virtual Interface Cards incorporate VIC Secure Boot technology.

Caveats

- For 1-CPU systems:
 - All the PCIe slots on riser 1A and 1C are supported for the PCIe Cards.
 - Riser 2 and 3 are not supported in 1-CPU system.
 - Only a single plug-in PCIe VIC card may be installed on a 1-CPU system, and it must be installed in slots 1 or 2 of riser 1A or slot 1 of riser 1C.
 - You can order an mLOM VIC card to be installed in the mLOM/OCP 3.0 slot internal to the chassis and thus have two VIC cards in operation at the same time. If you order a double-width GPU, it must be installed in slot 2; then a PCIe VIC can be installed in slot 1. See the *Table 11 on page 25* for the selection of plug-in and mLOM/OCP 3.0 VIC cards.
- For 2-CPU systems:
 - All the PCIe slots on riser 1, 2, and 3 are supported for the PCIe Cards.
 - You can order an mLOM VIC card to be installed in the mLOM slot internal to the chassis. You can also have up to two PCIe VICs.
 - If Riser 1A and 2A are selected, two PCIe VIC can be installed in slot 2 of Riser 1A and slot 5 of Riser 2A. If GPUs are installed in slot 2 of riser 1A or slot 5 of riser 2A, the NCSI capability automatically switches over to slot 1 of riser 1A or slot 4 of Riser 2A. Therefore, Cisco PCIe VICs can be installed in slot 1 of Riser 1A and slot 4 of Riser 2A if GPUs are installed in slots 2 of Riser 1A and slot 5 of Riser 2A.
 - If Riser 1C and 2C are selected, two PCIe VIC and be installed in slot 1 of Riser 1C and slot 4 of Riser 2C.
 - Maximum 1 PCIe VIC per riser

See *Table 12 on page 30* for the selection of plug-in and mLOM VIC cards.

- The server supports up to two PCIe Cisco VICs plus an MLOM VIC. However, single wire management is supported on only one VIC at a time. If multiple VICs are installed on a server, only one slot has NCSI enabled at a time and for single wire management, priority goes to the MLOM slot, then slot 2 of riser 1A/slot 1 of riser 1C, then slot 5 of riser 2A/slot 4 of riser 2C for NCSI management traffic. When multiple cards are installed, connect the single wire management cables in the priority order mentioned above.

- For installation in the mLOM slot, you can order either an mLOM VIC, or the OCP NIC - but not both. If ordering the OCP NIC, the OCP Mechanical Kit (UCSC-OCP3-KIT) must also be installed in order to mount OCP NIC in the mLOM slot.



NOTE:

- UCSM managed servers are discoverable only if a PCIe VIC is installed or a VIC is installed in the MLOM slot.
 - Select Cisco UCS Virtual Interface Cards incorporate VIC Secure Boot technology to ensure the integrity of the VIC hardware and firmware upon server boot. VIC Secure Boot is independent of server-level secure boot from Cisco, but both technologies contribute to the Cisco trust model ensuring customers' equipment is genuine and running validated firmware.
 - To help ensure that your operating system is compatible with the card you have selected, or to see additional cards that have been qualified to work with the UCS C240 M8 server, but are not sold on the Cisco price list, check the [Hardware Compatibility List](#) link.
-

ORDER OPTIONAL PCIe OPTION CARD ACCESSORIES

- At the time of first launch, the 3rd Party Ethernet adapters were tested for interoperability with an initial selection of Optical Modules and Cables. Please check the Product Briefs for this initial list of interoperable optics and cables at <https://www.cisco.com/c/en/us/products/servers-unified-computing/third-party-adapters-listing.html>.
- For list of supported optics and cables for VIC 15428 and VIC 15238, refer to the VIC 15000 series data sheet at <https://www.cisco.com/c/en/us/products/collateral/interfaces-modules/unified-computing-system-adapters/ucs-vic-15000-series-ds.html>
- Cisco Transceiver Module Group (TMG) conducts tests with Cisco optics and cables and publishes the results in the TMG Compatibility Matrix. The latest compatibility with optical modules and DACs can be found at <https://tmgmatrix.cisco.com/>
- Refer to the these links for additional connectivity options.

Intel:
Product Guide
Speed White Paper

STEP 8 ORDER GPU CARDS (OPTIONAL)

Select GPU Options

The available GPU PCIe options and their riser slot compatibilities are listed in *Table 12*.

CAUTION:



- 256GB DIMMs cannot be combined with GPU cards, and the ambient temperature shall be limited to a maximum of 28°C.
- With multiple GPU>75W installed, normal operating temperature is 30° C [86° F], lowered to 25° C [77° F], with a fan fault.
- When a GPU>75W is installed, CPUs with TDP greater than 330W are not supported
- When H200-NVL GPU is installed, 256GB DIMMs are not supported. Additionally, H200-NVL GPUs are power-limited to 450W for efficiency and ambient temperature shall be limited to a maximum of 28°C.

NOTE:



- GPUs cannot be mixed
- All GPU cards must be procured from Cisco as there is a unique SBIOS ID required by CIMC and UCSM
- If a GPU with TDP equal or greater than 75W is ordered, all the 3 risers are required, and GPU airblocker will be installed in the middle slot of any empty riser in the system.
- If GPUs are installed in slot 2 of riser 1A or slot 5 of riser 2A, the NCSI capability automatically switches over to slot 1 of riser 1A or slot 4 of Riser 2A. Therefore, Cisco PCIe VICs can be installed in slots 1 and 4 on riser 1A and 2A, if GPUs are installed in slots 2 and 5. If you order multiple GPUs, they must be installed as shown in *Table 12 on page 30*.
- If a double-wide (DW) GPU is selected in Riser 1 Slot 2, it blocks the use of Riser 1 Slot 3; similarly, if a DW GPU is selected in Riser 2 Slot 5, it blocks Riser 2 Slot 6, preventing simultaneous selection of these adjacent PCIe slots
- Refer to *Cisco UCS C240 M8 Installation Guide* for the more information

Table 12 Available PCIe GPU Cards

GPU Product ID (PID)	PID Description	Card Size	Max GPU Per Node	Riser Slot Compatibility			
				Riser 1A/1C	Riser 2A/2C	Riser 3A/3C ¹	Riser 1B/3B
UCSC-GPU-H100-NVL	NVIDIA H100 NVL, 400W, 94GB, 2-slot FHFL GPU	double-wide	3	slot 2	slot 5	slot 7 (3C Only)	n/a

Table 12 Available PCIe GPU Cards

GPU Product ID (PID)	PID Description	Card Size	Max GPU Per Node	Riser Slot Compatibility			
UCSC-GPU-H200-NVL ²	NVIDIA OEM H200-NVL GPU 600W, 141GB, 2-slot FHFL	double-wide	3	slot 2	slot 5	slot 7 (3C Only)	n/a
UCSC-GPU-L40S	NVIDIA L40S: 350W, 48GB, 2-slot FHFL GPU	double-wide	3	slot 2	slot 5	slot 7 (3C Only)	n/a
UCSC-GPU-L4 ³	NVIDIA L4: 70W, 24GB, 1-slot HHHH GPU	Single-wide	8	All slots	All slots	slot 7 (3C Only)	n/a
UCSC-GPU-A16-D	NVIDIA A16 PCIe 250W 4X16GB	double-wide	3	slot 2	slot 5	slot 7 (3C Only)	n/a

Accessories/spare included with GPU:

- When a GPU ready configuration is ordered, the server comes with low-profile heatsinks PID (UCSC-HSLP-C220M8), and special airblocker PID (UCSC-RISAB-24XM7) for GPUs.
- Air duct (UCSC-GPUAD-C240M8) is **not** auto-included with the double wide GPUs, however it is required selection under configuration. For GPU UCSC-GPU-L4 air duct is **not** required.
- UCS-P100CBL-240-D is included with the selection of A16 GPUs.
- CBL-G5GPU-C240M7 power cable included with the selection of L40S, H100-NVL and H200-NVL GPUs.

NOTE: If you are adding GPUs later to a non-GPU ready configuration, you need to order the GPU kit (UCSC-GPUKIT-240M8=) along with the GPUs. You only need to order 1 GPU kit per server, regardless of the number of GPUs added. This GPU kit includes 2x low profile heatsinks, 1x GPU air duct, 2x thermal paste and 2x GPU air blockers. Please note that the GPU kit does not include risers, so you may need to order those separately

Notes:

1. The server supports one full-height, full-length, double-wide GPU (PCIe slot 7 only) in Riser 3C.
2. H200-NVL GPU is limited to a maximum of 128GB memory in server configurations. Additionally, it can be power-limited to 450W for efficiency and ambient temperature shall be limited to a maximum of 28°C.
3. L4 is supported on all slots in PCIe risers. The maximum would be 8 when you have riser 1A+2A+3A and populate all 8 slots with L4

STEP 9 ORDER M.2 BOOT RAID CONTROLLER and SATA SSDs (OPTIONAL)

- Order Cisco boot optimized M.2 RAID controller from *Table 13*. The boot optimized RAID controller plugs into a connector on the motherboard and holds up to two M.2 SATA drives.



NOTE:

- The Cisco boot optimized M.2 RAID controller supports RAID 1 and JBOD mode
- The Cisco boot optimized M.2 RAID controller is available only with 240GB, 480GB, and 960GB M.2 SSDs.
- CIMC is supported for configuring of volumes and monitoring of the controller and installed SATA M.2 drives
- The SATA M.2 drives can boot in UEFI mode only. Legacy boot mode is not supported
- Up to 1 Boot-Optimized RAID Controller is supported per system

Table 13 Boot-Optimized RAID Controller

Product ID (PID)	PID Description	M.2 Location	Hot- Swappable_M.2
UCS-M2-HWRAID2 ¹	Cisco Boot optimized M.2 Raid controller for SATA drives	Internal	No
UCSC-M2RM-M8 ²	UCS C220/240 M8 Rear Hot-plug M.2 module (MLOM)	MLOM Slot	Yes
UCSC-M2RR-240M8	UCS C240 M8 Rear Hot-plug M.2 module (Riser 3)	By Riser 3	Yes

Notes:

1. UCS-M2-HWRAID2 plugs into a connector on the motherboard and holds up to two M.2 SATA drives. Hot-plug replacement of the M.2 drives is not supported with UCS-M2-HWRAID2. The server must be powered off. UCSC-M2I-240M8 is auto included with UCS-M2-HWRAID2. If you are adding M.2 RAID controller as spare, you may need to order accessories with it.
2. UCSC-M2RM-M8 is installed in the mLOM location. If UCSC-M2RM-M8 is selected, mLOM/OCP card cannot be used. Hot-plug replacement of the M.2 drives is supported with UCSC-M2RM-M8. CBL-M2RM-240M8 is auto included with UCSC-M2RM-M8. If you are adding M.2 RAID controller as spare, you may need to order accessories with it.

- Order one or two matching M.2 SATA SSDs from *Table 14* along with a boot-optimized RAID controller (see *Table 13*). Each boot-optimized RAID controller can accommodate up to two SATA M.2 SSDs.



NOTE:

- It is recommended that M.2 SATA SSDs be used as boot-only devices.
- Order one or two identical M.2 SATA SSDs for the boot optimized RAID controller
- You cannot mix M.2 SATA SSD capacities.

Table 14 M.2 SATA SSDs

Product ID (PID)	PID Description
UCS-M2-240G-D	240GB M.2 SATA Micron G2 SSD
UCS-M2-480G-D	480GB M.2 SATA SSD
UCS-M2-960G-D	960GB M.2 SATA Micron G2 SSD
UCS-M2240OA1V	240GB M.2 Boot Solidigm S4520 SATA 1X SSD
UCS-M2480OA1V	480GB M.2 Boot Solidigm S4520 SATA 1X SSD

STEP 10 ORDER POWER SUPPLY (REQUIRED)

Power supplies share a common electrical and physical design that allows for hot-plug and tool-less installation into M8 C-series servers. Each power supply is certified for high-efficiency operation and offers multiple power output options. This allows users to “right-size” based on server configuration, which improves power efficiency, lowers overall energy costs and avoids stranded capacity in the data center.

Use the power calculator at the following link to determine the needed power based on the options chosen (CPUs, drives, memory, and so on):

<http://ucspowercalc.cisco.com>



WARNING:

- Starting 1st January 2024, only Titanium rated PSUs are allowed to be shipped to European Union (EU), European Economic Area (EEA), United Kingdom (UK), Switzerland and other countries that adopted Lot 9 Regulation.
- DC PSUs are not impacted by Lot 9 Regulation and are EU/UK Lot 9 compliant

Table 15 Power Supply

Product ID (PID)	PID Description
PSU (Input High Line 210VAC)	
UCSC-PSU1-1200W-D	1200W Titanium power supply for C-Series Servers
UCSC-PSUV21050D-D	Cisco UCS 1050W -48V DC Power Supply for Rack Server
UCSC-PSU1-1600W-D	UCS 1600W AC PSU Platinum (Not EU/UK Lot 9 Compliant)
UCSC-PSU1-2300W-D	Cisco UCS 2300W AC Power Supply for Rack Servers Titanium
PSU (Input Low Line 110VAC)	
UCSC-PSU1-1200W-D	1200W Titanium power supply for C-Series Servers Titanium
UCSC-PSU1-2300W-D	2300W Power supply for C-series servers Titanium



NOTE:

- In a server with two power supplies, both power supplies must be identical.
- Refer to *Power Specifications*, page 57 section for the full details on the each power supply.

STEP 11 SELECT INPUT POWER CORD(S) (REQUIRED)

Using *Table 16* and *Table 17*, select the appropriate AC power cords. You can select a minimum of no power cords and a maximum of two. If you select the option R2XX-DMYMPWRCORD, no power cord is shipped with the server.



NOTE: *Table 16* lists the power cords for servers that use power supplies less than 2300 W. *Table 17* lists the power cords for servers that use 2300 W power supplies. Note that the power cords for 2300 W power supplies use a C19 connector so they only fit the 2300 W power supply connector.

Table 16 Available Power Cords (for server PSUs less than 2300 W)

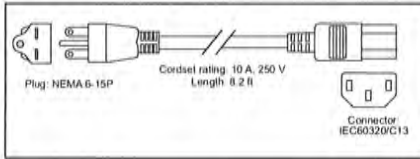
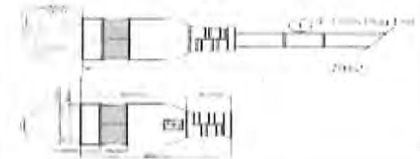
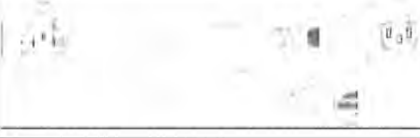
Product ID (PID)	PID Description	Images
NO-POWER-CORD	ECO friendly green option, no power cable will be shipped	
CAB-48DC40A8AWG-D	C-Series -48VDC PSU Power Cord, 3.5M, 3 Wire, 8AWG, 40A	
CAB-N5K6A-NA	Power Cord, 200/240V 6A, North America	
CAB-AC-L620-C13-D	AC Power Cord, NEMA L6-20 - C13, 2M/6.5ft	
CAB-C13-CBN	CABASY,WIRE,JUMPER CORD, 27" L, C13/C14, 10A/250V	
CAB-C13-C14-2M	CABASY,WIRE,JUMPER CORD, PWR, 2 Meter, C13/C14,10A/250V	

Table 16 Available Power Cords (for server PSUs less than 2300 W)

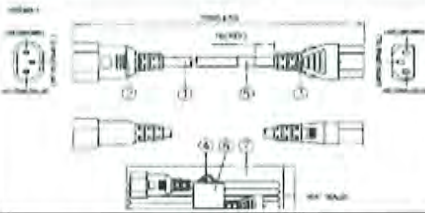
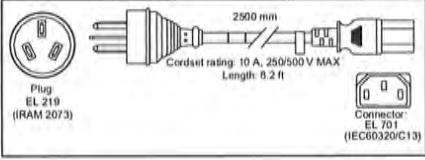
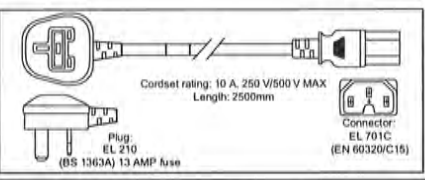
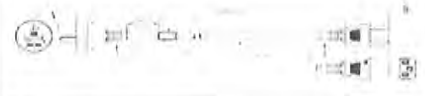
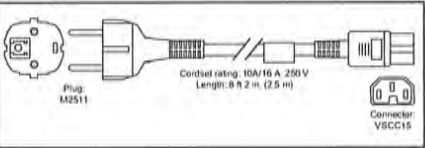
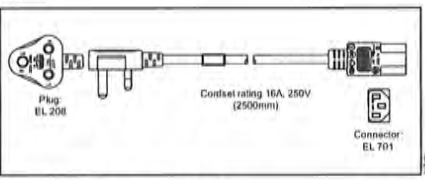
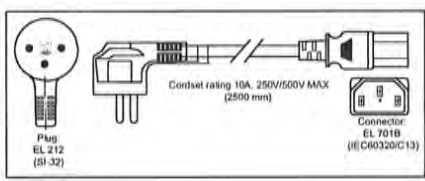
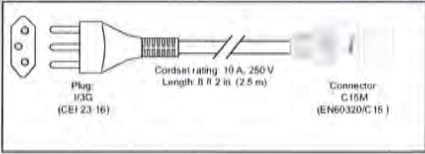
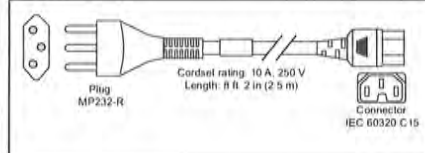
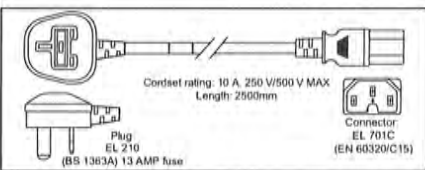
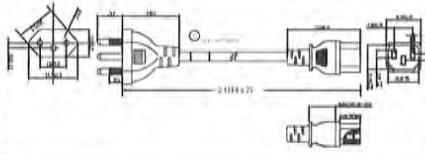
Product ID (PID)	PID Description	Images
CAB-C13-C14-AC	CORD,PWR,JMP,IEC60320/C14,IEC60320/C13, 3.0M	
CAB-250V-10A-AR	Power Cord, 250V, 10A, Argentina	
CAB-9K10A-AU	Power Cord, 250VAC 10A 3112 Plug, Australia	
CAB-250V-10A-CN	AC Power Cord - 250V, 10A - PRC	
CAB-9K10A-EU	Power Cord, 250VAC 10A CEE 7/7 Plug, EU	
CAB-250V-10A-ID	Power Cord, 250V, 10A, India	
CAB-C13-C14-3M-IN	Power Cord Jumper, C13-C14 Connectors, 3 Meter Length, India	Image not available
CAB-C13-C14-IN	Power Cord Jumper, C13-C14 Connectors, 1.4 Meter Length, India	Image not available
CAB-250V-10A-IS	Power Cord, SFS, 250V, 10A, Israel	

Table 16 Available Power Cords (for server PSUs less than 2300 W)

Product ID (PID)	PID Description	Images
CAB-9K10A-IT	Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy	
CAB-9K10A-SW	Power Cord, 250VAC 10A MP232 Plug, Switzerland	
CAB-9K10A-UK	Power Cord, 250VAC 10A BS1363 Plug (13 A fuse), UK	
CAB-9K12A-NA ¹	Power Cord, 125VAC 13A NEMA 5-15 Plug, North America	
CAB-250V-10A-BR	Power Cord - 250V, 10A - Brazil	
CAB-C13C142M-JP-D	Power Cord C13-C14, 2M/6.5ft Japan PSE mark	Image not available
CAB-9K10A-KOR ¹	Power Cord, 125VAC 13A KSC8305 Plug, Korea	Image not available
CAB-ACTW	AC Power Cord (Taiwan), C13, EL 302, 2.3M	Image not available
CAB-JPN-3PIN	Japan, 90-125VAC 12A NEMA 5-15 Plug, 2.4m	Image not available
CAB-48DC40A-INT-D	C-Series -48VDC PSU PWR Cord, 3.5M, 3 Wire, 8AWG, 40A (INT)	Image not available
CAB-48DC-40A-AS-D	C-Series -48VDC PSU PWR Cord, 3.5M, 3Wire, 8AWG, 40A (AS/NZ)	Image not available

Notes:

1. This power cord is rated to 125V and only supported for PSU rated at 1050W or less

Table 17 Available Power Cords (for servers with 2300 W PSUs)

Product ID (PID)	PID Description	Images
CAB-C19-CBN	Cabinet Jumper Power Cord, 250 VAC 16A, C20-C19 Connectors	Not applicable
CAB-S132-C19-ISRL	S132 to IEC-C19 14ft Israeli	Image not available
CAB-IR2073-C19-AR	IRSM 2073 to IEC-C19 14ft Argen	Image not available
CAB-BS1363-C19-UK	BS-1363 to IEC-C19 14ft UK	Image not available
CAB-SABS-C19-IND	SABS 164-1 to IEC-C19 India	Image not available
CAB-C2316-C19-IT	CEI 23-16 to IEC-C19 14ft Italy	Image not available
CAB-US515P-C19-US	NEMA 5-15 to IEC-C19 13ft US	Image not available
CAB-US520-C19-US	NEMA 5-20 to IEC-C19 14ft US	Image not available
CAB-US620P-C19-US	NEMA 6-20 to IEC-C19 13ft US	Image not available
CAB-9K16A-BRZ	Power Cord 250VAC 16A, Brazil, Src Plug EL224-C19	Image not available
CAB-9K16A-KOR	Power Cord 250VAC 16A, Korea, Src Plug	Image not available
CAB-AC-16A-AUS	Power Cord, 250VAC, 16A, Australia C19	Image not available
CAB-AC-2500W-EU	Power Cord, 250Vac 16A, Europe	Image not available
CAB-C14C19-10A-EU	Power Cord C14-C19 10A EU	Image not available
CAB-AC-2500W-INT	Power Cord, 250Vac 16A, INTL	Image not available
CAB-AC-2500W-ISRL	Power Cord, 250VAC, 16A, Israel	Image not available
CAB-AC-C19-TW	Power Cord, 250 V, 16A, C19, Taiwan	Image not available
CAB-AC-C6K-TWLK	Power Cord, 250Vac 16A, twist lock NEMA L6-20 plug, US	Image not available
CAB-AC16A-CH	16A AC Power Cord For China	Image not available
CAB-ACS-16	AC Power Cord (Swiss) 16A	Image not available
CAB-C19-C20-3M-JP	Power Cord C19-C20, 3M/10ft Japan PSE mark	Image not available
CAB-C19-C20-IND	Power Cord C19-C20 India	Image not available
NO-POWER-CORD	ECO friendly green option, no power cable will be shipped	Image not available

STEP 12 ORDER TOOL-LESS RAIL KIT (REQUIRED) AND REVERSIBLE CABLE MANAGEMENT ARM (OPTIONAL)

■ Tool-less Rail Kit:

Select a tool-less rail kit (or no rail kit) from *Table 18*.



NOTE:

- Cisco recommends a minimum quantity of 1 Rail Kit
- If you plan to rackmount your server, you must order a tool-less rail kit.

Table 18 Tool-less Rail Kit Options

Product ID (PID)	PID Description
UCSC-RAIL-D	Ball Bearing Rail Kit for M8 rack servers
UCSC-RAIL-NONE-D	No rail kit option

■ Optional Reversible Cable Management Arm:

The reversible cable management arm mounts on either the right or left slide rails at the rear of the server and is used for cable management. Select an Optional Reversible Cable Management Arm from *Table 19*.



