



Cisco UCS Director Compatibility Matrix, Release 6.9

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Compatibility Matrix

Revision History

Release	Date	Description
6.9	May 7, 2024	Updated the Microsoft Active Directory and the Cisco Identity Services Engine (Cisco ISE), see Third-Party Authentication Software Support , on page 9.

Overview

Cisco UCS Director represents the next generation of software for the management and orchestration of data center infrastructure.

Cisco UCS Director delivers unified management and orchestration for the industry's leading converged infrastructure solutions that are based on Cisco Unified Computing System (Cisco UCS) and Cisco Nexus. Cisco UCS Director extends the unification of compute, network, and storage layers through Cisco UCS to provide data center professionals with single pane-of-glass management and storage solution choice. Cisco UCS Director supports the industry's leading converged infrastructure solutions, including NetApp FlexPod™ and FlexPod Express, EMC VSPEX, EMC VPLEX, and VCE Vblock™.

Cisco UCS Director automates the provisioning of resource pools across physical, virtual and baremetal environments from a unified, centralized management console reducing time-to-value for both applications and end users. Cisco UCS Director delivers native automated monitoring, OS and software updates and resource utilization analysis to free up your IT staff from mundane maintenance tasks allowing them to focus on competitive innovation for your business.

This document provides information regarding the physical and virtual devices and software supported by Cisco UCS Director. The information has been segmented into different functional areas and is organized by vendor within each functional area. We do not support hardware or software versions that have reached end of support by their vendors. There could be a delay between when a hardware model or software version reaches its end of support and its subsequent removal from this document. Support for hardware models and software versions is based on the end of support date announced by the vendor.

Deprecation Announcement for Cisco UCS Invicta

The following Cisco UCS Invicta Series Storage accounts have been deprecated:

- Cisco UCS Invicta Appliance
- Cisco UCS Invicta Scaling System

You can no longer create a new Cisco UCS Invicta account. The *Cisco UCS Director Invicta Series Management Guide* will also no longer be updated.



Note For End-of-Life milestones and dates, see the [End-of-Sale and End-of-Life Announcement for the Cisco UCS Invicta Series](#).

Supported Languages

Cisco UCS Director supports the following languages:

- English (United States)
- Japanese (Japan)
- Spanish (Latin America)
- French (France)
- Korean (Korea)
- Chinese (China)
- Russian (Russia)

Supported Git Repositories

Cisco UCS Director supports only GitHub (github.com or an enterprise GitHub instance) and Git hosting service (BitBucket). It does not support other Git hosting services such as GitLab, Perforce, or Codebase.

Virtualization Support

Cisco UCS Director enables the management and orchestration of multiple virtualization platforms.

Hypervisor and Management Support

VMware vSphere Versions

The following table outlines the versions of VMware vSphere that are supported by this release of Cisco UCS Director.



Note Ensure proper compatibility between VMware vSphere Hypervisor and VMware vSphere vCenter Server versions as listed in the VMware vSphere compatibility matrix.

All Cisco UCS Director functionality may not be available across all supported VMware software versions. Certain features may not be available in older versions of VMware software.

Software Components	Certified Version	Supported Versions	Limitations on Support for VMware Features in Cisco UCS Director
VMware vSphere Hypervisor (ESX/ESXi)	8.0	8.0 U2 8.0 U1 8.0	None
	7.0	7.0 U1 7.0 U2 7.0 U3	None
VMware vSphere vCenter Server	8.0	8.0 U2 8.0 U1 8.0	None
	7.0	7.0 U1 7.0 U2 7.0 U3	None
VMware Virtual SAN	6.0	6.0	None
	6.6 Patch 2	6.6, Patch 2+	None
	6.2 Patch 6	6.2, Patch 6+	None
VMware Site Recovery Manager	6.1.2	8.1.x, 6.1.2+, 6.0.x, 5.8.x, 5.5.x	None
	8.1.2		



Note Effective with Cisco UCS Director 6.9, VMware vSphere Hypervisor and VMware vCenter version 6.x is not supported.

Microsoft Hyper-V Versions

The following table outlines the versions of Microsoft Hyper-V that are supported by this release of Cisco UCS Director.



Note Ensure proper compatibility between Microsoft Hyper-V and Microsoft System Center versions as listed in the Microsoft Hyper-V compatibility matrix.

All Cisco UCS Director functionality may not be available across all supported Microsoft Hyper-V software versions. Certain features may not be available in older versions of Microsoft software.

