



# Hardware Specifications

Ultra M deployment uses the following hardware:



**Note** The specific component software and firmware versions identified in the sections that follow have been validated in this Ultra M solution release.

- [Cisco Nexus Switches, on page 1](#)
- [UCS C-Series Servers, on page 2](#)

## Cisco Nexus Switches

Cisco Nexus Switches serve as top-of-rack (TOR) leaf and end-of-rack (EOR) spine switches provide out-of-band (OOB) network connectivity between Ultra M components. Two switch models are used for the various Ultra M models:

- [Nexus 93108-TC-FX, on page 1](#)
- [Nexus 9364C, on page 1](#)

### Nexus 93108-TC-FX

Nexus 93108 switches serve as network leafs within the Ultra M solution. Each switch has 48 1/10GBASE-T ports and 6 40/100-Gbps Quad SFP+ (QSFP+) uplink ports.

*Table 1: Nexus 93108-TC-FX*

Ultra M Model(s)	Quantity	Software Version	Firmware Version
Ultra M - Micropod	2	NX-OS: 7.0(3)I7(5)	BIOS: 5.28

### Nexus 9364C

Nexus 9364 switches serve as network spines within the Ultra M solution. Each switch provides 64 40/100G Quad SFP+ (QSFP+) ports.

**Table 2: Nexus 9364C**

Ultra M Model(s)	Quantity	Software Version	Firmware Version
Ultra M - Micropod	2	NX-OS: 7.0(3)I7(5)	BIOS: 5.28

## UCS C-Series Servers

Cisco UCS C220 M5SX Small Form Factor (SFF) servers host the functions and virtual machines (VMs) required by Ultra M.

### Server Functions and Quantities

Server functions and quantity differ depending on the Ultra M model you are deploying:

- CVIM Manager Node
- Micropod Nodes
- Compute Nodes

[Table 3: Ultra M Server Quantities by Function, on page 2](#) provides information on server quantity requirements per function for each Ultra M model.

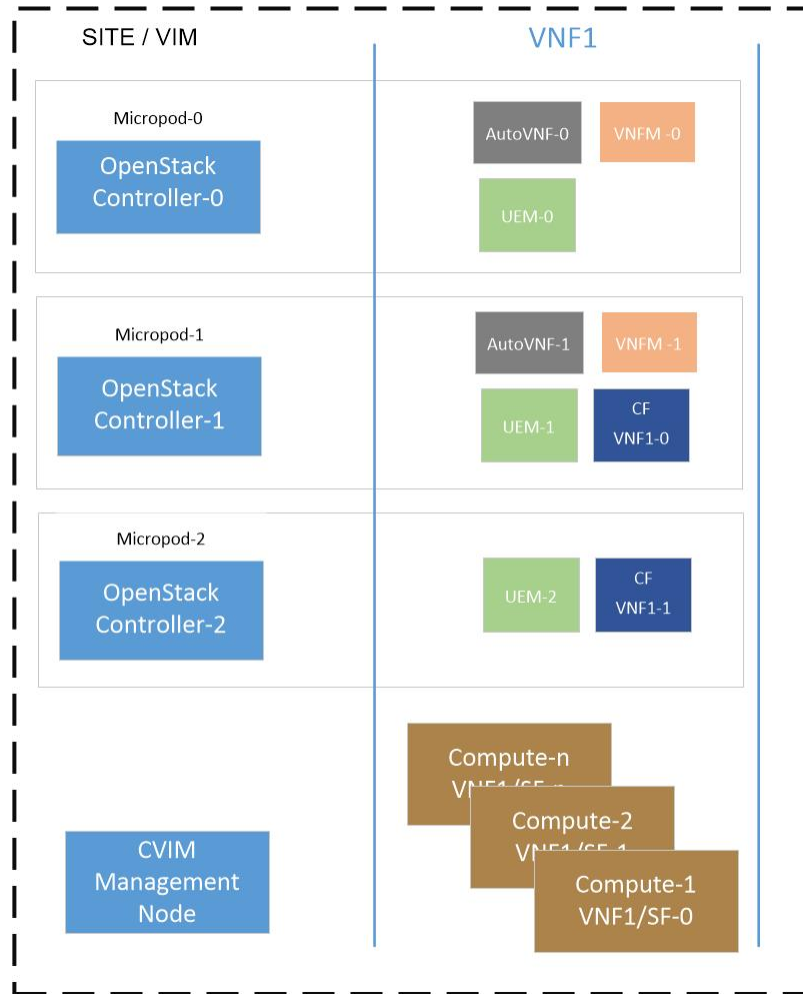
**Table 3: Ultra M Server Quantities by Function**

Server Quantity (max)	CVIM Manager Node	Micropod Nodes	Compute Nodes (max)	Additional Specifications
20	1	3	16	Based on node type as described in <a href="#">Table 4: Ultra M Single and Multi-VNF UCS C220 Server Specifications by Node Type, on page 5</a> .