NOTE: If you plan to rackmount your server, you must order a tool-less rail kit. The same rail kits and CMAs are used for M6 and M7 servers.

Table 19 Cable Management Arm

Product ID (PID)	PID Description
UCSC-CMA-C240-D	Reversible CMA for M8 ball bearing rail kit

For more information about the tool-less rail kit and cable management arm, check the *Cisco UCS C240 M8 Installation Guide*.

STEP 13 SELECT MANAGEMENT CONFIGURATION (OPTIONAL)

By default, the server NIC mode is configured to be Shared LOM Extended. This NIC mode allows any LOM port or adapter card port to be used to access the Cisco Integrated Management Controller (CIMC). The Cisco VIC card must be installed in a slot with NCSI support.



NOTE:

- There are no LOM ports on the C220 and C240 M8 servers. Servers ordered without a VIC or OCP card will ship in Dedicated network mode, unless otherwise specified by a configurable SW PID (**UCSC-CCARD-01**)

- For full details on all the NIC mode settings, see

https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/c/hw/C240M8/install/b-c240-m8-installation-guide.html

Table 20 Management Configuration Ordering Information

Product ID (PID)	PID Description
UCSC-DLOM-01-D	Dedicated Mode BIOS setting for C-Series Servers ■ To change the default NIC mode to Dedicated NIC mode, select this card. ■ In Dedicated NIC mode, the CIMC can be accessed only through the dedicated management port. ■ See <i>Chassis Rear View, page 5</i> for the location of the management port
UCSC-CCARD-01-D	Cisco Card Mode BIOS setting for C-Series Servers ■ To change the default NIC mode to Cisco Card Mode, select this card. ■ If Cisco card selected, a VIC or MLOM must also be included in the configuration. if OCP card is included in the configuration, a VIC card must be selected. ■ In this mode, you can assign an IP address to the CIMC using DHCP and from there you can fully automate your deployment.

In addition, the optional software PIDs listed in *Table 24 on page 51* can be ordered for setting the server to operate in various modes.

STEP 14 ORDER SECURITY DEVICES (REQUIRED)

A Trusted Platform Module (TPM) is a computer chip (microcontroller) that can securely store artifacts used to authenticate the platform (server). These artifacts can include passwords, certificates, or encryption keys. A TPM can also be used to store platform measurements that help ensure that the platform remains trustworthy. Authentication (ensuring that the platform can prove that it is what it claims to be) and attestation (a process helping to prove that a platform is trustworthy and has not been breached) are necessary steps to ensure safer computing in all environments.

A chassis intrusion switch gives a notification of any unauthorized mechanical access into the server.

The security device ordering information is listed in *Table 21*



NOTE:

- The TPM module used in this system conforms to TPM 2.0, as defined by the Trusted Computing Group (TCG). It is also SPI-based.
- TPM installation is supported after-factory. However, a TPM installs with a one-way screw and cannot be replaced, upgraded, or moved to another server. If a server with a TPM is returned, the replacement server must be ordered with a new TPM.

Table 21 Security Devices

Product ID (PID)	PID Description
UCS-TPM-002D-D	TPM 2.0 TCG FIPS140-2 CC+ Cert M7 Intel MSW2022 Compliant
UCSX-TPM-OPT-OUT-D	OPT OUT, TPM 2.0, TCG, FIPS140-2, CC EAL4+ Certified ¹
UCSC-INT-SW02-D	C220 and C240 M8 Chassis Intrusion Switch

Notes:

1. Please note that Microsoft certification requires a TPM 2.0 for bare-metal or guest VM deployments. Opt-out of the TPM 2.0 voids the Microsoft certification

STEP 15 SELECT LOCKING SECURITY BEZEL (OPTIONAL)

An optional locking bezel can be mounted to the front of the chassis to prevent unauthorized access to the drives.

Select the locking bezel from *Table 22*.

Table 22 Locking Bezel Option

Product ID (PID)	Description
UCSC-BZL-C240-D	C240 M8 Security Bezel

STEP 16 SELECT OPERATING SYSTEM AND THIRD PARTY SOFTWARE


NOTE:

- See this link for operating system guidance:
<https://ucshcltool.cloudapps.cisco.com/public/>

Table 23 Operating System

Product ID (PID)	PID Description
Microsoft Windows Server	
MSWS-22-ST16C	Windows Server 2022 Standard (16 Cores/2 VMs)
MSWS-22-ST16C-RM	Windows Server 2022 Stan (16 Cores/2 VMs) Rec Media DVD Only
MSWS-22-STA2C	Windows Server 2022 Standard - Additional 2 Cores
MSWS-22-ST16C-NS	Windows Server 2022 Standard (16 Cores/2 VMs) - No Cisco SVC
MSWS-22-ST16C-RM	Windows Server 2022 Stan (16 Cores/2 VMs) Rec Media DVD Only
MSWS-22-STA2C-NS	Windows Server 2022 Stan - Additional 2 Cores - No Cisco SVC
MSWS-22-DC16C	Windows Server 2022 Data Center (16 Cores/Unlimited VMs)
MSWS-22-DC16C-RM	Windows Server 2022 DC (16Cores/Unlim VM) Rec Media DVD Only
MSWS-22-DCA2C	Windows Server 2022 Data Center - Additional 2 Cores
MSWS-22-DC16C-NS	Windows Server 2022 DC (16 Cores/Unlim VMs) - No Cisco SVC
MSWS-22-DC16C-RM	Windows Server 2022 DC (16Cores/Unlim VM) Rec Media DVD Only
MSWS-22-DCA2C-NS	Windows Server 2022 DC - Additional 2 Cores - No Cisco SVC
MSWS-25-ST16C	Windows Server 2025 Standard (16 Cores/2 VMs)
MSWS-25-ST16C-RM	Windows Server 2025 Stan (16 Cores/2 VMs) Rec Media DVD Only
MSWS-25-STA2C	Windows Server 2025 Standard - Additional 2 Cores
MSWS-25-STA4C	Windows Server 2025 Standard - Additional 4 Cores
MSWS-25-STA16C	Windows Server 2025 Standard - Additional 16 Cores
MSWS-25-ST16C-NS	Windows Server 2025 Standard (16 Cores/2 VMs) - No Cisco SVC
MSWS-25-ST16C-RM	Windows Server 2025 Stan (16 Cores/2 VMs) Rec Media DVD Only
MSWS-25-STA2C-NS	Windows Server 2025 Stan - Additional 2 Cores - No Cisco SVC
MSWS-25-STA4C-NS	Windows Server 2025 Stan - Additional 4 Cores- No Cisco SVC
MSWS-25-STA16C-NS	Windows Server 2025 Stand - Additional 16 Cores- No Cisco SVC
MSWS-25-ST24C	Windows Server 2025 Standard (24 Cores)

Table 23 Operating System (*continued*)

Product ID (PID)	PID Description
MSWS-25-ST16C-RM	Windows Server 2025 Stan (16 Cores/2 VMs) Rec Media DVD Only
MSWS-25-STA2C	Windows Server 2025 Standard - Additional 2 Cores
MSWS-25-STA4C	Windows Server 2025 Standard - Additional 4 Cores
MSWS-25-STA16C	Windows Server 2025 Standard - Additional 16 Cores
MSWS-25-ST24C-NS	Windows Server 2025 Standard (24 Cores) - No Cisco SVC
MSWS-25-ST16C-RM	Windows Server 2025 Stan (16 Cores/2 VMs) Rec Media DVD Only
MSWS-25-STA2C-NS	Windows Server 2025 Stan - Additional 2 Cores - No Cisco SVC
MSWS-25-STA4C-NS	Windows Server 2025 Stan - Additional 4 Cores- No Cisco SVC
MSWS-25-STA16C-NS	Windows Server 2025 Stand - Additional 16 Cores- No Cisco SVC
MSWS-25-DC16C	Windows Server 2025 Data Center (16 Cores/Unlimited VMs)
MSWS-25-DC16C-RM	Windows Server 2025 DC (16Cores/Unlim VM) Rec Media DVD Only
MSWS-25-DCA2C	Windows Server 2025 Data Center - Additional 2 Cores
MSWS-25-DCA4C	Windows Server 2025 Data Center - Additional 4 Cores
MSWS-25-DCA16C	Windows Server 2025 Data Center - Additional 16 Cores
MSWS-25-DC16C-NS	Windows Server 2025 DC (16 Cores/Unlim VMs) - No Cisco SVC
MSWS-25-DC16C-RM	Windows Server 2025 DC (16Cores/Unlim VM) Rec Media DVD Only
MSWS-25-DCA2C-NS	Windows Server 2025 DC - Additional 2 Cores - No Cisco SVC
MSWS-25-DCA4C-NS	Windows Server 2025 DC - Additional 4 Cores- No Cisco SVC
MSWS-25-DCA16C-NS	Windows Server 2025 DC - Additional 16 Cores- No Cisco SVC
MSWS-25-DC24C	Windows Server 2025 Data Center (24 Cores)
MSWS-25-DC16C-RM	Windows Server 2025 DC (16Cores/Unlim VM) Rec Media DVD Only
MSWS-25-DCA2C	Windows Server 2025 Data Center - Additional 2 Cores
MSWS-25-DCA4C	Windows Server 2025 Data Center - Additional 4 Cores
MSWS-25-DCA16C	Windows Server 2025 Data Center - Additional 16 Cores
MSWS-25-DC24C-NS	Windows Server 2025 DC (24 Cores) - No Cisco SVC
MSWS-25-DC16C-RM	Windows Server 2025 DC (16Cores/Unlim VM) Rec Media DVD Only
MSWS-25-DCA2C-NS	Windows Server 2025 DC - Additional 2 Cores - No Cisco SVC
MSWS-25-DCA4C-NS	Windows Server 2025 DC - Additional 4 Cores- No Cisco SVC
MSWS-25-DCA16C-NS	Windows Server 2025 DC - Additional 16 Cores- No Cisco SVC

Table 23 Operating System (*continued*)

Product ID (PID)	PID Description
Red Hat	
RHEL-2S2V-1A	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); 1-Yr Support Req
RHEL-2S-RS-1A	RHEL Resilent Storage (1-2 CPU); 1-Yr Support Req
RHEL-2S-HA-1A	RHEL High Availability (1-2 CPU); 1-Yr Support Req
RHEL-2S2V-3A	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); 3-Yr Support Req
RHEL-2S-RS-3A	RHEL Resilent Storage (1-2 CPU); 3-Yr Support Req
RHEL-2S-HA-3A	RHEL High Availability (1-2 CPU); 3-Yr Support Req
RHEL-2S2V-5A	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); 5-Yr Support Req
RHEL-2S-RS-5A	RHEL Resilent Storage (1-2 CPU); 5-Yr Support Req
RHEL-2S-HA-5A	RHEL High Availability (1-2 CPU); 5-Yr Support Req
RHEL-VDC-2SUV-1A	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 1 Yr Supp Req
RHEL-2S-RS-1A	RHEL Resilent Storage (1-2 CPU); 1-Yr Support Req
RHEL-2S-HA-1A	RHEL High Availability (1-2 CPU); 1-Yr Support Req
RHEL-VDC-2SUV-3A	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 3 Yr Supp Req
RHEL-2S-RS-3A	RHEL Resilent Storage (1-2 CPU); 3-Yr Support Req
RHEL-2S-HA-3A	RHEL High Availability (1-2 CPU); 3-Yr Support Req
RHEL-VDC-2SUV-5A	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 5 Yr Supp Req
RHEL-2S-RS-5A	RHEL Resilent Storage (1-2 CPU); 5-Yr Support Req
RHEL-2S-HA-5A	RHEL High Availability (1-2 CPU); 5-Yr Support Req
Red Hat Ent Linux/ High Avail/ Res Strg/ Scal	
RHEL-2S2V-1S	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); Prem 1-Yr SnS
RHEL-2S2V-1YR	Red Hat Enterprise Linux (1-2 CPU,1-2 VN);Premium 24x7 - 1Yr
RHEL-2S2V-3S	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); Prem 3-Yr SnS
RHEL-2S2V-3YR	Red Hat Enterprise Linux (1-2 CPU,1-2 VN);Premium 24x7 - 3Yr
RHEL-2S-HA-1S	RHEL High Availability (1-2 CPU); Premium 1-yr SnS
RHEL-2S-HA-1YR	RHEL High Availability (1-2 CPU); Premium 24x7 - 1 Year
RHEL-2S-HA-3S	RHEL High Availability (1-2 CPU); Premium 3-yr SnS
RHEL-2S-HA-3YR	RHEL High Availability (1-2 CPU); Premium 24x7 - 3 Year
RHEL-2S-RS-1S	RHEL Resilent Storage (1-2 CPU); Premium 1-yr SnS

Table 23 Operating System (*continued*)

Product ID (PID)	PID Description
RHEL-2S-RS-1YR	RHEL Resilent Storage (1-2 CPU); Premium 24x7 - 1 Year
RHEL-2S-RS-3S	RHEL Resilent Storage (1-2 CPU); Premium 3-yr SnS
RHEL-2S-RS-3YR	RHEL Resilent Storage (1-2 CPU); Premium 24x7 - 3 Year
RHEL-VDC-2SUV-1S	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 1 Yr SnS Req'd
RHEL-VDC-2SUV1YR	RHEL for Virtual Datacenters Premium 24x7 - 1 Yr SnS
RHEL-VDC-2SUV-3S	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 3 Yr SnS Req'd
RHEL-VDC-2SUV3YR	RHEL for Virtual Datacenters Premium 24x7 - 3 Yr SnS
Red Hat SAP	
RHEL-SAP-2S2V-1S	RHEL for SAP Apps (1-2 CPU, 1-2 VN); Prem 1-Yr SnS
RHEL-SAP-2S2V1YR	RHEL for SAP Apps (1-2 CPU, 1-2 VN); Premium 24x7 - 1-Yr
RHEL-SAP-2S2V-3S	RHEL for SAP Apps (1-2 CPU, 1-2 VN); Prem 3-Yr SnS
RHEL-SAP-2S2V3YR	RHEL for SAP Apps (1-2 CPU, 1-2 VN); Premium 24x7 - 3-Yr
RHEL-SAPSP-3S	RHEL SAP Solutions Premium - License with 3 Years of SnS
RHEL-SAPSS-3S	RHEL SAP Solutions Standard - License with 3 Years of SnS
SUSE	
SLES-2S2V-1S	SUSE Linux Enterprise Svr (1-2 CPU, 1-2 VM); Prio 1-Yr SnS
SLES-2S2V-1YR	SUSE Linux Entp Svr (1-2 CPU, 1-2 VM); Prio SnS 24x7 - 1 Year
SLES-2S2V-3S	SUSE Linux Enterprise Svr (1-2 CPU, 1-2 VM); Prio 3-Yr SnS
SLES-2S2V-3YR	SUSE Linux Entp Svr (1-2 CPU, 1-2 VM); Prio SnS 24x7 - 3 Year
SLES-2S2V-5S	SUSE Linux Enterprise Svr (1-2 CPU, 1-2 VM); Prio 5-Yr SnS
SLES-2S2V-5YR	SUSE Linux Entp Svr (1-2 CPU, 1-2 VM); Prio SnS 24x7 - 5 Year
SLES-2S-HA-1S	SUSE Linux High Availability Ext (1-2 CPU); 1Yr SnS
SLES-2S-HA-1YR	SUSE Linux High Avail Ext (1-2 CPU); Inherited SnS - 1 Year
SLES-2S-HA-3S	SUSE Linux High Availability Ext (1-2 CPU); 3Yr SnS
SLES-2S-HA-3YR	SUSE Linux High Avail Ext (1-2 CPU); Inherited SnS - 3 Year
SLES-2S-HA-5S	SUSE Linux High Availability Ext (1-2 CPU); 5Yr SnS
SLES-2S-HA-5YR	SUSE Linux High Avail Ext (1-2 CPU); Inherited SnS - 1 Year
SLES-2S-GC-1S	SUSE Linux GEO Clustering for HA (1-2 CPU); 1Yr Sns
SLES-2S-GC-1YR	SUSE Linux Geo Clustering (1-2 CPU); Inherited SnS - 1 Year

Table 23 Operating System (*continued*)

Product ID (PID)	PID Description
SLES-2S-GC-3S	SUSE Linux GEO Clustering for HA (1-2 CPU); 3Yr SnS
SLES-2S-GC-3YR	SUSE Linux Geo Clustering (1-2 CPU); Inherited SnS - 3 Year
SLES-2S-GC-5S	SUSE Linux GEO Clustering for HA (1-2 CPU); 5Yr SnS
SLES-2S-GC-5YR	SUSE Linux Geo Clustering (1-2 CPU); Inherited SnS - 5 Year
SLES-2S-LP-1S	SUSE Linux Live Patching Add-on (1-2 CPU); 1Yr SnS Required
SLES-2S-LP-1YR	SUSE Linux Live Patching Add-on (1-2 CPU); Inherited SnS 1 Yr
SLES-2S-LP-3S	SUSE Linux Live Patching Add-on (1-2 CPU); 3Yr SnS Required
SLES-2S-LP-3YR	SUSE Linux Live Patching Add-on (1-2 CPU); Inherited SnS 3 Yr
SLES-2SUV-1S	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; Prio 1Y SnS
SLES-2SUV-1YR	SUSE Linux Entp Svr (1-2 CPU,Unl VM) LP; Prio SnS 24x7 - 1Y
SLES-2SUV-3S	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; Prio 3Y SnS
SLES-2SUV-3YR	SUSE Linux Entp Svr (1-2 CPU,Unl VM) LP; Prio SnS 24x7 - 3Y
SLES-2SUV-5S	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; Prio 5Y SnS
SLES-2SUV-5YR	SUSE Linux Entp Svr (1-2 CPU,Unl VM) LP; Prio SnS 24x7 - 5Y
SLES-2S2V-1A	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 1-Yr Support Reqd
SLES-2S2V-3A	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 3-Yr Support Reqd
SLES-2S2V-5A	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 5-Yr Support Reqd
SLES-2S-LP-1A	SUSE Linux Live Patching Add-on (1-2 CPU); 1Yr Support Req
SLES-2S-LP-3A	SUSE Linux Live Patching Add-on (1-2 CPU); 3Yr Support Req
SLES-2SUV-1A	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; D1Y Supp Req
SLES-2SUV-3A	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; D3Y Supp Req
SLES-2SUV-5A	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; D5Y Supp Req
SLES and SAP	
SLES-SAP-2S2V-1S	SLES for SAP Apps (1-2 CPU, 1-2 VM); Priority 1-Yr SnS
SLES-SAP-2S2V1YR	SUSE for SAP Apps; (1-2 CPU,1-2 VM); Prio SnS 24x7 - 1 Year
SLES-SAP-2S2V-3S	SLES for SAP Apps (1-2 CPU, 1-2 VM); Priority 3-Yr SnS
SLES-SAP-2S2V3YR	SUSE for SAP Apps; (1-2 CPU,1-2 VM); Prio SnS 24x7 - 3 Year
SLES-SAP-2S2V-5S	SLES for SAP Apps (1-2 CPU, 1-2 VM); Priority 5-Yr SnS
SLES-SAP-2S2V5YR	SUSE for SAP Apps; (1-2 CPU,1-2 VM); Prio SnS 24x7 - 5 Year

Table 23 Operating System (*continued*)

Product ID (PID)	PID Description
SLES-SAP2SUV-1S	SLES for SAP Apps (1-2 CPU, Unl VM) LP; Priority 3Y SnS
SLES-SAP2SUV-1YR	SUSE for SAP Apps; (1-2 CPU,Unl VM) LP; Prio SnS 24x7 - 1Y
SLES-SAP2SUV-3S	SLES for SAP Apps (1-2 CPU, Unl VM) LP; Priority 3Y SnS
SLES-SAP2SUV-3YR	SUSE for SAP Apps; (1-2 CPU,Unl VM) LP; Prio SnS 24x7 - 3Y
SLES-SAP2SUV-5S	SLES for SAP Apps (1-2 CPU, Unl VM) LP; Priority 3Y SnS
SLES-SAP2SUV-5YR	SUSE for SAP Apps; (1-2 CPU,Unl VM) LP; Prio SnS 24x7 - 5Y
SLES-SAP-2S2V-1A	SLES for SAP Apps (1-2 CPU, 1-2 VM); 1-Yr Support Req
SLES-SAP-2S2V-3A	SLES for SAP Apps (1-2 CPU, 1-2 VM); 3-Yr Support Req
SLES-SAP-2S2V-5A	SLES for SAP Apps (1-2 CPU, 1-2 VM); 5-Yr Support Req
SLES-SAP2SUV-1A	SLES for SAP Apps w/ HA (1-2 CPU, Unl VM) LP; 1Y Supp Req
SLES-SAP2SUV-3A	SLES for SAP Apps w/ HA (1-2 CPU, Unl VM) LP; 3Y Supp Req
SLES-SAP2SUV-5A	SLES for SAP Apps w/ HA (1-2 CPU, Unl VM) LP; 5Y Supp Req
3rd Party Software-RedHat	

Table 24 3rd Party Software-RedHat

Product ID (PID)	PID Description
Red Hat OpenShift	
RH-OKE-B-P1S	OpenShift Kubernetes Eng(BM),Prem 1Y SnS Req(1-2 CPU-64core)
RH-OKE-B-P1Y	OpenShiftKubernetesEngine(BM),Prem1YSnS(1-2 CPUupto64cores)
RH-OKE-B-P3S	OpenShiftKubernetesEngine(BM),Prem 3YSnS Req(1-2 CPU-64core)
RH-OKE-B-P3Y	OpenShiftKubernetesEngine(BM),Prem 3YSnS(1-2CPUupto64cores)
RH-OCP-B-P1S	OpenShiftContainerPlatform(BM),Prem 1YSnS Req(1-2CPU-64core)
RH-OCP-B-P1Y	OpenShiftContainerPlatform(BM),Prem1YrSnS(1-2CPUupto64cores)
RH-OCP-B-P3S	OpenShiftContainerPlatform(BM),Prem 3YSnS Req(1-2CPU-64core)
RH-OCP-B-P3Y	OpenShiftContainerPlatform(BM),Prem3YSnS(1-2CPUupto64cores)
RH-OPP-B-P1S	OpenShift Platform Plus(BM),Prem 1Y SnS Req(1-2 CPU-64cores)
RH-OPP-B-P1Y	OpenShiftPlatformPlus(BM),Prem1YSnS(1-2CPU upto 64cores)
RH-OPP-B-P3S	OpenShift Platform Plus(BM),Prem 3Y SnS Req(1-2 CPU-64cores)
RH-OPP-B-P3Y	OpenShiftPlatformPlus(BM),Prem3YSnS(1-2CPU upto 64cores)