Software Components	Certified Versions	Supported Versions
Microsoft Hyper-V Hypervisor	2016	2016 Onwards
	2019	
	2022	
Microsoft System Center Virtual Machine Manager (SCVMM)	2016 Rollup 4	2016 Rollup 4+
	2019 Rollup 4	2019 Rollup 4
	2022 Rollup 1	2022 Rollup 2



Note For integrations with Cisco Application Centric Infrastructure, you must use Windows 2016 R2, Rollup 4.

Effective with Cisco UCS Director 6.9, Hyper-V Hypervisor 2012 and System Center Virtual Machine Manager 2012 are not supported.

RedHat Enterprise Virtualization Versions

The following table outlines the versions of RedHat Enterprise Virtualization that are supported by this release of Cisco UCS Director.

Software Components	Certified Versions	Supported Versions
Red Hat Enterprise Virtualization Manager (RHEVM)	4.1.0.4-0.1.el7	4.1.xx
Red Hat Enterprise Virtualization Hypervisor (RedHat KVM)	4.1	4.1.x.x

Operating System Support

VMware vSphere Operating System Support

Cisco UCS Director supports all guest operating systems compatible with VMware vSphere. For a complete list of VMware vSphere compatible guest operating systems, see the [VMware Compatibility Guide](#).

Microsoft Hyper-V Operating System Support

Cisco UCS Director supports all guest operating systems compatible with Microsoft Hyper-V. For a complete list of Microsoft Hyper-V compatible guest operating systems, see the following Microsoft Hyper-V documentation:

- Windows Server 2016
- Windows Server 2019¹

RedHat Virtualization Operating System Support

Cisco UCS Director supports all guest operating systems supported by Red Hat Virtualization. See **SUPPORTED VIRTUAL MACHINE OPERATING SYSTEMS** in the Red Hat *Virtual Machine Management Guide*.

Bare Metal Operating System Support for Cisco UCS Servers

Cisco UCS Director and Cisco UCS Director Bare Metal Agent support VMware, Linux, and Microsoft Windows operating systems in baremetal provisioning workflows.

The following table outlines the bare metal operating systems that are supported as of this release for Cisco UCS Director.

Operating System	Versions	Legacy-BIOS	UEFI
CentOS	CentOS 6.x	√	
	CentOS 7.0	√	√
	CentOS7.1	√	√
	CentOS7.2	√	√
	CentOS7.3	√	
	CentOS7.4	√	√
	CentOS7.5	√	√
	CentOS7.6	√	√
	CentOS7.7	√	√
	CentOS7.9 ²	√	√
	CentOS8.0 ³	√	√

¹ Supported with Cisco Virtualization Connector Pack Release 6.7.3.1

Operating System	Versions	Legacy-BIOS	UEFI
VMware ESXi	ESXi 6.5	√	√
	ESXi 6.7	√	√
	ESXi 7.0 ⁴	√	√
	ESXi 7.0 U3 ⁵		√
	ESXi 8.0 ⁶		√
	ESXi 8.0 U1 ⁷		√
VMware ESXi - vSAN	vSAN 6.5	√	√
	vSAN 6.7	√	√
	vSAN 7.0 ⁸	√	√
Microsoft Windows	Windows 2008 R2	√	
	Windows 2012	√	√
	Windows 2012 R2	√	√
	Windows 2016	√	√
	Windows 2019 ⁹	√	√
	Windows 2022 ¹⁰		√

Operating System	Versions	Legacy-BIOS	UEFI
Red Hat Enterprise Linux	RHEL 6.x	√	
	RHEL 7.0	√	√
	RHEL 7.1	√	√
	RHEL 7.2	√	√
	RHEL 7.3	√	
	RHEL 7.4	√	√
	RHEL 7.5	√	√
	RHEL 7.6	√	√
	RHEL 7.7 ¹¹	√	√
	RHEL 8.0 ¹²	√	√
	RHEL 8.6 ¹³		√
	RHEL 8.7 ¹⁴		√
	RHEL 8.8 ¹⁵		√
	RHEL9.0 ¹⁶		√
	RHEL 9.1 ¹⁷		√
	RHEL 9.2 ¹⁸		√
RHEL 9.3 ¹⁹		√	
SUSE Linux	SUSE 11 SP3 on local disk	√	
	SUSE 12 and later on local disk	√	√
	SUSE 15 SP4 ²⁰		√
	SUSE 15 SP5		√

² Supported with Cisco UCS Director Bare Metal Agent Connector Pack release 6.7.4.2