### VM Deployment per Node Type

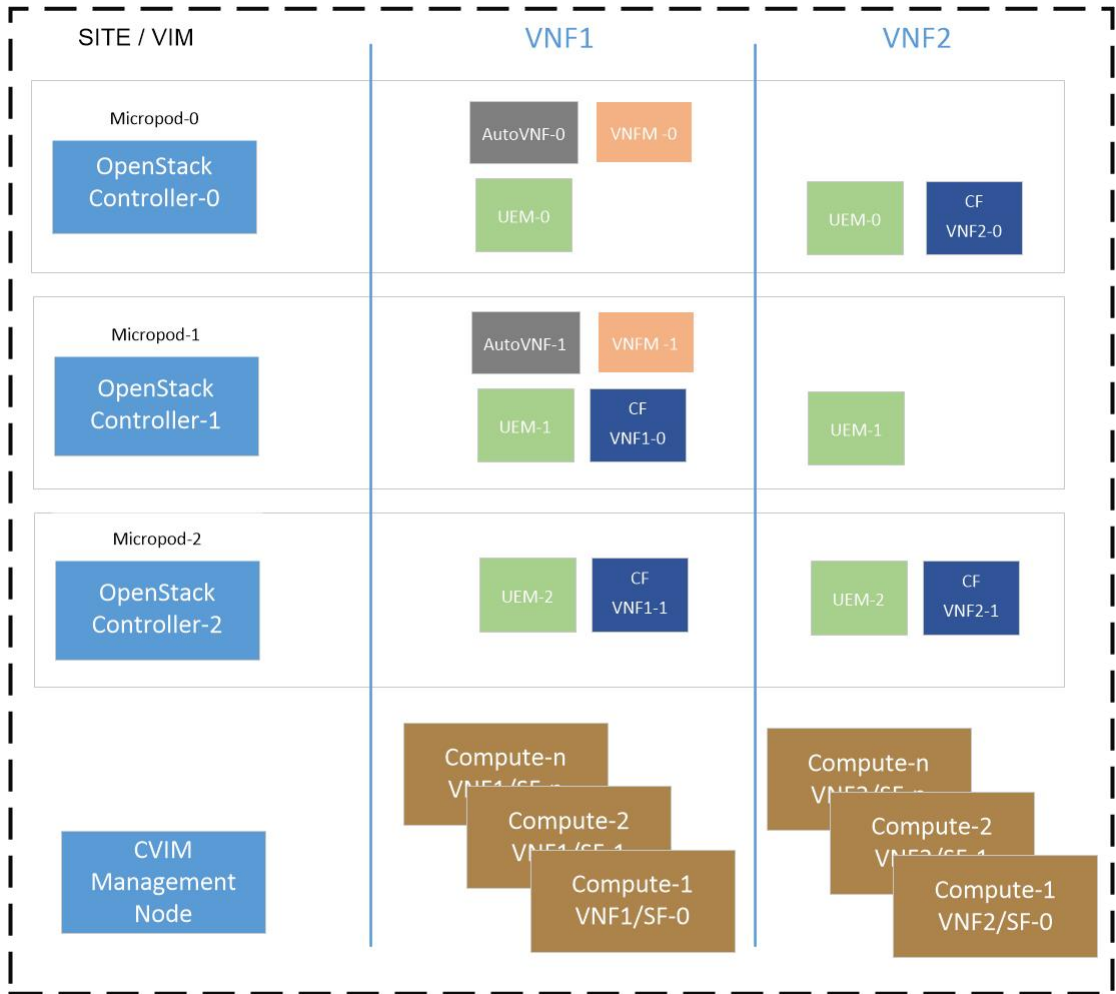
[Figure 1: VM Distribution on Server Nodes for Ultra M Single VNF Model, on page 3](#) and [Figure 2: VM Distribution on Server Nodes for Ultra M Two VNF Models, on page 4](#) depict the VM Distribution on Server Nodes for Ultra M single VNF and two VNF models.

Figure 1: VM Distribution on Server Nodes for Ultra M Single VNF Model



430250

Figure 2: VM Distribution on Server Nodes for Ultra M Two VNF Models



430251



**Important** In the case of 2 VNF deployments, the AutoVNF and VNFM instances are shared between the two VNFs.

## Server Configurations

**Table 4: Ultra M Single and Multi-VNF UCS C220 Server Specifications by Node Type**

Node Type	CPU	RAM	Storage	NIC	VIC	CIMC/BIOS
CVIM Manager Node	2x 2.7 GHz 8168/205W 24C/33MB Cache/DDR4 2666MHz	12x 32GB DDR4-2666MHz RDIMM ECC 23001d	8x 1.2 TB 12G SAS 10K RPM SFF HDD	2x Intel XL710 dual-port 40G QSFP+ NIC  XL710 Version: 2.4.10	Cisco VIC 1387 Dual Port 40Gb QSFP CNA MLOM: 4.2(3b)	CIMC: 3.1(3h) or later  System BIOS: C220M5S 3.1.3d.0
Micropod Nodes	2x 2.7 GHz 8168/205W 24C/33MB Cache/DDR4 2666MHz	12x 32GB DDR4-2666MHz RDIMM ECC 23001d	2x 1.2 TB 12G SAS 10K RPM SFF HDD  4x 800GB 2.5in Enterprise Performance 12G SAS SSD(3x endurance)  1x 800GB 2.5in U.2 HGST SN200 NVMe High Perf. High Endurance	2x Intel XL710 dual-port 40G QSFP+ NIC  XL710 Version: 2.4.10	Cisco VIC 1387 Dual Port 40Gb QSFP CNA MLOM: 4.2(3b)	CIMC: 3.1(3h) or later  System BIOS: C220M5S 3.1.3d.0
Compute Node	2x 2.7 GHz 8168/205W 24C/33MB Cache/DDR4 2666MHz	12x 32GB DDR4-2666MHz RDIMM ECC 23001d	2x 1.2 TB 12G SAS 10K RPM SFF HDD	2x Intel XL710 dual-port 40G QSFP+ NIC  XL710 Version: 2.4.10	Cisco VIC 1387 Dual Port 40Gb QSFP CNA MLOM: 4.2(3b)	CIMC: 3.1(3h) or later  System BIOS: C220M5S 3.1.3d.0