Table 24 3rd Party Software-RedHat

Product ID (PID)	PID Description
RH-OPPDF-B-P1S	OPP and ODF Adv (BM), Prem 1Y SnS Req (1-2CPU upto 64cores)
RH-OPPDF-B-P1Y	OPP and ODF Adv (BM), Prem 1-Yr SnS (1-2CPU upto 64cores)
RH-OPPDF-B-P3S	OPP and ODF Adv (BM), Prem 3Y SnS Req (1-2CPU upto 64cores)
RH-OPPDF-B-P3Y	OPP and ODF Adv (BM), Prem 3-Yr SnS (1-2CPU upto 64cores)
RH-ACM-B-P1S	AdvancedClusterMgmt for OKE(BM),Prem 1YSnSReq(1-2CPU-64core)
RH-ACM-B-P1Y	AdvancedClusterMgmtforOKE(BM),Prem1YSnS(1-2CPU upto 64cores)
RH-ACM-B-P3S	AdvancedClusterMgmt for OKE(BM),Prem 3YSnSReq(1-2CPU-64core)
RH-ACM-B-P3Y	AdvancedClusterMgmtforOKE(BM),Prem3YSnS(1-2CPU upto 64cores)
RH-OAI-B-P1S	OpenShift AI (BM), Prem 1Y SnS Req (1-2 CPU upto 64 cores)
RH-OAI-B-P1Y	OpenShift AI (BM), Prem 1-Yr SnS (1-2 CPU upto 64 cores)
RH-OAI-B-P3S	OpenShift AI (BM), Prem 3Y SnS Req (1-2 CPU upto 64 cores)
RH-OAI-B-P3Y	OpenShift AI (BM), Prem 3-Yr SnS (1-2 CPU upto 64 cores)
RH-OCP-V-P1S	OpenShift Container Platform,Prem 1Y SnS Req(2core or 4vCPU)
RH-OCP-V-P1Y	OpenShiftContainerPlatform,Prem1YSnS(2 cores or 4vCPUs)
RH-OCP-V-P3S	OpenShift Container Platform,Prem 3Y SnS Req(2core or 4vCPU)
RH-OCP-V-P3Y	OpenShiftContainerPlatform,Prem3YSnS(2cores or 4vCPUs)
RH-OPP-V-P1S	OpenShift Platform Plus,Prem 1Y SnS Req(2 cores or 4vCPUs)
RH-OPP-V-P1Y	OpenShift Platform Plus, Prem 1Y SnS (2 cores or 4vCPUs)
RH-OPP-V-P3S	OpenShift Platform Plus,Prem 3Y SnS Req(2 cores or 4vCPUs)
RH-OPP-V-P3Y	OpenShift Platform Plus, Prem 3Y SnS (2 cores or 4vCPUs)
RH-OPPDF-V-P1S	OpenShiftPlatformPlus & ODFAdv,Prem 1YSnSReq(2core or 4vCPU)
RH-OPPDF-V-P1Y	OpenShiftPlatformPlus and ODFAdv,Prem1YSnS(2cores or 4vCPUs)
RH-OPPDF-V-P3S	OpenShiftPlatformPlus & ODFAdv,Prem 3YSnSReq(2core or 4vCPU)
RH-OPPDF-V-P3Y	OpenShiftPlatformPlus and ODFAdv,Prem3YSnS(2cores or 4vCPUs)
RH-OAI-V-P1S	OpenShift AI, Prem 1Y SnS Req (2 cores or 4vCPUs)
RH-OAI-V-P1Y	OpenShift AI, Prem 1-Yr SnS (2 cores or 4vCPUs)
RH-OAI-V-P3S	OpenShift AI, Prem 3Y SnS Req (2 cores or 4vCPUs)
RH-OAI-V-P3Y	OpenShift AI, Prem 3-Yr SnS (2 cores or 4vCPUs)
Red Hat Ansible	

Table 24 3rd Party Software-RedHat

Product ID (PID)	PID Description
RH-AAP-1UCS-P1S	Ansible Automation Platform,Prem 1Y SnS Req(One UCS Server)
RH-AAP-1UCS-P1Y	Ansible Automation Platform, Prem 1Y SnS (One UCS Server)
RH-AAP-1UCS-P3S	Ansible Automation Platform,Prem 3Y SnS Req(One UCS Server)
RH-AAP-1UCS-P3Y	Ansible Automation Platform, Prem 3Y SnS (One UCS Server)
RH-AAP-100EP-P1S	Ansible Automation Platform,Prem 1Y SnS Req(100 End Points)
RH-AAP-100EP-P1Y	Ansible Automation Platform, Prem 1Y Sns (100 End Points)
RH-AAP-100EP-P3S	Ansible Automation Platform,Prem 3Y SnS Req(100 End Points)
RH-AAP-100EP-P3Y	Ansible Automation Platform, Prem 3Y SnS (100 End Points)

STEP 17 CHOOSE OPTIONAL OPERATING SYSTEM MEDIA KIT

Select the optional operating system media listed in *Table 25*.

Table 25 OS Media

Product ID (PID)	PID Description
MSWS-19-ST16CD-RM	Windows Server 2019 Stan (16 Cores/2 VMs) Rec Media DVD Only
MSWS-19-DC16CD-RM	Windows Server 2019 DC (16Cores/Unlim VM) Rec Media DVD Only
MSWS-22-ST16CD-RM	Windows Server 2022 Stan (16 Cores/2 VMs) Rec Media DVD Only
MSWS-22-DC16CD-RM	Windows Server 2022 DC (16Cores/Unlim VM) Rec Media DVD Only

STEP 18 CISCO INTERSIGHT

Cisco Intersight™ is a Software-as-a-Service (SaaS) hybrid cloud operations platform which delivers intelligent automation, observability, and optimization to customers for traditional and cloud-native applications and infrastructure.

Product ID (PID)	
DC-MGT-SAAS	Cisco Intersight SaaS

Select Cisco Intersight subscription option as desired from *Table 26*

Table 26 Cisco Intersight

Product ID (PID)	PID Description
Cisco Intersight 2.0 Infrastructure Services	
DC-MGT-IS-SAAS-ES ¹	Infrastructure Services SaaS/CVA - Essentials
DC-MGT-IS-SAAS-AD ¹	Infrastructure Services SaaS/CVA - Advantage
DC-MGT-IS-PVAPP-ES ¹	Infrastructure Services PVA - Essentials
DC-MGT-IS-PVAPP-AD ¹	Infrastructure Services PVA - Advantage
Add-Ons	
DC-MGT-IS-UCSD	UCS Director - 1 Server License (includes Network, Storage)
Cisco Intersight Workload Optimizer (IWO) - SaaS	
VM Instance	
DC-MGT-WO-SAAS-ES ¹	Cisco Intersight Workload Optimizer SaaS - Essentials
DC-MGT-WO-SAAS-AD ¹	Cisco Intersight Workload Optimizer SaaS - Advantage
DC-MGT-WO-SAAS-PR ¹	Cisco Intersight Workload Optimizer SaaS - Premier
VDI Instance	
DC-MGT-WOD-SAAS-ES ¹	Cisco Intersight Workload Optimizer SaaS VDI - Essentials
DC-MGT-WOD-SAAS-AD ¹	Cisco Intersight Workload Optimizer SaaS VDI - Advantage
DC-MGT-WOD-SAAS-PR ¹	Cisco Intersight Workload Optimizer SaaS VDI - Premier

Notes:

1. Smart account (SA) required

Select Cisco Intersight support option as desired from *Table 27*

Table 27 Cisco Intersight Support

Product ID (PID)	PID Description
Cisco Intersight Support	
SVS-SSTCS-DCMGMT ¹	Solution Support for DC Mgmt
SVS-L1DCS-INTER ¹	CXL1 for INTERSIGHT
SVS-L2DCS-INTER ¹	CXL2 for INTERSIGHT
SVS-DCM-SUPT-BAS	Basic Support for DCM

Notes:

1. Smart account (SA) required



NOTE: An Intersight license is required for every server.

SUPPLEMENTAL MATERIAL

PCIe Port Assignment

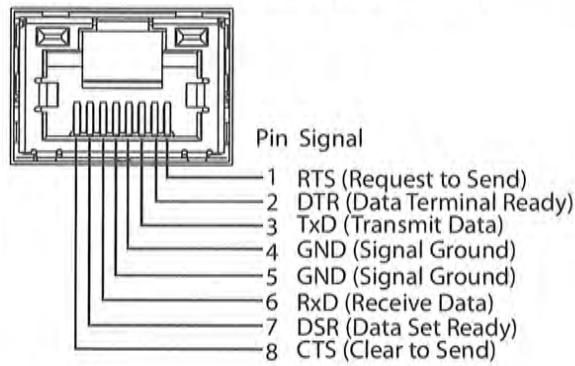
Slots	CPU1	CPU2
Riser 1 A	Slot 1: Gen5 x8 Slot 2: Gen5 x16 Slot 3: Gen5 x8	
Riser 1 B	Gen4 x4 each drive	
Riser 1 C	Slot 1: Gen5 x16 Slot 2: Gen5 x16	
Riser 2 A		Slot 4: Gen5 x8 Slot 5: Gen5 x16 Slot 6: Gen5 x8
Riser 2 C		Slot 4: Gen5 x16 Slot 5: Gen5 x16
Riser 3 A		Slot 7: Gen5 x8 Slot 8: Gen5 x8
Riser 3 B		Gen4 x4 each drive
Riser 3 C		Slot 7: Gen5 x16
mLOM / OCP	Gen4 x16	
RAID/HBA 1	Gen4 x16	
RAID/HBA 2		Gen4 x16
SFF NVMe slots 1,2,3,4 ¹		Gen4 x4 each
SFF NVMe slots 21,22,23,24 ¹	Gen4 x4 each	
M.2 Boot RAID	Gen3 x2	

Notes:

1. NVMe Drives are connected directly to CPUs if not behind a Raid controller

Serial Port Details

Figure 5 Serial Port (Female RJ-45 Connector) Pinout
Serial Port (RJ-45 Female Connector)



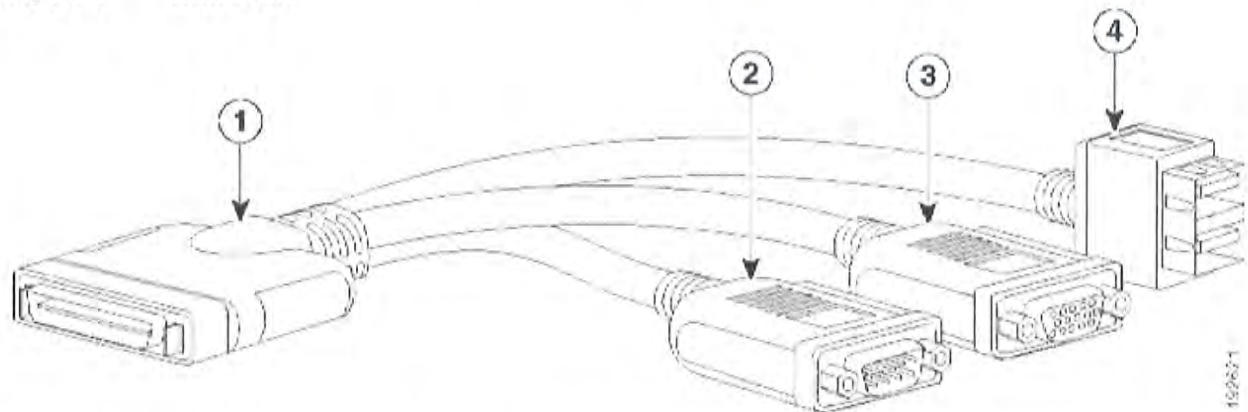
KVM Cable

The KVM cable provides a connection into the server, providing a DB9 serial connector, a VGA connector for a monitor, and dual USB ports for a keyboard and mouse. With this cable, you can create a direct connection to the operating system and the BIOS running on the server.

Table 28 KVM Cable

Product ID (PID)	PID Description
N20-BKVM	KVM cable for UCS Server console port

Figure 6 KVM Cable



1	Connector (to server front panel)	3	VGA connector (for a monitor)
2	DB-9 serial connector	4	Two-port USB connector (for a mouse and keyboard)

TECHNICAL SPECIFICATIONS

Dimensions and Weight

Table 29 Dimensions and Weight

Parameter	Value
Height	3.42 in. (8.7 cm)
Width (including slam latches)	16.9 in. (42.9 cm)
Depth	30 in. (76.2 cm)
Weight	
0*2.5" HDDs, 0*CPU(w/o HS), 0*DIMM, 1*2300W PSU, 2*Raid tray, mLOM, riser cage 1(w/o PCIe), riser cage 2(w/o PCIe), riser cage 3(w/o PCIe)	19.47 kg = 42.92 lb
0*2.5" HDDs, 0*CPU(w/o HS), 0*DIMM, 1*2300W PSU, 2*Raid tray, mLOM, riser cage 1(w/o PCIe), riser cage 2(w/o PCIe), riser cage 3(w/o PCIe), Rail kit	23.23 kg = 51.21 lb
1*2.5" HDDs, 1*CPU(w/HS), 1*DIMM, 1*2300W PSU, 2*Raid tray, mLOM, riser cage 1(w/o PCIe), riser cage 2(w/o PCIe), riser cage 3(w/o PCIe)	20.31 kg = 44.78 lb
1*2.5" HDDs, 1*CPU(w/HS), 1*DIMM, 1*2300W PSU, 2*Raid tray, mLOM, riser cage 1(w/o PCIe), riser cage 2(w/o PCIe), riser cage 3(w/o PCIe), Rail kit	24.07 kg = 53.07 lb
24*2.5" HDDs, 2*CPU(w/HS), 32*DIMM, 2*2300W PSU, 2*Raid tray, mLOM, riser cage 1(w/o PCIe), riser cage 2(w/o PCIe), riser cage 3(w/o PCIe)	28.96 kg = 63.85 lb
24*2.5" HDDs, 2*CPU(w/HS), 32*DIMM, 2*2300W PSU, 2*Raid tray, mLOM, riser cage 1(w/o PCIe), riser cage 2(w/o PCIe), riser cage 3(w/o PCIe), Rail kit	32.72 kg = 72.14 lb

Power Specifications

The server is available with the following types of power supplies:

- 1050W (DC) power supply (see *Table 30*)
- 1200 W (AC) power supply (see *Table 31*)
- 1600 W (AC) power supply (see *Table 32*)
- 2300 W (AC) power supply (see *Table 33*)

Table 30 1050W (DC) Power Supply Specifications

Parameter	Specification
Input Connector	Molex 42820
Input Voltage Range (V rms)	-48
Maximum Allowable Input Voltage Range (V rms)	-40 to -72
Frequency Range (Hz)	NA
Maximum Allowable Frequency Range (Hz)	NA
Maximum Rated Output (W)	1050
Maximum Rated Standby Output (W)	36
Nominal Input Voltage (V rms)	-48
Nominal Input Current (A rms)	24
Maximum Input at Nominal Input Voltage (W)	1154
Maximum Input at Nominal Input Voltage (VA)	1154
Minimum Rated Efficiency (%) ¹	91
Minimum Rated Power Factor ¹	NA
Maximum Inrush Current (A peak)	15
Maximum Inrush Current (ms)	0.2
Minimum Ride-Through Time (ms) ²	5

Notes:

1. This is the minimum rating required to achieve 80 PLUS Platinum certification, see test reports published at <http://www.80plus.org/> for certified values
2. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

Table 31 1200 W (AC) Power Supply Specifications

Parameter	Specification			
Input Connector	IEC320 C14			
Input Voltage Range (Vrms)	100 to 240			
Maximum Allowable Input Voltage Range (Vrms)	90 to 264			
Frequency Range (Hz)	50 to 60			
Maximum Allowable Frequency Range (Hz)	47 to 63			
Maximum Rated Output (W) ¹	1100		1200	
Maximum Rated Standby Output (W)	48			
Nominal Input Voltage (Vrms)	100	120	208	230
Nominal Input Current (Arms)	12.97	10.62	6.47	5.84
Maximum Input at Nominal Input Voltage (W)	1300	1264	1343	1340
Maximum Input at Nominal Input Voltage (VA)	1300	1266	1345	1342
Minimum Rated Efficiency (%) ²	90	90	91	91
Minimum Rated Power Factor ²	0.97	0.97	0.97	0.97
Maximum Inrush Current (A peak)	20			
Maximum Inrush Current (ms)	0.2			
Minimum Ride-Through Time (ms) ³	12			

Notes:

1. Maximum rated output is limited to 1100W when operating at low-line input voltage (100-127V)
2. This is the minimum rating required to achieve 80 PLUS Titanium certification, see test reports published at <http://www.80plus.org/> for certified values
3. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

Table 32 1600 W (AC) Power Supply Specifications

Parameter	Specification			
Input Connector	IEC320 C14			
Input Voltage Range (V rms)	200 to 240			
Maximum Allowable Input Voltage Range (V rms)	180 to 264			
Frequency Range (Hz)	50 to 60			
Maximum Allowable Frequency Range (Hz)	47 to 63			
Maximum Rated Output (W)	1600			
Maximum Rated Standby Output (W)	36			
Nominal Input Voltage (V rms)	100	120	208	230
Nominal Input Current (A rms)	NA	NA	8.8	7.9
Maximum Input at Nominal Input Voltage (W)	NA	NA	1778	1758
Maximum Input at Nominal Input Voltage (VA)	NA	NA	1833	1813
Minimum Rated Efficiency (%) ¹	NA	NA	90	91
Minimum Rated Power Factor ²	NA	NA	0.97	0.97
Maximum Inrush Current (A peak)	30			
Maximum Inrush Current (ms)	0.2			
Minimum Ride-Through Time (ms) ²	12			

Notes:

1. This is the minimum rating required to achieve 80 PLUS Platinum certification, see test reports published at <http://www.80plus.org/> for certified values
2. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

Table 33 2300 W (AC) Power Supply Specifications

Parameter	Specification			
Input Connector	IEC320 C20			
Input Voltage Range (Vrms)	100 to 240			
Maximum Allowable Input Voltage Range (Vrms)	90 to 264			
Frequency Range (Hz)	50 to 60			
Maximum Allowable Frequency Range (Hz)	47 to 63			
Maximum Rated Output (W) ¹	2300			
Maximum Rated Standby Output (W)	36			
Nominal Input Voltage (Vrms)	100	120	208	230
Nominal Input Current (Arms)	13	11	12	10.8
Maximum Input at Nominal Input Voltage (W)	1338	1330	2490	2480
Maximum Input at Nominal Input Voltage (VA)	1351	1343	2515	2505
Minimum Rated Efficiency (%) ²	92	92	93	93
Minimum Rated Power Factor ²	0.99	0.99	0.97	0.97
Maximum Inrush Current (A peak)	30			
Maximum Inrush Current (ms)	0.2			
Minimum Ride-Through Time (ms) ³	12			

Notes:

1. Maximum rated output is limited to 1200W when operating at low-line input voltage (100-127V)
2. This is the minimum rating required to achieve 80 PLUS Titanium certification, see test reports published at <http://www.80plus.org/> for certified values
3. Time output voltage remains within regulation limits at 100% load, during input voltage dropout



NOTE: For configuration-specific power specifications, use the Cisco UCS Power Calculator at this URL: <http://ucspowercalc.cisco.com>

Compliance Requirements

The regulatory compliance requirements for C-Series servers are listed in *Table 34*.

Table 34 UCS C-Series Regulatory Compliance Requirements

Parameter	Description
Regulatory Compliance	Products should comply with CE Markings per directives 2014/30/EU and 2014/35/EU
Safety	UL 60950-1/62368-1 CAN/CSA-C22.2 No. 60950-1/62368-1 IEC/EN 60950-1/62368-1 AS/NZS 62368.1 GB 4943.1-2022 CNS 15598-1:2020
EMC - Emissions	47CFR Part 15 (CFR 47) Class A AS/NZS CISPR32 Class A CISPR32 Class A EN55032 Class A ICES003 Class A VCCI-CISPR32 Class A EN61000-3-2 EN61000-3-3 KS C 9832 Class A EN 300386 Class A
EMC - Immunity	EN55035 EN55024 CISPR24/35 EN300386 KS C 9835 IEC/EN61000-6-1



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Customer #	97884266	Billing To	ACCOUNTS PAYABLE
Quoted On	Nov. 19, 2025		CT-L TOWN OF
Expires by	Dec. 04, 2025		WATERFORD
Contract Name	OMNIA-National Cooperative Purchasing Alliance (NCPA)		15 ROPE FERRY RD WATERFORD, CT 06385
Contract Code	C000001019611		
Customer Agreement #	NCPA 01-143		
Solution ID	20950950.3		
Deal ID	30325690		

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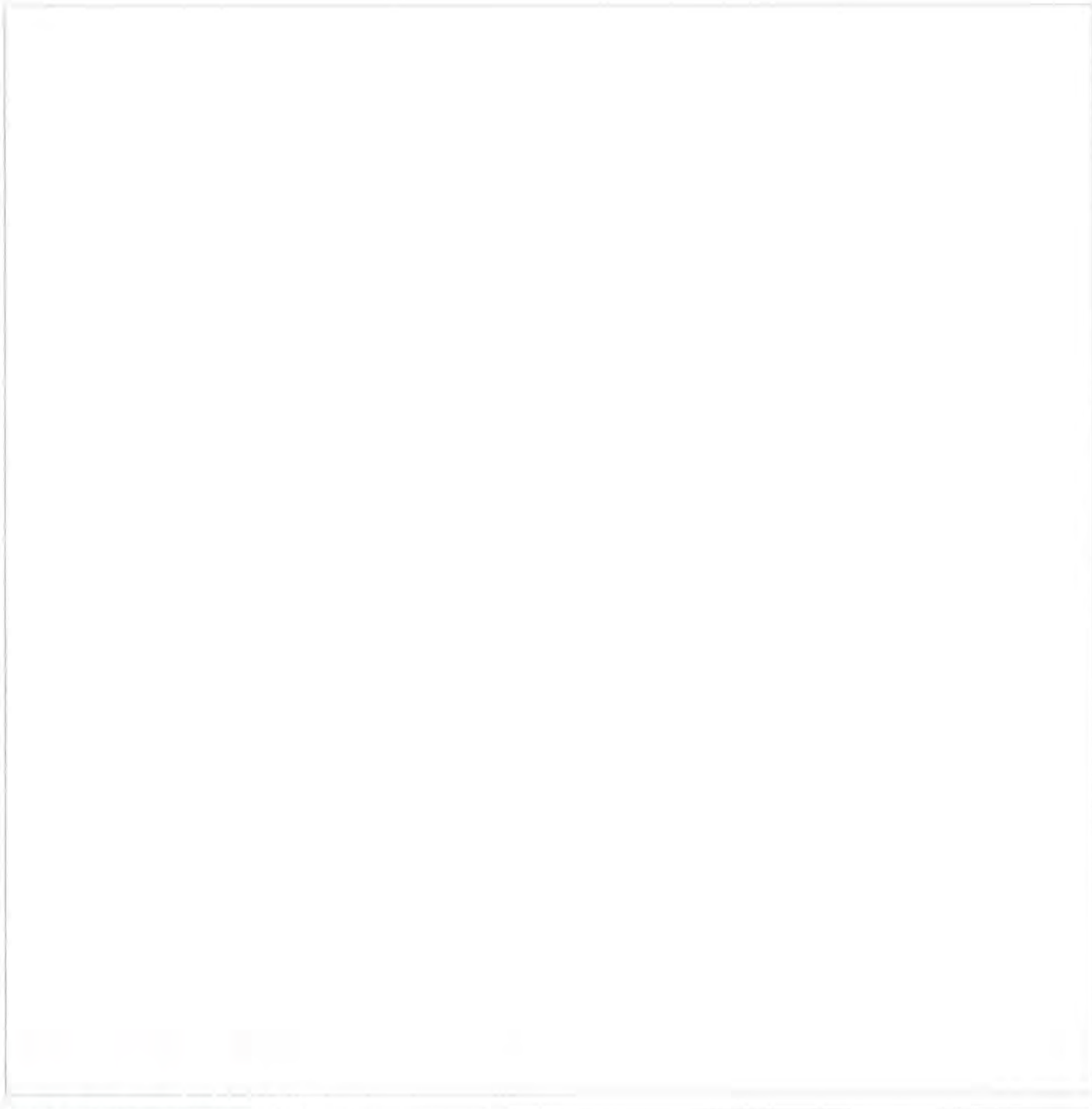
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Product	Unit Price	Quantity	Subtotal
PowerEdge R360 - [AMER_R360_18250]	\$4,207.73	1	\$4,207.73
Subtotal:			\$4,207.73
Shipping:			\$0.00
Non-Taxable Amount:			\$4,207.73
Taxable Amount:			\$0.00
Estimated Tax:			\$0.00
Total:			\$4,207.73



Shipping Group Details

Shipping To

JEFFREY ROBILLARD
CT-L TOWN OF WATERFORD
15 ROPE FERRY RD
WATERFORD, CT 06385-2886
(860) 442-0553

Shipping Method

Standard Delivery

	Unit Price	Quantity	Subtotal
PowerEdge R360 - [AMER_R360_18250]	\$4,207.73	1	\$4,207.73
Estimated delivery if purchased today:			
Dec. 02, 2025			
Contract # C000001019611			
Customer Agreement # NCPA 01-143			

Description	SKU	Unit Price	Quantity	Subtotal
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PowerEdge R360 Server	210-BJTR	-	1	-
Trusted Platform Module 2.0 V6	461-AAIG	-	1	-
3.5" Chassis with up to 4 Hot Plug Hard Drives, Front PERC	321-BKHN	-	1	-
Intel Xeon 6 Performance 6353P 2.7G, 8C/16T, 24M Cache, Turbo, (65W) DDR5-4800	338-CSXT	-	1	-
Heatsink	412-BBHK	-	1	-
Performance Optimized	370-AAIP	-	1	-
5600MT/s UDIMMs	370-BCBM	-	1	-
Unconfigured RAID	780-BCDS	-	1	-
PERC H755 SAS Front	405-AAZB	-	1	-
Front PERC Mechanical Parts, front load	750-ACFR	-	1	-
Performance BIOS Settings	384-BBBL	-	1	-
UEFI BIOS Boot Mode with GPT Partition	800-BBDM	-	1	-
No Energy Star	387-BBEY	-	1	-
No Additional FAN for 3.5" Chassis	384-BDMK	-	1	-
Single, (1+0) Non Redundant, Hot-Plug Power Supply, 600W MM (100-240Vac)	450-AMDI	-	1	-
Riser Config 0, No Riser	330-BCML	-	1	-
PowerEdge R360 Motherboard with with Broadcom 5720 Dual Port 1Gb On-Board LOM, MLK	338-CSXB	-	1	-
PowerEdge 1U Standard Bezel	325-BEVH	-	1	-
Dell Luggage Tag R360	350-BCTP	-	1	-
BOSS Blank	470-AFBU	-	1	-
No Operating System	619-ABVR	-	1	-
No Media Required	605-BBFN	-	1	-
Dell Connectivity Client - Disabled	379-BFXT	-	1	-
Dell Connectivity Module	634-CYDF	-	1	-
iDRAC9, Basic 16G	780-BCXH	-	1	-
Secured Component Verification	528-COYT	-	1	-
Dell Secure Onboarding Client Disabled	634-CZRQ	-	1	-
iDRAC,Factory Generated Password, No OMQR	379-BCRG	-	1	-
iDRAC Group Manager, Disabled	379-BCQY	-	1	-
ReadyRails Sliding Rails Without Cable Management Arm (A12)	770-BCWN	-	1	-
No Systems Documentation, No OpenManage DVD Kit	631-AACK	-	1	-
PowerEdge R360 Shipping	340-DLXS	-	1	-
PowerEdge R350/R360 Shipping Material for 3.5" Chassis	340-CWUL	-	1	-

PowerEdge R360 CCC Marking, No CE Marking	389-FFNB	-	1	-
ProSupport Plus Mission Critical 7x24 Technical Support and Assistance 5 Years	707-6816	-	1	-
ProSupport Plus Mission Critical 4-Hour 7x24 Onsite Service with Emergency Dispatch 4 Years Extended	707-6827	-	1	-
ProSupport Plus Mission Critical 4-Hour 7x24 Onsite Service with Emergency Dispatch 1 Year	707-6833	-	1	-
Dell Hardware Limited Warranty Plus Onsite Service	707-6946	-	1	-
Thank you for choosing Dell ProSupport Plus. For tech support, visit //www.dell.com/contactdell	951-2015	-	1	-
Dell Hardware Limited Warranty Plus On Site Service Extended Year	955-9041	-	1	-
Basic Deployment PowerEdge R Series 1u2u	885-0606	-	1	-
16GB UDIMM, 5600MT/s ECC	370-BBZG	-	2	-
600GB Hard Drive SAS ISE 12Gbps 10k 512n 2.5in with 3.5in HYB CARR Hot-Plug	161-BCDK	-	4	-
Power Cord - NEMA 5-15P to C13, 3M, 125V, 15A (North America, Guam, North Marianas, Philippines, Samoa, Vietnam)	450-AALV	-	1	-

Subtotal:	\$4,207.73
Shipping:	\$0.00
Estimated Tax:	\$0.00
Total:	\$4,207.73

CONNECT WITH DELL:



BROWSE MORE OPTIONS:

- | | | |
|---------------------|---------------|---------------------------|
| IT Transformation | Laptops | Desktops |
| Servers & Storage | 2-in-1's | Electronics & Accessories |
| Financing Options | Dell Services | Dell Support |
| Subscription Center | Events | Dell Premier |

Important Notes

Terms of Sale

This Quote will, if Customer issues a purchase order for the quoted items that is accepted by Supplier, constitute a contract between the entity issuing this Quote ("Supplier") and the entity to whom this Quote was issued ("Customer"). Unless otherwise stated herein, pricing is valid for thirty days from the date of this Quote. All products, pricing, and other information is based on the latest information available and is subject to change for any reason, including but not limited to tariffs imposed by government authorities. Supplier reserves the right to cancel this Quote and Customer purchase orders arising from pricing errors. Taxes and/or freight charges listed on this Quote are only estimates. The final amounts shall be stated on the relevant invoice. Additional freight charges will be applied if Customer requests expedited shipping. Please indicate any tax exemption status on your purchase order and send your tax exemption certificate to Tax_Department@dell.com or ARSalesTax@emc.com, as applicable.

Governing Terms: This Quote is subject to: (a) a separate written agreement between Customer or Customer's affiliate and Supplier or a Supplier's affiliate to the extent that it expressly applies to the products and/or services in this Quote or, to the extent there is no such agreement, to the applicable set of Dell's Terms of Sale (available at www.dell.com/terms or www.dell.com/oemterms), or for cloud/as-a-Service offerings, the applicable cloud terms of service (identified on the Offer Specific Terms referenced below); and (b) the terms referenced herein (collectively, the "Governing Terms"). Different Governing Terms may apply to different products and services on this Quote. The Governing Terms apply to the exclusion of all terms and conditions incorporated in or referred to in any documentation submitted by Customer to Supplier.

Supplier Software Licenses and Services Descriptions: Customer's use of any Supplier software is subject to the license terms accompanying the software, or in the absence of accompanying terms, the applicable terms posted on www.Dell.com/eula. Descriptions and terms for Supplier-branded standard services are stated at www.dell.com/servicecontracts/global or for certain infrastructure products at www.dell.com/en-us/customer-services/product-warranty-and-service-descriptions.htm.

Offer-Specific, Third Party and Program Specific Terms: Customer's use of third-party software is subject to the license terms that accompany the software. Certain Supplier-branded and third-party products and services listed on this Quote are subject to additional, specific terms stated on www.dell.com/offeringspecificterms ("Offer Specific Terms").

In case of Resale only: Should Customer procure any products or services for resale, whether on standalone basis or as part of a solution, Customer shall include the applicable software license terms, services terms, and/or offer-specific terms in a written agreement with the end-user and provide written evidence of doing so upon receipt of request from Supplier.

In case of Financing only: If Customer intends to enter into a financing arrangement ("Financing Agreement") for the products and/or services on this Quote with Dell Financial Services LLC or other funding source pre-approved by Supplier ("FS"), Customer may issue its purchase order to Supplier or to FS. If issued to FS, Supplier will fulfill and invoice FS upon confirmation that: (a) FS intends to enter into a Financing Agreement with Customer for this order; and (b) FS agrees to procure these items from Supplier. Notwithstanding the Financing Agreement, Customer's use (and Customer's resale of and the end-user's use) of these items in the order is subject to the applicable governing agreement between Customer and Supplier, except that title shall transfer from Supplier to FS instead of to Customer. If FS notifies Supplier after shipment that Customer is no longer pursuing a Financing Agreement for these items, or if Customer fails to enter into such Financing Agreement within 120 days after shipment by Supplier, Customer shall promptly pay the Supplier invoice amounts directly to Supplier.

Customer represents that this transaction does not involve: (a) use of U.S. Government funds; (b) use by or resale to the U.S. Government; or (c) maintenance and support of the product(s) listed in this document within classified spaces. Customer further represents that this transaction does not require Supplier's compliance with any statute, regulation or information technology standard applicable to a U.S. Government procurement.

For certain products shipped to end users in California, a State Environmental Fee will be applied to Customer's invoice. Supplier encourages customers to dispose of electronic equipment properly.

Electronically linked terms and descriptions are available in hard copy upon request.

Server Refresh

Description	Price	Qty	Ext. Price
Heatsink for C240M8 w/o GPU	\$0.00	3	\$0.00
UCS DDR5 DIMM Blanks	\$0.00	72	\$0.00
C240 M7/M8 2U Riser2 Filler Blank	\$0.00	3	\$0.00
10GBASE-CU SFP+ Cable 3 Meter	\$100.00	6	\$600.00
Intel I6527P 3.0GHz/255W 24C/144MB DDR5 6400MT/s	\$8,631.71	3	\$25,895.13
Subtotal:			\$144,447.51

Microsoft Server Licenses

Description	Price	Qty	Ext. Price
Windows Server 2025 Datacenter (Perpetual - does not include SA)			
Windows Server 2025 Datacenter - 16 Core (NCE COM BAS PER 1TM)	\$6,770.00	3	\$20,310.00
Windows Server 2025 Datacenter - 2 Core (NCE COM BAS PER 1TM)	\$826.77	12	\$9,921.24
Windows Server 2025 DC or STD - 1 User CAL (NCE COM BAS PER 1TM)	\$50.00	225	\$11,250.00
Subtotal:			\$41,481.24

M8 Server Core Count Upgrade & Microsoft Data Center Licensing FY 2026

Prepared by:

Total Communications

Eric Moore
860-622-4153
ericmoore@totalcomm.com

Prepared for:

Waterford, Town Of

Town Hall Complex
15 Rope Ferry Road
Waterford, CT 06385-2886
Jeff Robillard
(860) 442-0553
jrobillard@waterfordct.org

Quote Information:

Quote #: 002030

Version: 3

Delivery Date: 12/23/2025

Expiration Date: 06/30/2026

Quote Summary

Description	Amount
Server Refresh	\$144,447.51
Microsoft Server Licenses	\$41,481.24
Total:	\$185,928.75

Taxes, shipping, handling, tariffs, and other fees may apply. We reserve the right to adjust pricing or cancel orders arising from economic or supply chain fluctuations, including but not limited to changes in trade regulations or global market conditions.

Total Communications

Waterford, Town Of

Signature: _____

Name: Eric Moore

Title: Major Account Executive

Date: 12/23/2025

Signature: _____

Name: Jeff Robillard

Date: _____

**TOWN OF WATERFORD
CAPITAL PROJECT REQUEST FORM
2027-2031 FISCAL YEAR REQUEST**

DEPARTMENT/AGENCY IT Department	CONTACT PERSON Jeffrey Robillard
PROJECT NAME Wireless Upgrade/Replace	DEPARTMENT PRIORITY 3

1	DESCRIPTION AND JUSTIFICATION (describe the type, purpose & anticipated accomplishments of the project)																																																																						
	The Meraki access points are the physical devices installed in all buildings to allow connectivity to WIFI town, public safety, and public access guest networks. They are a cloud managed and licensed device that will continue to work as long as they are licensed, however, once past their end of service date they no longer receive updates for cyber security issues or feature updates. This request is to replace our Meraki Access points that will no longer be supported after FY26 over a two year period. In FY27 QTY 27 for Police Department, Community Center, and Library. In FY28 QTY 31 for the firehouses, food bank building, and the municipal complex.																																																																						
2	PROJECT STATUS IF IN PROGRESS																																																																						
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6	ATTACH PLAN ESTIMATE, SERVICE AREA MAP AND/OR OTHER SUPPORTING DOCUMENTATION (if none, simply state that in the area below)																																																																						
	Quote estimate and information on the access points attached.																																																																						
7	COST/FUNDING SOURCE																																																																						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;">FUNDING SOURCE</th> <th style="width: 10%;">APPROVED FUNDING TO DATE</th> <th style="width: 10%;">FY2027</th> <th style="width: 10%;">FY2028</th> <th style="width: 10%;">FY2029</th> <th style="width: 10%;">FY2030</th> <th style="width: 10%;">FY2031</th> </tr> </thead> <tbody> <tr> <td>1 Current Year Capital</td> <td></td> <td style="text-align: center;">9,761</td> <td style="text-align: center;">11,767</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2 Utility Budget/Sewer Cap Maint Fund</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3 Transfer to CNR</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4 Short/Long-term Bonds</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5 LoCIP (detail in section 5 above)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6 CNR Undesignated Fund Balance</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>7 Federal/State Grants (detail in section 5)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8 Other Funding (detail in section 5 above)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr style="background-color: #e0f2f1;"> <td>TOTALS</td> <td style="text-align: center;">0</td> <td style="text-align: center;">9,761</td> <td style="text-align: center;">11,767</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </tbody> </table>	FUNDING SOURCE	APPROVED FUNDING TO DATE	FY2027	FY2028	FY2029	FY2030	FY2031	1 Current Year Capital		9,761	11,767				2 Utility Budget/Sewer Cap Maint Fund							3 Transfer to CNR							4 Short/Long-term Bonds							5 LoCIP (detail in section 5 above)							6 CNR Undesignated Fund Balance							7 Federal/State Grants (detail in section 5)							8 Other Funding (detail in section 5 above)							TOTALS	0	9,761	11,767	0	0	0
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Client:	Town of Waterford
Contact Name:	Jeff Robillard
Contact Email:	jrobillard@waterfordct.org
Install Address:	15 Rope Ferry Road
Street 2:	
City:	Waterford
State:	CT
Zip:	

Date Order Taken:	
Install/Ship Date:	
Phone #:	
Client P.O. #:	
Account Manager:	
Engineer:	
Equipment:	☐ Purchase ☐ Lease ☐ Subscription

Quantity	Item	Unit Price	Extension
	Meraki MR36 Access Points		
27	FY 2027 Meraki MR 36 Estimate	\$361.49	\$9,760.23
31	FY 2028 Meraki MR 36 Estimate	\$379.56	\$11,766.36
Return & Pricing: A signed copy of this Sales Order is required within 30 days. After 30 days, prices are subject to change. Sales tax and other charges are not included in the Purchase Price. Payment: A 30% deposit is due upon signing and will be applied to the equipment price. The remaining equipment balance will be invoiced upon delivery or storage at our facilities. Professional services will be invoiced monthly until installation completion. All invoices due upon receipt. Delays: In case of client-caused project delays, Total will bill 100% of the agreed rate for equipment and 90% of the agreed rate for labor. A holdback of 10% of the labor rate will be retained until project completion. Scope of Work Changes: Changes to Statement of Work or project may result in additional labor and/or equipment charges.		Sub-Total Parts	\$21,526.59
		Labor	
		Total	\$21,526.59

If client is T&M, our current telephony labor rate is: _____ (Minimum per Tech: Onsite - 1 Hour; Remote - 0.5 Hour)

If client is under service agreement, our current telephony labor rate is: _____ (Minimum per Tech: Onsite - 1 Hour; Remote - 0.5 Hour)

An onsite service charge of **\$195.00** will also be included (*Waived for new system orders*).

After hours work will be billed at the time and a half rate. Sunday is double time.

Notes:

Drop ship- no labor

Client hereby orders the equipment set forth above under the "Terms and Conditions" set forth on page 2 of this document.

X
Authorized Signature

Date: _____

Name:

Title:

TERMS & CONDITIONS

1. GENERAL:

All work described herein shall be performed during regular business hours unless otherwise specified. Client agrees that special circumstances requiring overtime will be charged to Client at Total Communications, Inc.'s (hereinafter referred to as "TCI") then applicable rates and will be authorized in writing by a signed change order or additional work order.

2. TIME OF PERFORMANCE:

a. TCI shall complete the installation services with TCI's standard practices within a reasonable time. Client agrees to give TCI access to the Premises during non-business hours to the extent necessary to have all work completed promptly and within a reasonable time. TCI shall perform its standard acceptance testing on the installed Equipment, and Client agrees to monitor said testing. Upon successful completion thereof, TCI shall notify Client that Equipment has been installed and operates in accordance with applicable test and performance specifications. The date of such notification shall be the Installation Complete Date.

b. When the Equipment is purchased, TCI shall use its best efforts to make timely delivery and installation. However, all stated delivery or installation dates are approximate, and TCI SHALL UNDER NO CIRCUMSTANCES, EXCEPT FOR TCI'S WILLFUL MISCONDUCT, BE LIABLE FOR ANY DAMAGES, WHETHER SPECIAL, CONSEQUENTIAL OR OTHERWISE FOR ANY DELAYS IN DELIVERY OR INSTALLATION.

3. WARRANTY:

a. Subject to the provisions of this paragraph and Paragraph 7, when the Equipment is purchased, TCI warrants for a period of ninety (90) days from the Installation Completion Date, that as of the Installation Completion Date the Equipment will be free from defects in material and workmanship. If any defects covered by this Warranty appear within the above stated ninety (90) day period, TCI shall have the option of repairing or replacing the Equipment at its expense during routine business hours. Such repair or replacement shall be Client's exclusive remedy for TCI's breach of warranty, or for willful misconduct or gross negligence and Client willingly, knowingly, and voluntarily waives all other remedies. In cases where TCI does not install the Equipment, TCI warrants that the equipment only, if properly installed and maintained, shall be free from defects for a period of ninety (90) days.

b. TCI will not be obligated to service, repair or replace any Equipment which has been repaired or serviced by others, abused, or improperly handled, stored, altered or used or otherwise intermingled with third party material or equipment. No warranties shall apply to, and TCI shall not be obligated to service, repair or replace any equipment which has been installed, repaired, or serviced by others without the express prior written consent of TCI.

c. WHEN THE EQUIPMENT IS PURCHASED, THE WARRANTY STATED ABOVE SHALL BE IN LIEU OF AND EXCLUDES ALL OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION AND WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

4. LIMITATIONS ON TCI'S OBLIGATION AND LIABILITY:

a. When the Equipment is purchased all obligations and warranties of TCI hereunder, including warranty obligations, shall be subject to and relieved by any force majeure, Act of God, war, riot, fire, explosion, lightening, power surge, accident, flood, sabotage, inability to obtain fuel or power, governmental laws, regulations or strikes, lockouts or injunctions (whether or not such labor event is within the reasonable control of TCI). Client acknowledges that in order to provide the Equipment to the Client, TCI and the Client must rely on third parties beyond the control of TCI and the Client, including, without limitation, the Client's local telephone utility. TCI's maintenance responsibilities do not extend to Equipment of the public telephone network, nor is TCI responsible for malfunctions in the communication system or Equipment caused by malfunctions in the public telephone network or caused by abuse or misuse of the communication system or Equipment by other than TCI. TCI shall not be responsible for the failure to fulfill any obligation hereunder, including, without limitation any warranty obligations, when such third parties have not provided or maintained the service or products to Client which are necessary for TCI to fulfill its obligations under this Agreement.

b. WHEN THE EQUIPMENT IS PURCHASED, TCI SHALL NOT BE LIABLE FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES OR FOR LOSS, DAMAGE OR EXPENSE DIRECTLY OR INDIRECTLY ARISING FROM THE USE OF EQUIPMENT SOLD OR LEASED HEREUNDER OR ARISING FROM CLIENT'S INABILITY TO USE THE EQUIPMENT EITHER SEPARATELY OR IN COMBINATION WITH ANY OTHER EQUIPMENT OR FROM ANY OTHER CAUSE.

5. PRICE:

Prices are subject to change. Quoted prices listed are valid for thirty (30) days after the "Date Order Taken" date on this document. Any deviations to this order after date mentioned, such as quantity changes, partial releases, or changes in specifications, are subject to a potential price increase.

6. DEFAULT:

If any of Client's obligations to TCI shall not be paid when due, or if Client shall be in default hereunder, and all sums and obligations hereunder shall, at TCI's option, become immediately due and payable. Upon Client's default, in addition to the rights and remedies specified herein, TCI shall have all the rights and remedies under the Uniform Commercial Code and any other laws, including the right to any delinquent payments for which the Client shall remain fully liable. Additionally, upon Client's default, TCI shall have the right, in its sole discretion and without any liability to, or recourse by, Client whatsoever for any damages, whether actual, special or consequential including without limitation any damages for lost business, to terminate or suspend any and all Warranties with respect to the Equipment and any and all obligations TCI may have to service, repair or replace the Equipment, whether arising under this Agreement or otherwise. No remedy of TCI hereunder shall be exclusive of any other remedy herein or provided by law, but such remedies shall be cumulative and in addition to every other remedy.

7. REPOSSESSION:

Client agrees that upon its failure to pay any sum hereunder or within forty-five (45) days thereof, TCI shall have the complete right to enter the Premise at any reasonable time for purposes of repossessing the Equipment. Client agrees to cooperate fully with TCI in such repossession. TCI shall use reasonable care in removing the Equipment but shall not be liable to restore the Premises after the Equipment is so removed. Other than the obligation to use due care in removing the Equipment, TCI shall have no liability to, and Client shall have no recourse against TCI whatsoever for, any damages resulting from such repossession, whether actual, special, or consequential, including without limitation, any damages for lost business.

8. COMMERCIAL TRANSACTION:

THE CLIENT ACKNOWLEDGES THAT THE TRANSACTION OF WHICH THIS AGREEMENT IS A PART IS A COMMERCIAL TRANSACTION, AND HEREBY WAIVES ITS RIGHT TO NOTICE AND HEARING UNDER CHAPTER 903a OF THE CONNECTICUT GENERAL STATUTES, OR AS OTHERWISE ALLOWED BY ANY STATE OR FEDERAL LAW, WITH RESPECT TO ANY PREJUDGEMENT REMEDY WHICH TCI, ITS SUCCESSORS OR ASSIGNEES MAY DESIRE TO USE.

9. TITLES; FILINGS; POWER OF ATTORNEY:

Client agrees that TCI shall retain title to the equipment until all sums due TCI from Client shall have been paid in full. Client hereby appoints TCI as its attorney in fact, coupled with an interest, to file UCC financing statements and other such documents, and to do such other acts, as may be reasonably necessary to give notice of TCI's retention of title to the Equipment and other provisions of this Agreement.

10. INDEMNIFICATION:

Client agrees to indemnify and save harmless TCI from all suits, loss, damages, actions or claims of any character, including reasonable attorney's fees and legal costs incurred by TCI in collecting any amounts owed to it by Client, in enforcing, its rights hereunder or brought on account of any injuries or damages received or sustained by any person, persons, or property by or from the Client or Client's contractor or sub-contractor or their employees, of by, or in consequence of any neglect in safeguarding the work, of by, or on account of any act of omission, neglect or misconduct of the Client or his, agent, contractor, sub-contractor arising out of any law ordinance.

11. APPLICABLE LAW; JURISDICTION:

This Agreement and all transactions hereunder, and all the rights of the parties, shall be governed as to validity, construction, enforcement and in all other respects by the laws of the State of Connecticut. Client agrees that the Superior Court for Judicial District of Hartford or the United States District Court for the District of Connecticut shall have jurisdiction to hear and determine any claims or disputes pertaining to the financing transactions of which this Agreement is part and/or to any matter arising or in any way related to this Agreement or any other agreement between TCI and Client and expressly submits and consents in advance to such jurisdiction in any action or proceeding.

Product options: Indoor Wi-Fi 6

MR36



Usage	Next-generation entry-level high-performance Wi-Fi 6 AP with security-scanning radio and Bluetooth® Low Energy included
Radio specification	1× 2.4 GHz 802.11b/g/n/ax 1× 5 GHz 802.11a/n/ac/ax 1× WIDS/WIPS 1× Bluetooth® radio 1.5 Gbps max rate 2× 2:2 MU-MIMO with beamforming
Interface	1× Gigabit Ethernet port
Power	802.3af PoE or DC power adapter
Performance features	2× 2:2 MU-MIMO and OFDMA 160 MHz channels ¹ Priority voice, power save (802.11e/WMM) Hardware-accelerated encryption Band steering
Dimensions	9.84 in x 4.72 in x 1.42 in (25 cm x 12 cm x 3.6 cm)
Weight	17.35 oz (0.5 kg)

¹ Hardware capable

**TOWN OF WATERFORD
CAPITAL PROJECT REQUEST FORM
2027-2031 FISCAL YEAR REQUEST**

DEPARTMENT/AGENCY IT Department	CONTACT PERSON Jeffrey Robillard
PROJECT NAME Phone System Replacements	DEPARTMENT PRIORITY 4

1	DESCRIPTION AND JUSTIFICATION (describe the type, purpose & anticipated accomplishments of the project) Several years ago the Town upgraded and replaced the majority of its phone system core infrastructure from end of life unsupported products. Existing products that were still considered supportable were not replaced as part of this solution. This request is to replace those few devices now that they are going end of support. This includes 7 routers. One in each firehouse (5), the public library (1), and the town municipal complex (1). The quote includes the routers, the phone line connectivity modules, and 3 years of Cisco Smartnet support. Note, this request may end up being reduced by QTY 1 in FY28 related to the new Oswegatchie firehouse.																																																																						
2	PROJECT STATUS IF IN PROGRESS N/A																																																																						
3	LIST OTHER PROJECTS WITHIN YOUR DEPARTMENT OR ANOTHER DEPARTMENT THAT WILL BE IMPACTED BY THIS REQUEST N/A																																																																						
4	DESCRIBE THE IMPACT ON DEPARTMENT OPERATING BUDGET (include cost estimate if applicable) We expect the Cisco Smartnet contract listed in the IT Software Budget to be reduced by close to \$5000 for FY28, FY29, and FY30 because that contract would be included in this purchase for that time period.																																																																						
5	GRANT FUNDING/OTHER FUNDING, if applicable (detailed explanation of grant/other funding, including the amount, source of funding, status, town match, if any. Attach award letter if available) N/A																																																																						
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UC Router Refresh FY 2028 Budgetary Estimate

QUOTE # 002117 V1

PREPARED FOR

Waterford, Town Of

PREPARED BY

Eric Moore

Router Replacements

Description	Price	Qty	Ext. Price
Projected budgetary price for refresh in FY2028			
Cisco Router - 4 Ports - 2 - Gigabit Ethernet - 1U - Rack-mountable 	\$3,528.61	7	\$24,700.27
3yrs Cisco Smart Net Total Care - Extended Service - Service - 8 x 5 x Next Business Day - Exchange - Parts	\$2,471.82	7	\$17,302.74
Cisco 2-Port FXS/FXS-E/DID and 4-Port FXO Network Interface Module - For Voice - 2 x FXS/DID Network, 4 x FXO Network 	\$1,436.27	7	\$10,053.89
Cisco Digital Network Architecture Advantage - On-Premise Subscription License - 30 Mbps Aggregated Throughput, Up to 15 Mbps - 3 Year	\$1,745.28	7	\$12,216.96
Estimated Labor			
Data Fixed fee labor for service or project work.	\$1,500.00	7	\$10,500.00
Subtotal:			\$74,773.86

UC Router Refresh FY 2028 Budgetary Estimate

Prepared by:

Total Communications

Eric Moore
860-622-4153
ericmoore@totalcomm.com

Prepared for:

Waterford, Town Of

Town Hall Complex
15 Rope Ferry Road
Waterford, CT 06385-2886
Jeff Robillard
(860) 442-0553
jrobillard@waterfordct.org

Quote Information:

Quote #: 002117

Version: 1
Delivery Date: 12/23/2025
Expiration Date: 12/31/2025

Quote Summary

Description	Amount
Router Replacements	\$74,773.86
Total:	\$74,773.86

Taxes, shipping, handling, tariffs, and other fees may apply. We reserve the right to adjust pricing or cancel orders arising from economic or supply chain fluctuations, including but not limited to changes in trade regulations or global market conditions.

Total Communications

Waterford, Town Of

Signature: _____

Name: Eric Moore

Title: Major Account Executive

Date: 12/23/2025

Signature: _____

Name: Jeff Robillard

Date: _____

**TOWN OF WATERFORD
CAPITAL PROJECT REQUEST FORM
2025-2026 FISCAL YEAR REQUEST**

DEPARTMENT/AGENCY IT DEPARTMENT	CONTACT PERSON JEFFREY ROBILLARD
PROJECT NAME SERVER UPGRADE REPLACEMENT	DEPARTMENT PRIORITY 5

1	DESCRIPTION AND JUSTIFICATION (describe the type, purpose & anticipated accomplishments of the project)																																																																						
	The request is to purchase computers used across town each year as a replacement schedule with an expected 7 year life cycle rotation. By maintaining this rotation we expect that we will be able to maintain an inventory of equipment that is fully supportable for cybersecurity updates/patches defined by Windows operating systems OS hardware limitations. The focus will be to replace department machines based on overall age of computers within the department so an entire department is getting the same type/level of machine. FY27 we are not requesting funds to delay out the computer replacements one additional year.																																																																						
2	PROJECT STATUS IF IN PROGRESS																																																																						
3	LIST OTHER PROJECTS WITHIN YOUR DEPARTMENT OR ANOTHER DEPARTMENT THAT WILL BE IMPACTED BY THIS REQUEST																																																																						
4	DESCRIBE THE IMPACT ON DEPARTMENT OPERATING BUDGET (include cost estimate if applicable)																																																																						
	There will not be any positive or negative on the impact to other line items in the budget for this 1 for 1 PC replacements project.																																																																						
5	GRANT FUNDING/OTHER FUNDING, if applicable (detailed explanation of grant/other funding, including the amount, source of funding, status, town match, if any. Attach award letter if available)																																																																						
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Jeffrey Robillard

From: Evan.E.Walker@dell.com
Sent: Monday, November 17, 2025 1:09 PM
To: Jeffrey Robillard
Cc: Evan.E.Walker@dell.com
Subject: Your Dell Quote 3000193109603.8

CAUTION: This email originated from outside of the organization.
Do not click links or open attachments unless you recognize the sender's email address and know the content is safe.



Your quote is ready for purchase.

Complete the purchase of your personalized quote through our secure online checkout before the quote expires on **Dec. 02, 2025**.

You can download a copy of this quote during checkout.

[Place your order](#)

Quote No.	3000193109603.8	Sales Rep	Evan Walker
Total	\$28,167.60	Phone	1(800) 4563355
Customer #	97884266	Email	Evan.E.Walker@dell.com
Quoted On	Nov. 17, 2025	Billing To	ACCOUNTS PAYABLE
Expires by	Dec. 02, 2025		CT-L TOWN OF
Contract Name	OMNIA-National Cooperative Purchasing Alliance (NCPA)		WATERFORD
			15 ROPE FERRY RD
			WATERFORD,
			CT 06385
Contract Code	C000001019611		
Customer Agreement #	NCPA 01-143		
Deal ID	29819106		

Message from your Sales Rep

Please contact me at (512) 893-4531 if you have any questions or when you're ready to place an order. Thank you for shopping with Dell!

Regards,
Evan Walker

Additional Comments

Ask me about our Dell Business Credit and Leasing promotions!

Product	Unit Price	Quantity	Subtotal
Dell Pro Slim Plus QBS1250	\$938.92	30	\$28,167.60
Subtotal:			\$28,167.60
Shipping:			\$0.00
Non-Taxable Amount:			\$28,167.60
Taxable Amount:			\$0.00
Estimated Tax:			\$0.00
Total:			\$28,167.60

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Shipping Group Details

Shipping To

JEFFREY ROBILLARD
CT-L TOWN OF WATERFORD
15 ROPE FERRY RD
WATERFORD, CT 06385-2886
(860) 625-5765

Shipping Method

Standard Delivery

Dell Pro Slim Plus QBS1250		Unit Price	Quantity	Subtotal
Estimated delivery if purchased today:		\$938.92	30	\$28,167.60
Dec. 03, 2025				
Contract # C000001019611				
Customer Agreement # NCPA 01-143				
Description	SKU	Unit Price	Quantity	Subtotal
Intel(R) Core(TM) Ultra 5 235 (13 TOPS NPU, 14 cores, up to 5.0GHz)	338-CRZK	-	30	-
Windows 11 Pro	619-BBQD	-	30	-
16GB: 1 x 16GB, DDR5, up to 5600 MT/s, non-ECC	370-BCWX	-	30	-
512GB SSD	400-BSWY	-	30	-
1st M.2 2280 SSD Screw	773-BBBC	-	30	-
Integrated Graphics	490-BKSX	-	30	-
No Wireless LAN Card	555-BLXL	-	30	-
No Additional Add In Cards	382-BBHX	-	30	-
English, French, Spanish, Brazilian Portuguese	619-BBPD	-	30	-

CyberLink Media Essentials for Windows	430-XYIX	-	30	-
Dell Pro Slim Plus QBS1250 with 260W PSU	329-BKSP	-	30	-
Dell Pro Keyboard and Mouse - KM5221W - US English - Black	580-BCCH	-	30	-
Mouse included with Keyboard	570-AADI	-	30	-
ENERGY STAR Qualified	387-BBLW	-	30	-
System Power Cord C13 (Philippine/TH/US)	450-AAOJ	-	30	-
Documentation	340-DNBV	-	30	-
Watch Dog SRV	379-BFYR	-	30	-
Quick Start Guide	340-DTTZ	-	30	-
US/Canada Battery Warning Label	389-FKHG	-	30	-
Trusted Platform Module (Discrete TPM Enabled)	329-BBJL	-	30	-
Shipping Material (DAO)	340-DTSR	-	30	-
Shipping Label	389-BBUU	-	30	-
DAO Regulatory label for 260W PSU	389-FJYR	-	30	-
Driver/APP for IRST	658-BFTS	-	30	-
Intel Core Ultra 5 Processor Label	389-FGFR	-	30	-
Desktop BTO Standard shipment	800-BBIO	-	30	-
Dell Pro Slim Plus QBS1250	210-BPPM	-	30	-
No vPro(R) support	631-BCBP	-	30	-
EPEAT Silver with Climate+	379-BDTO	-	30	-
Custom Configuration	817-BBBB	-	30	-
8x DVD+/-RW/RAM 9.5mm Slimline Optical Disk Drive	429-BBCG	-	30	-
Internal speaker	520-BBKW	-	30	-
No Additional Network Card Selected (Integrated NIC included)	555-BBJO	-	30	-
No Additional Video Ports	492-BCKH	-	30	-
No Option Included	340-ACQQ	-	30	-
No Media Card Reader	379-BBHM	-	30	-
NO RAID	817-BBBN	-	30	-
M.2 Caddy + ODD	325-BGHH	-	30	-
Dell Limited Hardware Warranty Plus Service	717-8784	-	30	-

ProSupport Plus: Accidental Damage Service, 5 Years	717-8828	-	30	-
ProSupport Plus: Keep Your Hard Drive, 5 Years	717-8829	-	30	-
ProSupport Plus: 7x24 Technical Support, 5 Years	717-8830	-	30	-
ProSupport Plus: Next Business Day Onsite, 5 Years	717-8831	-	30	-
Thank you for choosing Dell ProSupport Plus. For tech support, visit www.dell.com/contactdell or call 1-866-516-3115	997-8367	-	30	-
Activate Your Microsoft 365 For A 30 Day Trial	630-ABBT	-	30	-
Dell Pro Slim Plus QBS1250	658-BFVK	-	30	-
No Additional Add In Cards	382-BBHX	-	30	-

Subtotal: \$28,167.60
Shipping: \$0.00
Estimated Tax: \$0.00

Total: \$28,167.60

CONNECT WITH DELL:



BROWSE MORE OPTIONS:



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Laptops



Desktops



Servers & Storage



2-in-1's



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Financing Options



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Dell Support



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Events



Dell Premier

Important Notes

Terms of Sale

This Quote will, if Customer issues a purchase order for the quoted items that is accepted by Supplier, constitute a contract between the entity issuing this Quote ("Supplier") and the entity to whom this Quote was issued ("Customer"). Unless otherwise stated herein, pricing is valid for thirty days from the date of this Quote. All products, pricing, and other information is based on the latest information available and is subject to change for any reason, including but not limited to tariffs imposed by government authorities. Supplier reserves the right to cancel this Quote and Customer purchase orders arising from pricing errors. Taxes and/or freight charges listed on this Quote are only estimates. The final amounts shall be stated on the relevant invoice. Additional freight charges will be applied if Customer requests expedited shipping. Please indicate any tax exemption status on your purchase order and send your tax exemption certificate to Tax_Department@dell.com or ARSalesTax@emc.com, as applicable.

Governing Terms: This Quote is subject to: (a) a separate written agreement between Customer or Customer's affiliate and Supplier or a Supplier's affiliate to the extent that it expressly applies to the products and/or services in this Quote or, to the extent there is no such agreement, to the applicable set of Dell's Terms of Sale (available at www.dell.com/terms or www.dell.com/oemterms), or for cloud/as-a-Service offerings, the applicable cloud terms of service (identified on the Offer

Specific Terms referenced below); and (b) the terms referenced herein (collectively, the "Governing Terms"). Different Governing Terms may apply to different products and services on this Quote. The Governing Terms apply to the exclusion of all terms and conditions incorporated in or referred to in any documentation submitted by Customer to Supplier.

Supplier Software Licenses and Services Descriptions: Customer's use of any Supplier software is subject to the license terms accompanying the software, or in the absence of accompanying terms, the applicable terms posted on www.Dell.com/eula. Descriptions and terms for Supplier-branded standard services are stated at www.dell.com/servicecontracts/global or for certain infrastructure products at www.dellmc.com/en-us/customer-services/product-warranty-and-service-descriptions.htm.

Offer-Specific, Third Party and Program Specific Terms: Customer's use of third-party software is subject to the license terms that accompany the software. Certain Supplier-branded and third-party products and services listed on this Quote are subject to additional, specific terms stated on www.dell.com/offeringspecificterms ("Offer Specific Terms").

In case of Resale only: Should Customer procure any products or services for resale, whether on standalone basis or as part of a solution, Customer shall include the applicable software license terms, services terms, and/or offer-specific terms in a written agreement with the end-user and provide written evidence of doing so upon receipt of request from Supplier.

In case of Financing only: If Customer intends to enter into a financing arrangement ("Financing Agreement") for the products and/or services on this Quote with Dell Financial Services LLC or other funding source pre-approved by Supplier ("FS"), Customer may issue its purchase order to Supplier or to FS. If issued to FS, Supplier will fulfill and invoice FS upon confirmation that: (a) FS intends to enter into a Financing Agreement with Customer for this order; and (b) FS agrees to procure these items from Supplier. Notwithstanding the Financing Agreement, Customer's use (and Customer's resale of and the end-user's use) of these items in the order is subject to the applicable governing agreement between Customer and Supplier, except that title shall transfer from Supplier to FS instead of to Customer. If FS notifies Supplier after shipment that Customer is no longer pursuing a Financing Agreement for these items, or if Customer fails to enter into such Financing Agreement within 120 days after shipment by Supplier, Customer shall promptly pay the Supplier invoice amounts directly to Supplier.

Customer represents that this transaction does not involve: (a) use of U.S. Government funds; (b) use by or resale to the U.S. Government; or (c) maintenance and support of the product(s) listed in this document within classified spaces. Customer further represents that this transaction does not require Supplier's compliance with any statute, regulation or information technology standard applicable to a U.S. Government procurement.

For certain products shipped to end users in California, a State Environmental Fee will be applied to Customer's invoice. Supplier encourages customers to dispose of electronic equipment properly.

Electronically linked terms and descriptions are available in hard copy upon request.

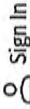
**TOWN OF WATERFORD
CAPITAL PROJECT REQUEST FORM
2027-2031 FISCAL YEAR REQUEST**

DEPARTMENT/AGENCY IT Department	CONTACT PERSON Jeffrey Robillard
PROJECT NAME Firewall Replace	DEPARTMENT PRIORITY 6

1	DESCRIPTION AND JUSTIFICATION (describe the type, purpose & anticipated accomplishments of the project)																																																																						
	The Town has two Fortigate firewalls that allow and restrict the public network and town network from outside and inside threats. Without these units there would be no connectivity to the internet and there would be a reduction in flow of traffic between internal virtual network resources. We have been given dates that these devices will be considered end of life and unsupported in August and October of 2030. The request is to replace both of these units in FY29. The Library has a smaller firewall, the fortigate 51G at \$1557 and the town firewall would be the 201G at and expected \$11,708.																																																																						
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Fortinet FortiGate 201G - security appliance - cloud-managed - with 1 year FortiCare Premium Support + 1 year FortiGuard

MFG # FG-201G-BDL-809-12 CDW # 8033632

~~\$13,505.00~~ Save \$1797.35

\$11,707.65

Advertised Price

Lease Pricing Available ⓘ



1

● In Stock (3 Units Available)

Get it Sat, Nov 08 by a CDW partner

Est. delivery date for 10001 ⓘ

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Quick Tech Specs

- Security appliance
- 2.5GbE, 5GbE, 10GbE, Bluetooth LE
- 1U
- rack-mountable
- with 1 year FortiCare Premium Support + 1 year FortiGuard Enterprise Protection
- front and side to back
- cloud-managed



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Fortinet FortiGate 51G-SFP-POE - security appliance - cloud-managed - with 1 year FortiCare Premium Support + 1 year

MFG # FG-51G-SFP-POE-BDL-809-12

CDW # 8058330

~~\$2,035.00~~ Save \$478.91

\$1,556.09

Advertised Price

Lease Pricing Available ⓘ



1



● 1-3+ Days

Expected in-stock date for this item is between 1-3 days. Item will ship once it is in stock.

Add to Cart

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Quick Tech Specs

- Three RJ45 PoE+, One RJ45 PoE+ WAN, One RJ45 WAN and One SFP Ports
- Security-Driven Networking with FortiOS
- Consolidated AI /ML-Powered FortiGuard Services
- 64GB SSD Storage Capacity
- Unparalleled Performance with Fortinet's SoC Processors

FortiGate 200G Series



Highlights

Gartner® Magic Quadrant™ Leaders for both Network Firewalls and WAN Edge Infrastructure

Secure Networking with FortiOS for converged networking and security

State-of-the-art unparalleled performance with Fortinet's patented SPU and vSPU processors

Enterprise security with consolidated AI/ML-powered FortiGuard services

Deep visibility into applications, users, and devices beyond traditional firewall techniques

Artificial Intelligence, Machine Learning Security with Deep Visibility

The FortiGate 200G series next-generation firewall (NGFW) combines artificial intelligence (AI)-powered security and machine learning (ML) to deliver threat protection at any scale. Get deeper visibility into your network and see applications, users, and devices before they become threats.

Powered by a rich set of AI/ML security capabilities that extend into an integrated security fabric platform, the FortiGate 200G Series delivers secure networking that is broad, deep, and automated. Secure your network end to end with advanced edge protection that includes web, content, and device security, while network segmentation and secure SD-WAN reduce complexity and risk in hybrid IT networks. This security fabric seamlessly extends across your entire environment, including a Hybrid Mesh Firewall architecture, ensuring consistent policy enforcement and threat protection across all network segments.

Universal zero-trust network access (ZTNA) automatically controls, verifies, and facilitates user access to applications, reducing lateral threats by providing access only to validated users. Ultra-fast threat protection and SSL inspection provides security at the edge you can see without impacting performance.

IPS	NGFW	Threat Protection	Interfaces
9 Gbps	7 Gbps	6 Gbps	Multiple GE RJ45, 5GE RJ45, 10GE SFP+ Slots, GE SFP Slots

Use Cases



Next Generation Firewall (NGFW)

- FortiGuard Labs' suite of AI-Powered Security Services, natively integrated with your NGFW, secures web, content, and devices and protects networks from ransomware, malware, zero days, and sophisticated AI-powered cyberattacks
- Real-time SSL inspection (including TLS 1.3) provides full visibility into users, devices, and applications across the attack surface
- Fortinet's patented SPU technology provides industry-leading high-performance protection



Secure SD-WAN

- FortiGate WAN Edge powered by one OS and unified security and management framework and systems transforms and secures WANs
- Delivers superior quality of experience and effective security posture for hybrid working models, SD-Branch, and cloud-first WAN use cases
- Achieve operational efficiencies at any scale through automation, deep analytics, and self-healing



Universal ZTNA

- Control access to applications no matter where the user is and no matter where the application is hosted for universal application of access policies
- Provide extensive authentications, checks, and enforce policy prior to granting application access every time
- Agent-based access with FortiClient or agentless access via proxy portal for guest or BYOD



Segmentation

- Dynamic segmentation adapts to any network topology to deliver true end-to-end security from the branch to the data center and across multi-cloud environments
- Ultra-scalable, low latency, VXLAN segmentation bridges physical and virtual domains with Layer 4 firewall rules
- Prevents lateral movement across the network with advanced, coordinated protection from FortiGuard Security Services, detects and prevents known, zero-day, and unknown attacks



FortiGuard AI-Powered Security Services

FortiGuard AI-Powered Security Services is part of Fortinet's layered defense and tightly integrated into our FortiGate NGFWs and other products. Infused with the latest threat intelligence from FortiGuard Labs, these services protect organizations against modern attack vectors and threats, including zero-day and sophisticated AI-powered attacks.

Network and file security

Network and file security services protect against network and file-based threats. With over 18,000 signatures, our industry-leading intrusion prevention system (IPS) uses AI/ML models for deep packet/SSL inspection, detecting and blocking malicious content, and applying virtual patches for newly discovered vulnerabilities. Anti-malware protection defends against both known and unknown file-based threats, combining antivirus and sandboxing for multi-layered security. Application control improves security compliance and provides real-time visibility into applications and usage.

Web/DNS security

Web/DNS security services protect against DNS-based attacks, malicious URLs (including those in emails), and botnet communications. DNS filtering blocks the full spectrum of DNS-based attacks while URL filtering uses a database of over 300 million URLs to identify and block malicious links. Meanwhile, IP reputation and anti-botnet services guard against botnet activity and DDoS attacks. FortiGuard Labs blocks over 500 million malicious/phishing/spam URLs weekly, and blocks 32,000 botnet command-and-control attempts every minute, demonstrating the robust protection offered through Fortinet.

SaaS and data security

SaaS and data security services cover key security needs for application use and data protection. This includes data loss prevention to ensure visibility, management, and protection (blocking exfiltration) of data in motion across networks, clouds, and users. Our inline cloud access security broker service protects data in motion, at rest, and in the cloud, enforcing compliance standards and managing account, user, and cloud app usage. Services also assess infrastructure, validate configurations, and highlight risks and vulnerabilities, including IoT device detection and vulnerability correlation.

Zero-Day threat prevention

Zero-day threat prevention is achieved through AI-powered inline malware prevention to analyze file content to identify and block unknown malware in real time, delivering sub-second protection across all NGFWs. The service also integrates the MITRE ATT&CK matrix to speed up investigations. Integrated into FortiGate NGFWs, the service provides comprehensive defense by blocking unknown threats, streamlining incident response, and reducing security overhead.

OT security

With over 1000 virtual patches, 1100+ OT applications, and 3300+ protocol rules, integrated OT security capabilities detect threats targeting OT infrastructure, perform vulnerability correlation, apply virtual patching, and utilize industry-specific protocol decoders for robust defense of OT environments and devices.





Available in



Appliance



Virtual



Hosted



Cloud



Container

FortiOS Everywhere

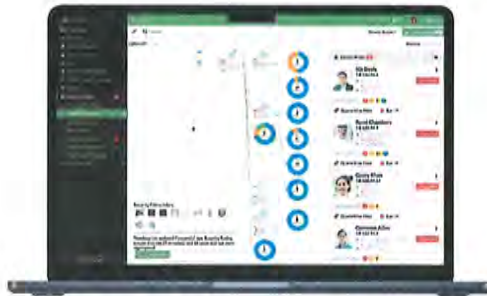
FortiOS, Fortinet's Real-Time Network Security Operating System

FortiOS is the operating system that powers Fortinet Security Fabric platform, enabling enforcement of security policies and holistic visibility across the entire attack surface. FortiOS provides a unified framework for managing and securing networks, cloud-based, hybrid, or a convergence of IT, OT, and IoT. FortiOS enables seamless and efficient interoperation across Fortinet products with consistent and consolidated AI-powered protection across today's hybrid environments.

Unlike traditional point solutions, Fortinet adopts a holistic approach to cybersecurity, aiming to reduce complexities, eliminate security silos, and improve operational efficiencies. By consolidating security functions into a single platform, FortiOS simplifies management, reduces costs, and enhances overall security posture. Together, FortiGate and FortiOS create intelligent, adaptive protection to help organizations reduce complexity, eliminate security silos, and optimize user experience.

By integrating generative AI (GenAI), FortiOS further enhances the ability to analyze network traffic and threat intelligence, detects deviations or anomalies more effectively, and provides more precise remediation recommendations, ensuring minimum performance impact without compromising security.

Learn more about what's new in FortiOS. <https://www.fortinet.com/products/fortigate/fortios>



Intuitive easy to use view into the network and endpoint vulnerabilities



Comprehensive view of network performance, security, and system status

Fortinet ASICs: Unrivaed Security, Unprecedented Performance



Powered by the only purpose-built SPU

Traditional firewalls cannot protect against today's content and connection-based threats because they rely on off-the-shelf general-purpose central processing units (CPUs), leaving a dangerous security gap. Fortinet's custom SPUs deliver the power you need to radically increase speed, scale, and efficiency while greatly improving user experience and reducing footprint and power requirements. Fortinet's SPUs deliver up to 520 Gbps of protected throughput to detect emerging threats and block malicious content while ensuring your network security solution does not become a performance bottleneck.

Fortinet ASICs are designed to be energy-efficient, leading to lower power consumption and improved TCO. They deliver industry-leading throughput, handle more traffic and perform security inspections faster, reduce latency for quicker packet processing and minimize network delays.

Fortinet SPUs are designed with integrated security functions like zero trust, SSL, IPS, and VXLAN to name but a few, dramatically improving the performance of these functions that competitors traditionally implement in software.

Network processor NP7Lite

Fortinet's new, breakthrough SPU NP7Lite network processor works in line with FortiOS functions delivering:

- Superior firewall performance for IPv4/IPv6, SCTP, and multicast traffic with ultra-low latency
- VPN, CAPWAP, and IP tunnel acceleration
- Anomaly-based intrusion prevention, checksum offload, and packet defragmentation
- Traffic shaping and priority queuing

Content processor CP10

Content processors act as co-processors to offload resource-intensive processing of security functions. The tenth generation of the Fortinet Content Processor, the CP10, accelerates resource-intensive security functions while delivering:

- Pattern matching acceleration and fast inspection of real-time traffic for application identification
- IPS pre-scan/pre-match, signature correlation offload

FortiManager



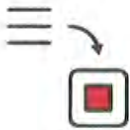
Centralized management at scale for distributed enterprises

FortiManager, powered by FortiAI, is a centralized management solution for the Fortinet Security Fabric. It streamlines mass provisioning and policy management for FortiGate, FortiGate VM, cloud security, SD-WAN, SD-Branch, FortiSASE, and ZTNA in hybrid environments. Additionally, FortiManager provides real-time monitoring of the entire managed infrastructure and automates network operation workflows. Leveraging GenAI in FortiAI, it further enhances Day 0–1 configurations and provisioning, and Day N troubleshooting and maintenance, unlocking the full potential of the Fortinet Security Fabric and significantly boosting operational efficiency.



GenAI in FortiManager helps manage networks effortlessly—generates configuration and policy scripts, troubleshoots issues, and executes recommended actions.

FortiConverter Service



Migration to FortiGate NGFW made easy

The FortiConverter Service provides hassle-free migration to help organizations transition quickly and easily from a wide range of legacy firewalls to FortiGate NGFWs. The service eliminates errors and redundancy by employing best practices with advanced methodologies and automated processes. Organizations can accelerate their network protection with the latest FortiOS technology.

FortiCare Services

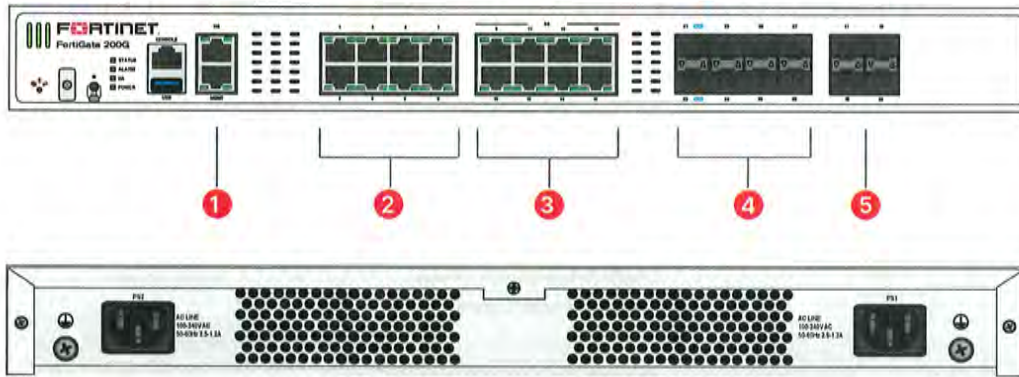


Expertise at your service

Fortinet prioritizes customer success through FortiCare Services, optimizing the Fortinet Security Fabric solution. Our comprehensive life-cycle services include Design, Deploy, Operate, Optimize, and Evolve. The FortiCare Elite, one of the service offerings, provides heightened SLAs and swift issue resolution with a dedicated support team. This advanced support option includes an extended end-of-engineering support of 18 months, providing flexibility and access to the intuitive FortiCare Elite portal for a unified view of device and security health, streamlining operational efficiency and maximizing Fortinet deployment performance.

Hardware

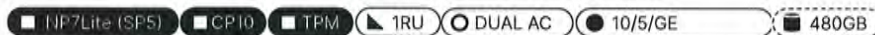
FortiGate 200G Series



Interfaces

1. 2 x GE RJ45 MGMT/HA Ports
2. 8 x GE RJ45 Ports
3. 8 x 5/2.5/GE RJ45 Ports
4. 8 x 10 GE SFP+/SFP FortiLink Slots
5. 4 x GE SFP Slots

Hardware Features



Trusted Platform Module (TPM)



The FortiGate 200G series features a dedicated module that hardens physical networking appliances by generating, storing, and authenticating cryptographic keys. Hardware-based security mechanisms protect against malicious software and phishing attacks.

Dual power supply



Power supply redundancy is essential in the operation of mission-critical networks. The FortiGate 200G series offers dual built-in non-hot swappable power supplies.

Access layer security



FortiLink protocol enables you to converge security and network access by integrating the FortiSwitch into the FortiGate as a logical extension of the firewall. These FortiLink-enabled ports can be reconfigured as regular ports as needed.

Signed Firmware Hardware Switch



The signed firmware switch is a physical security switch. It is by default set to the highest security level. The highest security level ensures that only an appropriately validated FortiOS firmware can be loaded on the FortiGate. This feature adds an additional physical layer of security to the FortiGate, acting as a key deterrent to and reducing risk of compromise.

Specifications

FORTIGATE 200G			FORTIGATE 201G		FORTIGATE 200G		FORTIGATE 201G	
Interfaces and Modules				Dimensions and Power				
GE RJ45 Ports		8		Height x Width x Length (inches)		1.75 × 17.0 × 15.0		
GE RJ45 Management / HA		1 / 1		Height x Width x Length (mm)		44.45 × 432 × 380		
5/2.5/GE RJ45 Ports		8		Weight		14.11 lbs (6.4 kg)		14.33 lbs (6.5 kg)
GE SFP Slots		4		Form Factor (supports EIA/non-EIA standards)		Rack Mount, 1 RU		
10/GE SFP/+ FortiLink Slots (default)		8		AC Power Consumption (Average / Maximum)		145 W / 175 W		145 W / 176 W
USB Port		1		AC Power Input		100–240V AC, 50/60Hz		
Console Port		1		AC Current (Maximum)		2A @100VAC, 1.2A @240VAC		
Onboard Storage		0	1× 480 GB SSD		Heat Dissipation		597.12 BTU/h	600.54 BTU/h
Trusted Platform Module (TPM)		✓		Power Supply Efficiency Rating		80Plus Compliant		
Bluetooth Low Energy (BLE)		✓		Redundant Power Supplies		✓ (Default dual non-swappable AC PSU for 1+1 Redundancy)		
Signed Firmware Hardware Switch		✓		Operating Environment and Certifications				
Included Transceivers		0						
System Performance — Enterprise Traffic Mix								
IPS Throughput ²								
NGFW Throughput ^{2,4}		7 Gbps		Operating Temperature		32°F to 104°F (0°C to 40°C)		
Threat Protection Throughput ^{2,5}		6 Gbps		Storage Temperature		-31°F to 158°F (-35°C to 70°C)		
System Performance and Capacity				Humidity		5% to 90% non-condensing		
IPv4 Firewall Throughput (1518 / 512 / 64 byte, UDP)		39 / 39 / 26.5 Gbps		Noise Level		LPA 48 dBA / LWA 55 dBA		
IPv6 Firewall Throughput (1518 / 512 / 64 byte, UDP)		39 / 39 / 26.5 Gbps		Forced Airflow		Side and Front to Back		
Firewall Latency (64 byte, UDP)		4.36 µs		Operating Altitude		Up to 10 000 ft (3048 m)		
Firewall Throughput (Packet per Second)		39.75 Mpps		Compliance		FCC Part 15 Class A, RCM, VCCI, CE, UL/cUL, CB		
Concurrent Sessions (TCP)		11 Million		Certification		USGv6/IPv6		
New Sessions/Second (TCP)		400 000						
Firewall Policies		10 000						
IPsec VPN Throughput (512 byte) ¹		36 Gbps						
Gateway-to-Gateway IPsec VPN Tunnels		2000						
Client-to-Gateway IPsec VPN Tunnels		16 000						
SSL-VPN Throughput ⁶		3 Gbps						
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)		500						
SSL Inspection Throughput (IPS, avg. HTTPS) ³		7 Gbps						
SSL Inspection CPS (IPS, avg. HTTPS) ³		7100						
SSL Inspection Concurrent Session (IPS, avg. HTTPS) ³		900 000						
Application Control Throughput (HTTP 64K) ²		27.8 Gbps						
CAPWAP Throughput (HTTP 64K)		37.5 Gbps						
Virtual Domains (Default / Maximum)		10 / 25						
Maximum Number of FortiSwitches Supported		64						
Maximum Number of FortiAPs (Total / Tunnel)		256 / 128						
Maximum Number of FortiTokens		5000						
High Availability Configurations		Active-Active, Active-Passive, Clustering						

Note: All performance values are "up to" and vary depending on system configuration.

¹ IPsec VPN performance test uses AES256-SHA256.

² IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.

³ SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

⁴ NGFW performance is measured with Firewall, IPS and Application Control enabled.

⁵ Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.

⁶ Uses RSA-2048 certificate.



Subscriptions

Service Category	Service Offering	A-la-carte	Bundles		
			Enterprise Protection	Unified Threat Protection	Advanced Threat Protection
FortiGuard Security Services	IPS — IPS, Malicious/Botnet URLs	*	*	*	*
	Anti-Malware Protection (AMP)—AV, Botnet Domains, Mobile Malware, Virus Outbreak Protection, Content Disarm and Reconstruct ³ , AI-based Heuristic AV, FortiGate Cloud Sandbox	*	*	*	*
	URL, DNS and Video Filtering — URL, DNS and Video ³ Filtering, Malicious Certificate	*	*	*	
	Anti-Spam		*	*	
	AI-based Inline Malware Prevention ³	*	*		
	Data Loss Prevention (DLP) ¹	*	*		
	Attack Surface Security — IoT Device Detection, IoT Vulnerability Correlation and Virtual Patching, Security Rating, Outbreak Check	*	*		
	OT Security—OT Device Detection, OT vulnerability correlation and Virtual Patching, OT Application Control and IPS ¹	*			
	Application Control		-----Included with FortiCare Subscription-----		
	Inline CASB ³		-----Included with FortiCare Subscription-----		
SD-WAN and SASE Services	SD-WAN Underlay Bandwidth and Quality Monitoring	Models up to FG/FWF-60F series			
	SD-WAN Underlay and Application Monitoring Service	FG-70F series and above			
	SD-WAN Overlay-as-a-Service	*			
	SD-WAN Connector for FortiSASE Secure Private Access	*			
	SASE expansion for SD-WAN (SD-WAN SPA Connector license plus FortiSASE starter kit for n* users) ²	Selected models only ²			
	SASE connector for FortiSASE Secure Edge Management (with 10Mbps Bandwidth)	Desktop models only			
NOC and SOC Services	FortiConverter Service for one time configuration conversion	*	*		
	Managed FortiGate Service—available 24x7, with Fortinet NOC experts performing device setup, network, and policy change management	*			
	FortiGate Cloud—Management, Analysis, and One Year Log Retention	*			
	FortiManager Cloud	*			
	FortiAnalyzer Cloud	*			
	FortiGuard SOCaaS—24x7 cloud-based managed log monitoring, incident triage, and SOC escalation service	*			
Hardware and Software Support	FortiCare Essentials	Desktop models only			
	FortiCare Premium	*	*	*	*
	FortiCare Elite	*			
Base Services	Device/OS Detection, GeoIPs, Trusted CA Certificates, Internet Services and Botnet IPs, DDNS (v4/v6), Local Protection, PSIRT Check, Anti-Phishing		-----Included with FortiCare Subscription-----		

1. Full features available when running FortiOS 7.4.1.

2. See the FortiSASE Ordering Guide for supported models and their associated number of user licenses.

3. Not available for FortiGate/FortiWiFi 40F, 60E, 60F, 80E, and 90E series from 7.4.4 onwards. Not available for FortiGate/FortiWiFi 30G and 50G series in any OS build.



FortiGuard Bundles

FortiGuard AI-Powered Security Bundles provide a comprehensive and meticulously curated selection of security services to combat known, unknown, zero-day, and emerging AI-based threats. These services are designed to prevent malicious content from breaching your defenses, protect against web-based threats, secure devices throughout IT/OT/IoT environments, and ensure the safety of applications, users, and data. All bundles include FortiCare Premium Services featuring 24x7x365 availability, one-hour response for critical issues, and next-business-day response for noncritical matters.



Ordering Information

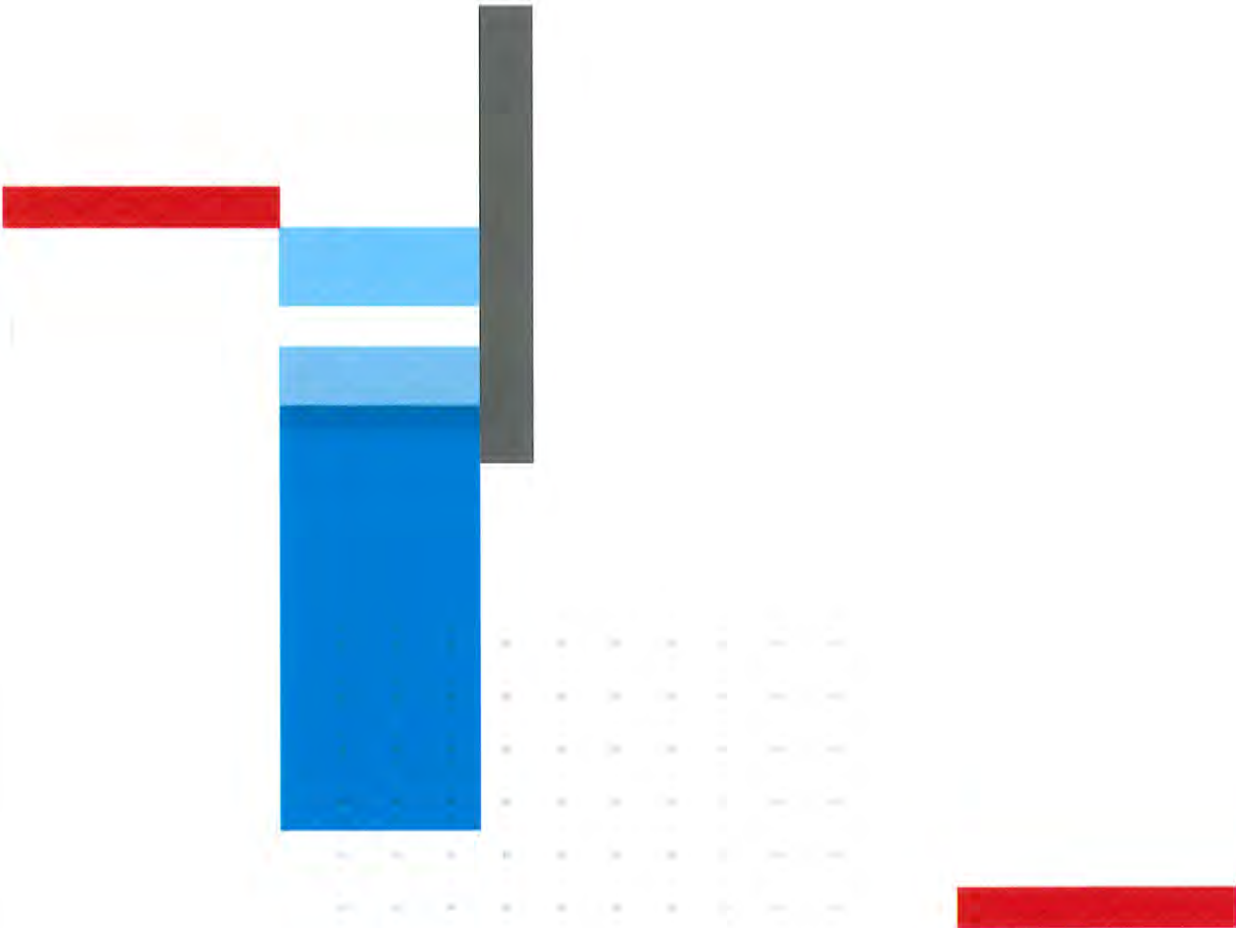
Product	SKU	Description
FortiGate 200G	FG-200G	10x GE RJ45 (including 1x MGMT port, 1x HA port, 8x switch ports), 4x GE SFP slots, 8x 5GE RJ45, 8x 10GE SFP+ slots, NP7Lite and CP10 hardware accelerated.
FortiGate 201G	FG-201G	10x GE RJ45 (including 1x MGMT port, 1x HA port, 8x switch ports), 4x GE SFP slots, 8x 5GE RJ45, 8x 10GE SFP+ slots, NP7Lite and CP10 hardware accelerated, 480GB onboard SSD storage.
Transceivers		
1 GE SFP SX Transceiver Module	FN-TRAN-SX	1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP LX Transceiver Module	FN-TRAN-LX	1 GE SFP LX transceiver module for all systems with SFP and SFP/SFP+ slots.
10 GE SFP+ RJ45 Transceiver Module	FN-TRAN-SFP+GC	10 GE SFP+ RJ45 transceiver module for systems with SFP+ slots.
10 GE SFP+ Transceiver Module, Short Range	FN-TRAN-SFP+SR	10 GE SFP+ transceiver module, short range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Long Range	FN-TRAN-SFP+LR	10 GE SFP+ transceiver module, long range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Extended Range	FN-TRAN-SFP+ER	10 GE SFP+ transceiver module, extended range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, 80km Extreme Long Range	FN-TRAN-SFP+ZR	10GE SFP+ transceiver module, 80km extreme long range, for systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, 30km Long Range	FN-TRAN-SFP+BD27	10GE SFP+ transceiver module, 30km long range single BiDi for systems with SFP+ and SFP/SFP+ slots (connects to FN-TRAN-SFP+BD33, ordered separately).
10 GE SFP+ Transceiver Module, (connects to FN-TRAN-SFP+BD27, ordered separately)	FN-TRAN-SFP+BD33	10GE SFP+ transceiver module, 30km long range single BiDi for systems with SFP+ and SFP/SFP+ slots (connects to FN-TRAN-SFP+BD27, ordered separately).
25 GE SFP28 Transceiver Module, Short Range	FN-TRAN-SFP28-SR	25 GE SFP28 transceiver module, short range, compatible with 10 GE SFP/SFP+ slots.
Cables		
10 GE SFP+ Passive Direct Attach Cable 1m	FN-CABLE-SFP+1	10 GE SFP+ passive direct attach cable, 1m for systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Passive Direct Attach Cable 3m	FN-CABLE-SFP+3	10 GE SFP+ passive direct attach cable, 3m for systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Passive Direct Attach Cable 5m	FN-CABLE-SFP+5	10 GE SFP+ passive direct attach cable, 5m for systems with SFP+ and SFP/SFP+ slots.

Visit <https://www.fortinet.com/resources/ordering-guides> for related ordering guides.



Fortinet Corporate Social Responsibility Policy

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FortiGate FortiWiFi 50G Series



Highlights

Gartner® Magic Quadrant™
Leaders for both Network
Firewalls and SD-WAN

Unparalleled performance
enabled by Fortinet's
patented ASIC and the
FortiOS operating system

Enterprise-grade protection
with FortiGuard AI-Powered
Security Services

Simplified operations with
centralized management
for networking and security,
automated workflows, deep
analytics, and self-healing

Inclusive SD-WAN and
wireless controller in every
FortiGate appliance at no
extra cost

Rich portfolio for any
business budget and need

Converged Next-Generation Firewall and SD-WAN

The FortiGate and FortiWiFi 50G series integrate firewalling, SD-WAN, and security in one appliance, making them perfect for building secure networks at distributed enterprise sites and transforming WAN architecture at any scale.

The 50G series runs on FortiOS, the industry's first converged networking and security operating system. This single OS approach enables businesses to gain benefits of operational efficiency and unified protection from the seamless integration of Fortinet Solutions within a Hybrid Mesh Firewall architecture.

As a cornerstone of the Fortinet Security Fabric platform, the FortiGate NGFW works seamlessly with FortiGuard AI-Powered Security Services to deliver coordinated, automated, end-to-end threat protection in real time.

The 50G family is built on the patented SD-WAN-based ASIC, which delivers unmatched performance over traditional CPUs with lower cost and reduced power consumption. This application-specific design and embedded multi-core processor further accelerate the convergence of networking and security functions in the 50G family to optimize secure connections and deliver a robust user experience at branch locations.

IPS	NGFW	Threat Protection	Interfaces
2.25 Gbps	1.25 Gbps	1.1 Gbps	Multiple GE RJ45 Variants with 5G, PoE, DSL, SFP, WiFi, and/or storage

Use Cases



Perimeter Protection

- Protect networks from malicious traffic, guard against file-based threats, block web-based attacks, and secure applications and data with natively integrated FortiGuard AI-Powered Security Services
- Inspect and control incoming and outgoing traffic based on defined security policies
- Perform real-time SSL inspection (including TLS 1.3) with full visibility into users, devices, and applications across the attack surface
- Accelerate performance, protection, and energy efficiency with Fortinet's patented SPU with converged security and networking technologies



Secure SD-WAN

- FortiGate enables best-of-breed WAN edge with integrated SD-WAN, WAN optimization, security, and unified management from a single FortiOS operating system
- FortiGate, built on a patented SD-WAN-based ASIC, delivers faster application identification to avoid delays in accessing applications and accelerates overlay performance regardless of location
- Enhances hybrid working with a comprehensive SASE solution by integrating cloud-delivered SD-WAN with security service edge (SSE)
- Achieves operational efficiencies at any scale through automation, deep analytics, and self-healing



Secure Branch

- The Fortinet Security Fabric platform enables FortiGate NGFWs to automatically discover and secure IoT devices for faster branch onboarding
- Fully integrated with FortiSwitch secure Ethernet switches and FortiAP access points, FortiGate easily extends security to WAN, LAN, and WLAN at branch offices for unified protection and reliable connectivity
- FortiGate and Fortinet products work seamlessly with FortiManager to centralize visibility and simplify management across locations for IT teams
- FortiGate HA support ensures continuous network protection and minimizes downtime in the event of hardware failures or network disruptions



FortiGuard AI-Powered Security Services

FortiGuard AI-Powered Security Services is part of Fortinet's layered defense and tightly integrated into our FortiGate NGFWs and other products. Infused with the latest threat intelligence from FortiGuard Labs, these services protect organizations against modern attack vectors and threats, including zero-day and sophisticated AI-powered attacks.

Network and file security

Network and file security services protect against network and file-based threats. With over 18,000 signatures, our industry-leading intrusion prevention system (IPS) uses AI/ML models for deep packet/SSL inspection, detecting and blocking malicious content, and applying virtual patches for newly discovered vulnerabilities. Anti-malware protection defends against both known and unknown file-based threats, combining antivirus and sandboxing for multi-layered security. Application control improves security compliance and provides real-time visibility into applications and usage.

Web/DNS security

Web/DNS security services protect against DNS-based attacks, malicious URLs (including those in emails), and botnet communications. DNS filtering blocks the full spectrum of DNS-based attacks while URL filtering uses a database of over 300 million URLs to identify and block malicious links. Meanwhile, IP reputation and anti-botnet services guard against botnet activity and DDoS attacks. FortiGuard Labs blocks over 500 million malicious/phishing/spam URLs weekly, and blocks 32,000 botnet command-and-control attempts every minute, demonstrating the robust protection offered through Fortinet.

SaaS and data security

SaaS and data security services cover key security needs for application use and data protection. This includes data loss prevention to ensure visibility, management, and protection (blocking exfiltration) of data in motion across networks, clouds, and users. Our inline cloud access security broker service protects data in motion, at rest, and in the cloud, enforcing compliance standards and managing account, user, and cloud app usage. Services also assess infrastructure, validate configurations, and highlight risks and vulnerabilities, including IoT device detection and vulnerability correlation.

Zero-Day threat prevention

Zero-day threat prevention is achieved through AI-powered inline malware prevention to analyze file content to identify and block unknown malware in real time, delivering sub-second protection across all NGFWs. The service also integrates the MITRE ATT&CK matrix to speed up investigations. Integrated into FortiGate NGFWs, the service provides comprehensive defense by blocking unknown threats, streamlining incident response, and reducing security overhead.

OT security

With over 1000 virtual patches, 1100+ OT applications, and 3300+ protocol rules, integrated OT security capabilities detect threats targeting OT infrastructure, perform vulnerability correlation, apply virtual patching, and utilize industry-specific protocol decoders for robust defense of OT environments and devices.



Available in



Appliance



Virtual



Hosted



Cloud



Container

FortiOS Everywhere

FortiOS, Fortinet's Real-Time Network Security Operating System

FortiOS is the operating system that powers Fortinet Security Fabric platform, enabling enforcement of security policies and holistic visibility across the entire attack surface. FortiOS provides a unified framework for managing and securing networks, cloud-based, hybrid, or a convergence of IT, OT, and IoT. FortiOS enables seamless and efficient interoperation across Fortinet products with consistent and consolidated AI-powered protection across today's hybrid environments.

Unlike traditional point solutions, Fortinet adopts a holistic approach to cybersecurity, aiming to reduce complexities, eliminate security silos, and improve operational efficiencies. By consolidating security functions into a single platform, FortiOS simplifies management, reduces costs, and enhances overall security posture. Together, FortiGate and FortiOS create intelligent, adaptive protection to help organizations reduce complexity, eliminate security silos, and optimize user experience.

By integrating generative AI (GenAI), FortiOS further enhances the ability to analyze network traffic and threat intelligence, detects deviations or anomalies more effectively, and provides more precise remediation recommendations, ensuring minimum performance impact without compromising security.

Learn more about what's new in FortiOS. <https://www.fortinet.com/products/fortigate/fortios>



Intuitive easy to use view into the network and endpoint vulnerabilities



Comprehensive view of network performance, security, and system status

Fortinet ASICs: Unrivalled Security, Unprecedented Performance



Powered by the only purpose-built SPU

Traditional firewalls cannot protect against today's content and connection-based threats because they rely on off-the-shelf general-purpose central processing units (CPUs), leaving a dangerous security gap. Fortinet's custom SPUs deliver the power you need to radically increase speed, scale, and efficiency while greatly improving user experience and reducing footprint and power requirements. Fortinet's SPUs deliver up to 520 Gbps of protected throughput to detect emerging threats and block malicious content while ensuring your network security solution does not become a performance bottleneck.

Fortinet ASICs are designed to be energy-efficient, leading to lower power consumption and improved TCO. They deliver industry-leading throughput, handle more traffic and perform security inspections faster, reduce latency for quicker packet processing and minimize network delays.

Fortinet SPUs are designed with integrated security functions like zero trust, SSL, IPS, and VXLAN to name but a few, dramatically improving the performance of these functions that competitors traditionally implement in software.

Secure SD-WAN ASIC SP5

- Combines a RISC-based CPU with Fortinet's proprietary SPU content and network processors for unmatched performance
- Delivers the industry's fastest application identification and steering for efficient business operations
- Accelerates IPsec VPN performance for the best user experience on direct internet access
- Enables best-of-breed NGFW security and deep SSL inspection with high performance
- Extends security to the access layer to enable SD-Branch transformation with accelerated and integrated switch and access point connectivity

Unified Management for Optimal Security and Efficiency

Whether you are a small business or a large enterprise, Fortinet provides centralized control, visibility, and automation for your security infrastructure.

FortiManager: Centralized management at scale for distributed enterprises



FortiManager, powered by FortiAI, is a centralized management solution for the Fortinet Security Fabric. It streamlines mass provisioning and policy management for FortiGate, FortiGate VM, cloud security, SD-WAN, SD-Branch, FortiSASE, and ZTNA in hybrid environments. Additionally, FortiManager provides real-time monitoring of the entire managed infrastructure and automates network operation workflows. Leveraging GenAI in FortiAI, it further enhances Day 0–1 configurations and provisioning, and Day N troubleshooting and maintenance, unlocking the full potential of the Fortinet Security Fabric and significantly boosting operational efficiency.

FortiGate Cloud: Simplified management for small and mid-size businesses



FortiGate Cloud is a SaaS service offering simplified management, security analytics, and reporting for Fortinet FortiGate NGFWs to help you more efficiently manage your devices and reduce cyber risk. It simplifies the initial deployment, setup, and ongoing management of FortiGates and downstream connected devices such as FortiAP, FortiSwitch, and FortiExtender, with zero-touch provisioning. It provides real-time and historical visibility into traffic analytics and security threats to reduce risks and improve security posture. View various threats, web traffic, and system events stored in the cloud for up to a year, with predefined reports to meet compliance and deliver actionable insights.



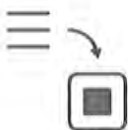
GenAI in FortiManager helps manage networks effortlessly -- generates configuration and policy scripts, troubleshoot issues, and execute recommended actions.



FortiGate Cloud provides intuitive management and analytics solution with end-to-end visibility, logging and reporting for SMB.

FortiConverter Service

Migration to FortiGate NGFW made easy

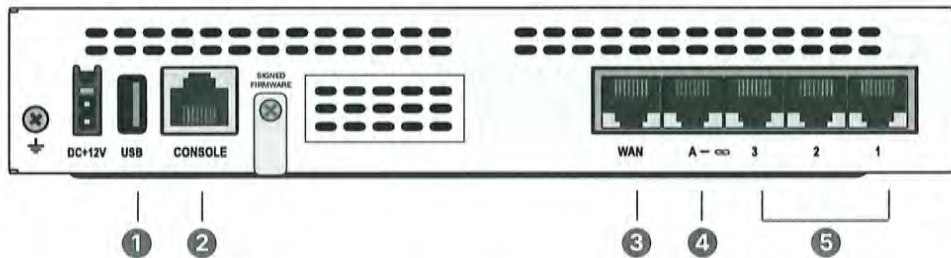


The FortiConverter Service provides hassle-free migration to help organizations transition quickly and easily from a wide range of legacy firewalls to FortiGate NGFWs. The service eliminates errors and redundancy by employing best practices with advanced methodologies and automated processes. Organizations can accelerate their network protection with the latest FortiOS technology.

Hardware

FortiGate 50G/51G

■ SP5 ■ TPM ▽ DESKTOP ● GE ■ 64GB

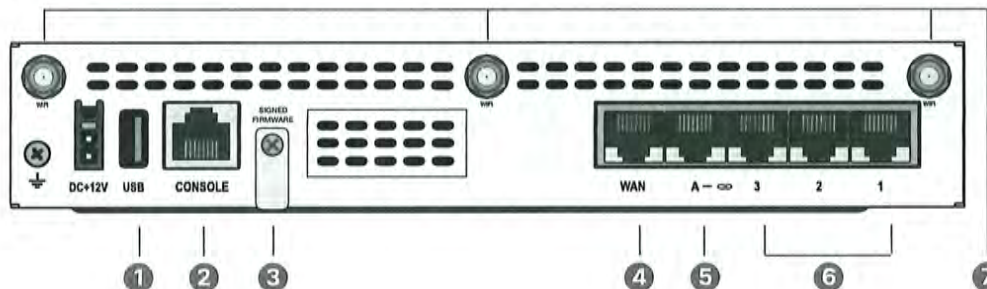


Interfaces

1. 1 x USB Port
2. 1 x Console Port
3. 1 x GE RJ45 WAN Port
4. 1 x GE RJ45 FortiLink Port
5. 3 x GE RJ45 Ethernet Ports

FortiWiFi 50G/51G Series

■ SP5 ■ TPM ▽ DESKTOP ● GE ■ 64GB a/b/g/n/ac-W2/ax



Interfaces

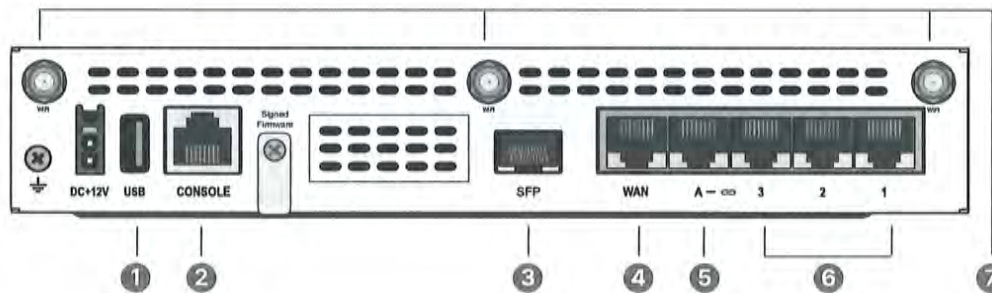
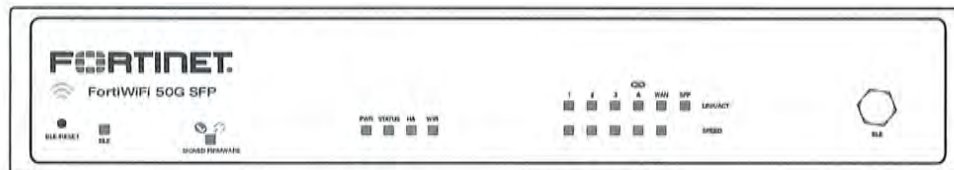
1. 1 x USB Port
2. 1 x Console Port
3. Signed Firmware Switch
4. 1 x GE RJ45 WAN Port
5. 1 x GE RJ45 FortiLink Port
6. 3 x GE RJ45 Ethernet Ports
7. 3 x WiFi Antenna Ports



Hardware

FortiGate/ FortiWiFi 50G-SFP

■ SP5 ■ TPM DESKTOP ● GE ● SFP a/b/g/n/ac-W2/ax

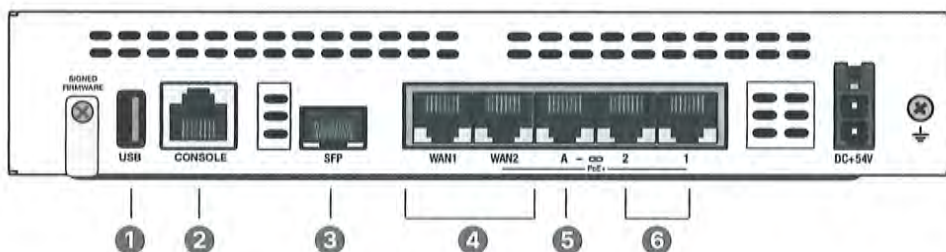


Interfaces

- 1 x USB Port
- 1 x Console Port
- 1 x GE SFP Port
- 1 x GE RJ45 WAN Port
- 1 x GE RJ45 FortiLink Port
- 3 x GE RJ45 Ethernet Ports
- 3 x WiFi Antenna Ports (FWF models only)

FortiGate 50/51G-SFP-POE

■ SP5 ■ TPM DESKTOP ● GE ● SFP ● POE 64GB



Interfaces

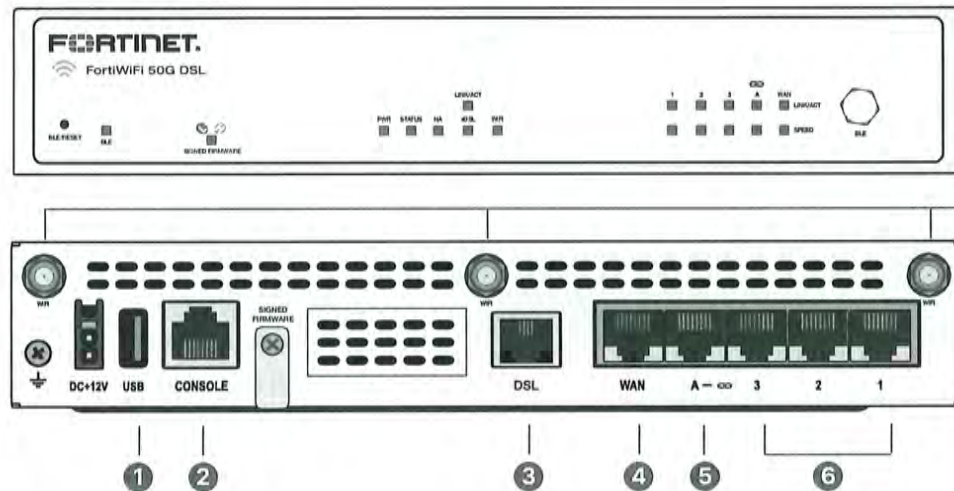
- 1 x USB Port
- 1 x Console Port
- 1 x GE SFP Port
- 2 x GE RJ45 WAN Ports (WAN2 PoE+)
- 1 x GE RJ45 FortiLink Port (PoE+)
- 2 x GE RJ45 Ethernet Ports (PoE+)



Hardware

FortiGate/ FortiWiFi 50G-DSL

☒ SP5
 ☒ TPM
 ☒ DESKTOP
 ☒ GE
 ☒ DSL
 ☒ a/b/g/n/ac-W2/ax



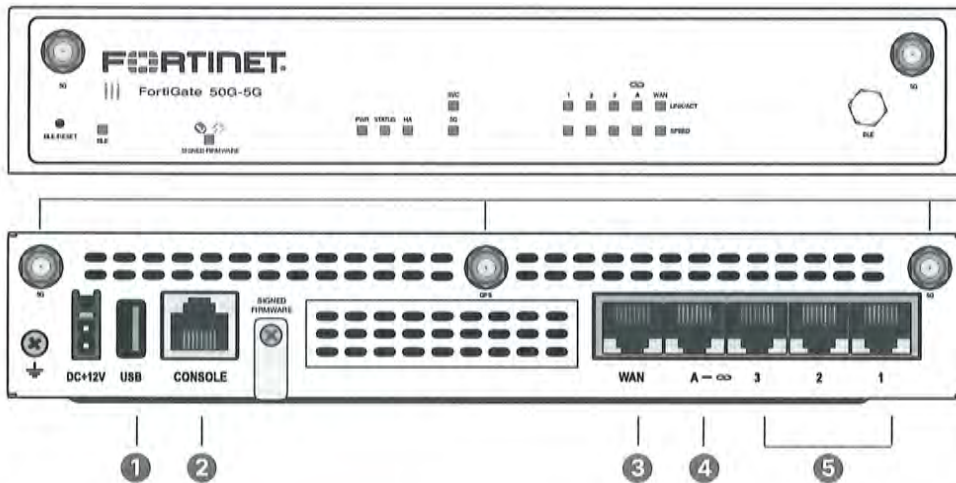
Interfaces

1. 1 x USB Port
2. 1 x Console Port
3. 1 x DSL RJ11 Port
4. 1 x GE RJ45 WAN Port
5. 1 x GE RJ45 FortiLink Port
6. 3 x GE RJ45 Ethernet Ports
7. 3 x WiFi Antenna Ports (FWF models only)

Hardware

FortiGate 50G-5G/51G-5G

SP5 TPM DESKTOP GE 5G 64GB

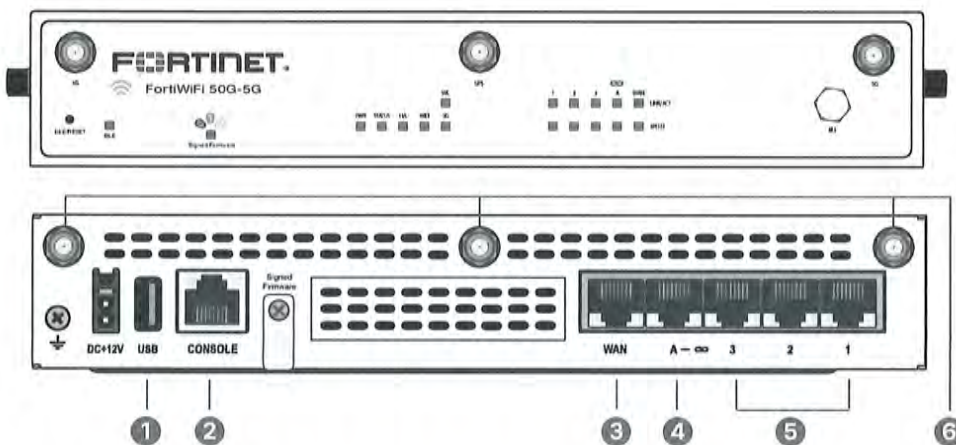


Interfaces

1. 1 x USB Port
2. 1 x Console Port
3. 1 x GE RJ45 WAN Port
4. 1 x GE RJ45 FortiLink Port
5. 3 x GE RJ45 Ethernet Ports
6. 5 x WWAN Antenna Ports

FortiWiFi 50G-5G-II

SP5 TPM DESKTOP GE 5G a/b/g/n/ac-W2/ax



Interfaces

1. 1 x USB Port
2. 1 x Console Port
3. 1 x GE RJ45 WAN Port
4. 1 x GE RJ45 FortiLink Port
5. 3 x GE RJ45 Ethernet Ports
6. 3 x WiFi Antenna Ports
5 x WWAN Antenna Ports

Hardware Features



Superior wireless coverage

A built-in dual-band, dual-stream access point is integrated on the FortiWiFi 50G series, which provides the industry's high-speed WiFi-6 (802.11ax) wireless access.



Trusted Platform Module (TPM)

The FortiGate 50G series features a dedicated module that hardens physical networking appliances by generating, storing, and authenticating cryptographic keys. Hardware-based security mechanisms protect against malicious software and phishing attacks.



Access layer security

FortiLink protocol enables you to converge security and network access by integrating the FortiSwitch into the FortiGate as a logical extension of the firewall. These FortiLink-enabled ports can be reconfigured as regular ports as needed.



Compact and reliable form factor

Designed for small environments, the FortiGate can be on a desktop or wall-mounted. It is small, lightweight, yet highly reliable with superior meantime between failures, minimizing the chance of network disruption.



Signed Firmware Hardware Switch

The signed firmware switch is a physical security switch. It is by default set to the highest security level. The highest security level ensures that only an appropriately validated FortiOS firmware can be loaded on the FortiGate. This feature adds an additional physical layer of security to the FortiGate, acting as a key deterrent to and reducing risk of compromise.



Third-party verified Environmental Product Declaration

The FortiGate 50G, 50G-SFP, 50G-5G, 51G, and 51G-5G are EPD compliant with ISO 14025 Type III (externally verified), ensuring data accuracy and full transparency on the product environmental impacts throughout its life cycle. For more information please visit <https://www.environdec.com/library/epd21558>



Specifications

FG-50G/51G		FWF-50G/-51G	FG-50G/51G		FWF-50G/-51G
Hardware Specifications			Application Control Throughput (HTTP 64K) ²		2.8 Gbps
Hardware Accelerated GE WAN Ports		1	CAPWAP Throughput (HTTP 64K)		3.8 Gbps
Hardware Accelerated GE RJ45 Ports		3	Virtual Domains (Default/Maximum)		5/5
Hardware Accelerated GE RJ45 FortiLink Port (Default)		1	Maximum Number of FortiSwitches Supported		8
USB Port		1	Maximum Number of FortiAPs (Total/Tunnel Mode)		16 / 8
Console Port (RJ45)		1	Maximum Number of FortiTokens		500
Internal Storage	— / 64 GB SSD	— / 64 GB SSD	High Availability Configurations		Active-Active, Active-Passive, Clustering
Trusted Platform Module (TPM)		✓	Dimensions		
Bluetooth Low Energy (BLE)		✓	Height x Width x Length (Inches)	1.6 × 8.5 × 6.3	1.7 × 8.5 × 7.0
Signed Firmware Hardware Switch		✓	Height x Width x Length (mm)	40.5 × 216 × 160	42 × 216 × 178
Antenna Ports (SMA)	—	3	Weight	2.2 lbs (1.0 kg)	2.4 lbs (1.1 kg)
SIM Slots (Nano SIM)	—	—	Form Factor (supports EIA/non-EIA standards)	Desktop	
Wireless Interface	—	Dual Radio (2.4 GHz/ 5 GHz), 802.11 a/b/g/n/ac/ax			
System Performance — Enterprise Traffic Mix			Operating Environment and Certifications		
IPS Throughput ²	2.25 Gbps		Power Rating	12VDC, 3A	
NGFW Throughput ^{2,4}	1.25 Gbps		Power Required	Powered by External DC Power Adapter, 100–240V AC, 50/60 Hz	
Threat Protection Throughput ^{2,5}	1.1 Gbps		Maximum Current	100V/0.4A, 240V/0.2A	TBA
System Performance			Power Consumption (Average/Maximum)	8.3 W / 8.9 W	TBA
Firewall Throughput (1518/512/64 byte UDP packets)	5 / 5 / 4 Gbps		Heat Dissipation	30.35 BTU/h	TBA
Firewall Latency (64 byte UDP packets)	2.42 µs		Operating Temperature	32°F to 104°F (0°C to 40°C)	
Firewall Throughput (Packets Per Second)	6 Mpps		Storage Temperature	-31°F to 158°F (-35°C to 70°C)	
Concurrent Sessions (TCP)	720 000		Humidity	10% to 90% non-condensing	
New Sessions/Second (TCP)	85 000		Noise Level	Fanless 0 dBA	
Firewall Policies	2000		Operating Altitude	Up to 10 000 ft (3048 m)	
IPsec VPN Throughput (512 byte) ¹	4.5 Gbps		Compliance	FCC, ISSED, CE, UL/cUL, CB	
Gateway-to-Gateway IPsec VPN Tunnels	200		Certifications	USGv6/IPv6	
Client-to-Gateway IPsec VPN Tunnels	250		Radio Specifications		
SSL-VPN Throughput	—		Multiple User (MU) MIMO	—	2 × 2
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)	—		Maximum Wi-Fi Speeds	—	1201 Mbps @ 5 GHz, 574 Mbps @ 2.4 GHz
SSL Inspection Throughput (IPS, avg. HTTPS) ³	1.3 Gbps		Maximum Tx Power	—	21.0 dBm per chain @ 2.4GHz, 19.5 dBm per chain @ 5GHz
SSL Inspection CPS (IPS, avg. HTTPS) ³	699				
SSL Inspection Concurrent Session (IPS, avg. HTTPS) ³	74 000				

Note: All performance values are "up to" and vary depending on system configuration.

¹ IPsec VPN performance test uses AES256-SHA256.

² IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.

³ SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

⁴ NGFW performance is measured with Firewall, IPS and Application Control enabled.

⁵ Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.



Specifications

	FG-50G-SFP	FWF-50G-SFP	FG-50G-SFP-POE/FG-51G-SFP-POE
Hardware Specifications			
Hardware Accelerated GE WAN Ports	1		2
Hardware Accelerated GE RJ45 Ports	3		—
Hardware Accelerated GE RJ45 POE/+ Ports	—		4
Hardware Accelerated GE SFP Slots	1		1
Hardware Accelerated GE RJ45 FortiLink Port (Default)	1		1 (PoE+)
USB Port	1		1
Console Port (RJ45)	1		1
Internal Storage	—		— / 64 GB SSD
Trusted Platform Module (TPM)	✓		✓
Bluetooth Low Energy (BLE)	✓		✓
Signed Firmware Hardware Switch	✓		✓
Antenna Ports (SMA)	—	3	—
Wireless Interface	—	Dual Radio (2.4 GHz/ 5 GHz), 802.11 a/b/g/n/ac/ax	—
System Performance — Enterprise Traffic Mix			
IPS Throughput ²		2.25 Gbps	
NGFW Throughput ^{2,4}		1.25 Gbps	
Threat Protection Throughput ^{2,5}		1.1 Gbps	
System Performance			
Firewall Throughput (1518/512/64 byte UDP packets)		5 / 5 / 4 Gbps	
Firewall Latency (64 byte UDP packets)		2.42 µs	
Firewall Throughput (Packets Per Second)		6 Mpps	
Concurrent Sessions (TCP)		720 000	
New Sessions/Second (TCP)		85 000	
Firewall Policies		2000	
IPsec VPN Throughput (512 byte) ¹		4.5 Gbps	
Gateway-to-Gateway IPsec VPN Tunnels		200	
Client-to-Gateway IPsec VPN Tunnels		250	
SSL-VPN Throughput		—	
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)		—	
SSL Inspection Throughput (IPS, avg. HTTPS) ³		1.3 Gbps	
SSL Inspection CPS (IPS, avg. HTTPS) ³		699	
SSL Inspection Concurrent Session (IPS, avg. HTTPS) ³		74 000	
Application Control Throughput (HTTP 64K) ²		2.8 Gbps	
CAPWAP Throughput (HTTP 64K)		3.8 Gbps	
Virtual Domains (Default/Maximum)		5/5	
Maximum Number of FortiSwitches Supported		8	
Maximum Number of FortiAPs (Total/Tunnel Mode)		16 / 8	
Maximum Number of FortiTokens		500	
High Availability Configurations		Active-Active, Active-Passive, Clustering	

Note: All performance values are "up to" and vary depending on system configuration.

¹ IPsec VPN performance test uses AES256-SHA256.

² IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.

³ SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

⁴ NGFW performance is measured with Firewall, IPS and Application Control enabled.

⁵ Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.



Specifications

	FG-50G-SFP	FWF-50G-SFP	FG-50G-SFP-POE/FG-51G-SFP-POE
Dimensions			
Height x Width x Length (inches)		1.6 × 8.5 × 6.3	
Height x Width x Length (mm)		40.5 × 216 × 160	
Weight		2.2 lbs (1.0 kg)	
Form Factor (supports EIA/non-EIA standards)		Desktop	
Operating Environment and Certifications			
Power Rating		12VDC, 3A	54VDC
Power Required		Powered by External DC Power Adapter, 100–240V AC, 50/60 Hz	
Maximum Current		100V/0.4A, 240V/0.2A	
Power Consumption (Average/Maximum)	8.3 W / 8.9 W	12.5 W / 13.9 W	75.4 W / 76.3 W 78.7 W / 78.1 W
Total Available PoE Power Budget*	—	—	60 W
Heat Dissipation	30.35 BTU/h	47.4 BTU/h	260.48 BTU/h 268.54 BTU/h
Operating Temperature		32°F to 104°F (0°C to 40°C)	
Storage Temperature		-31°F to 158°F (-35°C to 70°C)	
Humidity		10% to 90% non-condensing	
Noise Level		Fanless 0 dBA	
Operating Altitude		Up to 10 000 ft (3048 m)	
Compliance		FCC, ISSED, CE, UL/cUL, CB	
Certifications		USGv6/IPv6	
Radio Specifications			
Multiple User (MU) MIMO	—	2 × 2	—
Maximum Wi-Fi Speeds	—	1201 Mbps @ 5 GHz, 574 Mbps @ 2.4 GHz	—
Maximum Tx Power	—	21.0 dBm per chain @ 2.4GHz, 19.5 dBm per chain @ 5GHz	—

* Maximum loading on each PoE/+ port is 30 W (802.3at).



Specifications

	FG-50G-DSL	FWF-50G-DSL		FG-50G-DSL	FWF-50G-DSL	
Hardware Specifications			CAPWAP Throughput (HTTP 64K)			3.8 Gbps
Hardware Accelerated GE WAN Ports	1		Virtual Domains (Default/Maximum)			5/5
Hardware Accelerated GE RJ45 Ports	3		Maximum Number of FortiSwitches Supported			8
Hardware Accelerated GE RJ45 FortiLink Ports (Default)	1		Maximum Number of FortiAPs (Total/Tunnel Mode)			16 / 8
DSL RJ11 Port	1		Maximum Number of FortiTokens			500
USB Port	1		High Availability Configurations			Active-Active, Active-Passive, Clustering
Console Port (RJ45)	1		Dimensions			
Internal Storage	—		Height x Width x Length (Inches)			1.7 × 8.5 × 7.0
Trusted Platform Module (TPM)	✓		Height x Width x Length (mm)			42 × 216 × 178
Bluetooth Low Energy (BLE)	✓		Weight			2.14 lbs (0.97 kg) 2.2 lbs (1.0 kg)
Signed Firmware Hardware Switch	✓		Form Factor (supports EIA/non-EIA standards)			Desktop
Antenna Ports (SMA)	—	3	Operating Environment and Certifications			
Wireless Interface	—	Dual Radio (2.4 GHz/ 5 GHz), 802.11 a/b/g/n/ac/ax	Power Rating			12VDC, 3A
System Performance — Enterprise Traffic Mix			Power Required			Powered by External DC Power Adapter, 100–240V AC, 50/60 Hz
IPS Throughput ²	2.25 Gbps		Maximum Current			100V/0.2A, 240V/0.1A 100V/0.3A, 240V/0.15A
NGFW Throughput ^{2,4}	1.25 Gbps		Power Consumption (Average/Maximum)			12.43 W / 13.01 W 17.74 W / 19.0 W
Threat Protection Throughput ^{2,5}	1.1 Gbps		Heat Dissipation			44.36 BTU/hr 64.79 BTU/h
System Performance			Operating Temperature			32°F to 104°F (0°C to 40°C)
Firewall Throughput (1518/512/64 byte UDP packets)	5 / 5 / 4 Gbps		Storage Temperature			–31°F to 158°F (–35°C to 70°C)
Firewall Latency (64 byte UDP packets)	2.42 μs		Humidity			10% to 90% non-condensing
Firewall Throughput (Packets Per Second)	6 Mpps		Noise Level			Fanless 0 dBA
Concurrent Sessions (TCP)	720 000		Operating Altitude			Up to 10 000 ft (3048 m)
New Sessions/Second (TCP)	85 000		Compliance			FCC, ISED, CE, UL/cUL, CB
Firewall Policies	2000		Certifications			USGv6/IPv6
IPsec VPN Throughput (512 byte) ¹	4.5 Gbps		xDSL Modem Supported Mode			
Gateway-to-Gateway IPsec VPN Tunnels	200		vDSL2			✓
Client-to-Gateway IPsec VPN Tunnels	250		ADSL2			✓
SSL-VPN Throughput	—		ADSL2+			✓
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)	—		G.DMT			✓
SSL Inspection Throughput (IPS, avg. HTTPS) ³	1.3 Gbps		T1.413			✓
SSL Inspection CPS (IPS, avg. HTTPS) ³	699		G.Lite			✓
SSL Inspection Concurrent Session (IPS, avg. HTTPS) ³	74 000		xDSL Modem Supported Type			
Application Control Throughput (HTTP 64K) ²	2.8 Gbps		Annex A, B, I, J, M, L			✓
			Radio Specifications			
			Multiple User (MU) MIMO			— 2 × 2
			Maximum Wi-Fi Speeds			— 1201 Mbps @ 5 GHz, 574 Mbps @ 2.4 GHz
			Maximum Tx Power			— 21.0 dBm per chain @ 2.4GHz, 19.5 dBm per chain @ 5GHz

Note: All performance values are "up to" and vary depending on system configuration.

¹ IPsec VPN performance test uses AES256-SHA256.

² IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.

³ SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

⁴ NGFW performance is measured with Firewall, IPS and Application Control enabled.

⁵ Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.



Specifications

	FG-50G-5G/51G-5G	FWF-50G-5G-II		FG-50G-5G/51G-5G	FWF-50G-5G-II
Hardware Specifications			Dimensions		
Hardware Accelerated GE WAN Ports	1		Height x Width x Length (inches)	1.6 x 8.5 x 6.3	1.7 x 8.5 x 7.0
Hardware Accelerated GE RJ45 Ports	3		Height x Width x Length (mm)	40.5 x 216 x 160	42 x 216 x 178
Hardware Accelerated GE RJ45 FortiLink Ports (Default)	1		Weight	2.2 lbs (1.0 kg)	2.4 lbs (1.1 kg)
USB Port	1		Form Factor (supports EIA/non-EIA standards)	Desktop	
Console Port (RJ45)	1		Operating Environment and Certifications		
Internal Storage	— / 64 GB SSD	—	Power Rating	12VDC, 3A	
Trusted Platform Module (TPM)		✓	Power Required	Powered by External DC Power Adapter, 100–240V AC, 50/60 Hz	
Bluetooth Low Energy (BLE)		✓	Maximum Current	100V/0.4A, 240V/0.2A	100V AC / 0.4A, 240V AC / 0.2A
Signed Firmware Hardware Switch		✓	Power Consumption (Avg./Maximum)	8.3 W / 8.9 W	20.43 W / 23.59 W
Antenna Ports (SMA)	5	3	Heat Dissipation	30.35 BTU/h	80.44 BTU/hr
SIM Slots (Nano SIM)	2	2	Operating Temperature	32°F to 104°F (0°C to 40°C)	
Wireless Interface	—	Dual Radio (2.4 GHz/ 5 GHz), 802.11 a/b/g/n/ac/ax	Storage Temperature	-31°F to 158°F (-35°C to 70°C)	
System Performance — Enterprise Traffic Mix			Humidity	10% to 90% non-condensing	
IPS Throughput ²	2.25 Gbps		Noise Level	Fanless 0 dBA	21.73 dBA
NGFW Throughput ^{2,4}	1.25 Gbps		Operating Altitude	Up to 10 000 ft (3048 m)	
Threat Protection Throughput ^{2,5}	1.1 Gbps		Compliance	FCC, ISED, CE, UL/cUL, CB	FCC, IC, CE, UL/cUL, CB
System Performance			Certifications	USGv6/IPv6	
Firewall Throughput (1518/512/64 byte UDP packets)	5 / 5 / 4 Gbps		Radio Specifications		
Firewall Latency (64 byte UDP packets)	2.42 μs		Multiple User (MU) MIMO	—	2 x 2
Firewall Throughput (Packets Per Second)	6 Mpps		Maximum Wi-Fi Speeds	—	1201 Mbps @ 5 GHz, 574 Mbps @ 2.4 GHz
Concurrent Sessions (TCP)	720 000		Maximum Tx Power	—	21.0 dBm per chain @ 2.4GHz, 19.5 dBm per chain @ 5GHz
New Sessions/Second (TCP)	85 000		5G Modem		
Firewall Policies	2000		Maximum Tx Power	23 dBm (Power Class 3), 26 dBm (Power Class 2 in B41/n41)	
IPsec VPN Throughput (512 byte) ¹	4.5 Gbps		Regions	All Regions	
Gateway-to-Gateway IPsec VPN Tunnels	200		Modem Model	Telit Cinterion FN990A28-HP (2 SIM Slots, Active/Passive)	
Client-to-Gateway IPsec VPN Tunnels	250		5G Bands	n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n29 (SDL), n30, n38, n40, n41, n48, n66, n71, n75 (SDL), n76 (SDL), n77, n78, n79 (PCI.5 support on n41, n77, n78, n79 bands)	
SSL-VPN Throughput	—		LTE Bands	B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29 (SDL), B30, B32 (SDL), B34, B38, B39, B40, B41, B42, B43, B46, B48, B66, B71	
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)	—		UMTS/HSPA+	B1, B2, B4, B5, B6, B8, B19	
SSL Inspection Throughput (IPS, avg. HTTPS) ³	1.3 Gbps		WCDMA	B1, B2, B4, B5 (B6, B19), B8 (for EU and APAC regions only)	
SSL Inspection CPS (IPS, avg. HTTPS) ³	699		CDMA 1xRTT/EV-DO Rev A	—	
SSL Inspection Concurrent Session (IPS, avg. HTTPS) ³	74 000		GSM/GPRS/EDGE	—	
Application Control Throughput (HTTP 64K) ²	2.8 Gbps		Carrier Certifications	PTCRB : Yes ATT : Yes T-Mobile : Target Q4 Verizon : Target Q4 Public Safety Network: Yes (FirstNet Capable)	
CAPWAP Throughput (HTTP 64K)	3.8 Gbps		Diversity	✓	
Virtual Domains (Default/Maximum)	5/5		MIMO	✓	
Maximum Number of FortiSwitches Supported	8		GNSS Bias	✓	
Maximum Number of FortiAPs (Total/Tunnel Mode)	16 / 8				
Maximum Number of FortiTokens	500				
High Availability Configurations	Active-Active, Active-Passive, Clustering				
Note: All performance values are “up to” and vary depending on system configuration.					

Note: All performance values are "up to" and vary depending on system configuration.

¹ IPsec VPN performance test uses AES256-SHA256.

² IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.

³ SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

⁴ NGFW performance is measured with Firewall, IPS and Application Control enabled.

⁵ Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.



Subscriptions

Service Category	Service Offering	A-la-carte	Bundles		
			Enterprise Protection	Unified Threat Protection	Advanced Threat Protection
FortiGuard Security Services	IPS — IPS, Malicious/Botnet URLs	*	*	*	*
	Anti-Malware Protection (AMP)—AV, Botnet Domains, Mobile Malware, Virus Outbreak Protection, Content Disarm and Reconstruct ¹ , AI-based Heuristic AV, FortiGate Cloud Sandbox	*	*	*	*
	URL, DNS and Video Filtering — URL, DNS and Video ² Filtering, Malicious Certificate	*	*	*	*
	Anti-Spam	*	*	*	*
	AI-based Inline Malware Prevention ³	*	*	*	*
	Data Loss Prevention (DLP) ¹	*	*	*	*
	Attack Surface Security — IoT Device Detection, IoT Vulnerability Correlation and Virtual Patching, Security Rating, Outbreak Check	*	*	*	*
	OT Security—OT Device Detection, OT vulnerability correlation and Virtual Patching, OT Application Control and IPS ¹	*	*	*	*
	Application Control		-----Included with FortiCare Subscription-----		
	Inline CASB ³		-----Included with FortiCare Subscription-----		
SD-WAN and SASE Services	SD-WAN Underlay Bandwidth and Quality Monitoring	Models up to FG/FWF-60F series			
	SD-WAN Underlay and Application Monitoring Service	FG-70F series and above			
	SD-WAN Overlay-as-a-Service	*			
	SD-WAN Connector for FortiSASE Secure Private Access	*			
	SASE expansion for SD-WAN (SD-WAN SPA Connector license plus FortiSASE starter kit for n* users) ²	Selected models only ²			
	SASE connector for FortiSASE Secure Edge Management (with 10Mbps Bandwidth)	Desktop models only			
NOC and SOC Services	FortiConverter Service for one time configuration conversion	*	*		
	Managed FortiGate Service—available 24x7, with Fortinet NOC experts performing device setup, network, and policy change management	*			
	FortiGate Cloud—Management, Analysis, and One Year Log Retention	*			
	FortiManager Cloud	*			
	FortiAnalyzer Cloud	*			
	FortiGuard SOCaaS—24x7 cloud-based managed log monitoring, incident triage, and SOC escalation service	*			
Hardware and Software Support	FortiCare Essentials	Desktop models only			
	FortiCare Premium	*	*	*	*
	FortiCare Elite	*	*	*	*
Base Services	Device/OS Detection, GeoIPs, Trusted CA Certificates, Internet Services and Botnet IPs, DDNS (v4/v6), Local Protection, PSIRT Check, Anti-Phishing		-----Included with FortiCare Subscription-----		

1. Full features available when running FortiOS 7.4.1.

2. See the FortiSASE Ordering Guide for supported models and their associated number of user licenses.

3. Not available for FortiGate/FortiWiFi 40F, 60E, 60F, 80E, and 90E series from 7.4.4 onwards. Not available for FortiGate/FortiWiFi 30G and 50G series in any OS build.

FortiGuard AI-Powered Security Bundles for FortiGate



FortiGuard AI-Powered Security Bundles provide a comprehensive and meticulously curated selection of security services to combat known, unknown, zero-day, and emerging AI-based threats. These services are designed to prevent malicious content from breaching your defenses, protect against web-based threats, secure devices throughout IT/OT/IoT environments, and ensure the safety of applications, users, and data. All bundles include FortiCare Premium Services featuring 24x7x365 availability, one-hour response for critical issues, and next-business-day response for noncritical matters.

FortiCare Services



Fortinet prioritizes customer success through FortiCare Services, optimizing the Fortinet Security Fabric solution. Our comprehensive life-cycle services include Design, Deploy, Operate, Optimize, and Evolve. The FortiCare Elite, one of the service offerings, provides heightened SLAs and swift issue resolution with a dedicated support team. This advanced support option includes an extended end-of-engineering support of 18 months, providing flexibility and access to the intuitive FortiCare Elite portal for a unified view of device and security health, streamlining operational efficiency and maximizing Fortinet deployment performance.



Ordering Information

Product	SKU	Description
FortiGate 50G	FG-50G	5x GE RJ45 ports (including 4x Internal Ports, 1x WAN Ports).
FortiGate 51G	FG-51G	5x GE RJ45 ports (including 4x Internal Ports, 1x WAN Ports), 64GB SSD.
FortiWiFi 50G	FWF-50G-[RC]	5 x GE RJ45 ports (including 4 x Internal Ports, 1 x WAN Ports), Wireless (802.11a/b/g/n/ac/ax). Region Code [RC].
FortiWiFi 51G	FWF-51G-[RC]	5 x GE RJ45 ports (including 4 x Internal Ports, 1 x WAN Ports), Wireless (802.11a/b/g/n/ac/ax), 64GB SSD onboard storage. Region Code [RC].
FortiGate 50G-SFP	FG-50G-SFP	5 x GE RJ45 ports (including 4x Internal Ports, 1 x WAN Ports), 1x SFP port.
FortiWiFi 50G-SFP	FWF-50G-SFP-[RC]	5x GE RJ45 ports (including 4x Internal Ports, 1x WAN Ports), 1x SFP, Wireless (802.11a/b/g/n/ac/ax).
FortiGate 50G-SFP-POE	FG-50G-SFP-POE	3x RJ45 PoE+ ports, 1x RJ45 PoE+ WAN, 1x RJ45 WAN port, 1x SFP port.
FortiGate 51G-SFP-POE	FG-51G-SFP-POE	3x RJ45 PoE+ ports, 1x RJ45 PoE+ WAN, 1x RJ45 WAN port, 1x SFP port, with 64GB SSD storage.
FortiGate 50G-DSL	FG-50G-DSL	5x GE RJ45 ports (including 4x Internal Ports, 1x WAN Ports) with 1x embeded DSL module.
FortiWiFi 50G-DSL	FWF-50G-DSL-[RC]	5x GE RJ45 ports (including 4x Internal Ports, 1x WAN Ports), 1x DSL port, Wireless (802.11a/b/g/n/ac/ax).
FortiGate 50G-5G	FG-50G-5G	5x GE RJ45 ports (including 4x Internal Ports, 1x WAN Ports), with Embedded 3G/4G/LTE/5G wireless wan module, 5 external SMA WWAN antennas.
FortiGate 51G-5G	FG-51G-5G	5x GE RJ45 ports (including 4x Internal Ports, 1x WAN Ports), 5x GE RJ45 ports (including 4x Internal Ports, 1x WAN Ports), with Embedded 3G/4G/LTE/5G wireless wan module, 5 external SMA WWAN antennas, 64GB SSD onboard storage.
FortiWiFi 50G-5G-II	FWF-50G-5G-II	5x GE RJ45 ports (including 1x WAN Port, 4x Internal Ports), Wireless (802.11a/b/g/n/ac/ax), with Embedded 3G/4G/LTE/5G HP wireless wan module, 8 external SMA WWAN antennas.
Optional Accessories		
Rack Mount Tray	SP-RACKTRAY-02	Rack mount tray for all FortiGate E, F, and G series desktop models are backwards compatible with SP-RackTray-01.
Mounting Ear Bracket	SP-EAR-FG90G-10	Mounting Ear brackets for FWF-50G series and FG-90/91G 10 pairs pack.
Wall Mount Kit	SP-FG60F-MOUNT-20	Pack of 20 wall mount kits for FG/FWF-50G series, FG/FWF-60F series , and FG/FWF-80F series.
AC Power Adaptor	SP-FG-40F-PA-10 (-XX)	Pack of 10 AC power adaptors for FG/FWF-50G/-DSL/-5G series and FG/FWF-40F, come with interchangeable power plugs. (XX=various countries code)
	SP-FG50G-POE-PDC-5P	Pack of 5 AC power adaptors for FG-50/51G-SFP-POE, power cable SP-FGPCOR-XX sold separately.

[RC] = regional code: A, B, D, E, F, I, J, N, P, S, V, and Y

Visit <https://www.fortinet.com/resources/ordering-guides> for related ordering guides.



Fortinet Corporate Social Responsibility Policy

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