³ Supported with Cisco UCS Director Bare Metal Agent Connector Pack release 6.7.4.2

⁴ Supported with Cisco UCS Director Bare Metal Agent Connector Pack release 6.7.4.2

⁵ Supported with Cisco UCS Director Release 6.8(8.0)

⁶ Supported with Cisco UCS Director Release 6.8(7.0)

⁷ Supported with Cisco UCS Director Release 6.8(8.0)

⁸ Supported with Cisco UCS Director Bare Metal Agent Connector Pack release 6.7.4.2

⁹ Supported with Cisco UCS Director Bare Metal Agent Connector Pack release 6.7.3.1

¹⁰ Supported with Cisco UCS Director Release 6.8(7.0)

- 11 Supported with Cisco UCS Director Release 6.7(4.0)
- 12 Supported with Cisco UCS Director Release 6.7(4.0)
- 13 Supported with Cisco UCS Director Release 6.8(7.0)
- 14 Supported with Cisco UCS Director Release 6.8(8.0)
- 15 Supported with Cisco UCS Director Release 6.8(8.0)
- 16 Supported with Cisco UCS Director Release 6.8(7.0) and 6.8(8.0)
- 17 Supported with Cisco UCS Director Release 6.8(7.0) and 6.8(8.0)
- 18 Supported with Cisco UCS Director Release 6.8(7.0) and 6.8(8.0)
- 19 Supported with Cisco UCS Director Release 6.9(0.0)
- 20 Supported with Cisco UCS Director Release 6.8(7.0)

**Note**

- From Red Hat Enterprise Linux Release 8.7, support for MegaSR driver has ended and you must customize your kickstart files in the Catalogs created for deploying Red Hat Enterprise Linux Release 8.7, Red Hat Enterprise Linux Release 8.8 and Red Hat Enterprise Linux Release 8.9 using the **Edit** action found under **OS Catalog** page of **Bare Metal Agent** in Cisco UCS Director by removing it's references.
- For Red Hat Enterprise Linux Release 8.x and Red Hat Enterprise Linux Release 9.x deployments to use **Predictable Network Interface Names** instead of traditional `ethX` naming scheme, you should customize your bootloader file, `ipxe-uefi.cfg` using the **Edit** action found under **OS Catalog** page of **Bare Metal Agent** in Cisco UCS Director by removing the kernel parameters `net.ifnames=0` & `biosdevname=0`.

**Note Tip:**

Predictable Network Interface Names are derived based on various attributes such as physical location, MAC address, and firmware-provided index. The specific names generated may vary depending on the system's hardware configuration and the algorithm implemented in the **udev** subsystem of '**systemd**'.

Following are a few examples of the predictable network interface names:

Example 1: `ens1f0`: Derived from "Ethernet" (en), the slot number (s1), and the port number (f0) on the motherboard or network adapter.

Example 2: `enp0s3`: Derived from "Ethernet" (en), the PCI bus slot number (p0), and the device's position (s3) on that bus.

Bare Metal Operating System Support for Third Party Servers

Cisco UCS Director and Cisco UCS Director Bare Metal Agent support VMware, Linux, and Microsoft Windows operating systems in baremetal provisioning workflows for third party servers.

The following table outlines the bare metal operating systems that are supported as of this release for Cisco UCS Director.

Third Party Server	Operating System	Versions	UEFI
Dell Power Edge R750 Server (Generation 15)	VMware ESXi	ESXi 7.3 ²¹	√
		ESXi 8.0 ²²	√
	Microsoft Windows	Windows 2019 ²³	√
		Windows 2022 ²⁴	√
	Red Hat Enterprise Linux	RHEL 8.6 ²⁵	√
		RHEL9.0 ²⁶	√
		RHEL 9.1 ²⁷	√
RHEL 9.2 ²⁸		√	
HPE Proliant DL380 gen 10+	VMWare ESXI	ESXI 7.0U3 ²⁹	√
		ESXI 8.0 ³⁰	√
		ESXI 8.0U1 ³¹	√
	Microsoft Windows	Windows Server 2019 ³²	√
		Windows Server 2022 ³³	√

²¹ • Supported with Cisco UCS Director Release 6.8(7.0)

²² • Supported with Cisco UCS Director Release 6.8(7.0)

²³ • Supported with Cisco UCS Director Release 6.8(7.0)

²⁴ • Supported with Cisco UCS Director Release 6.8(7.0)

²⁵ Supported with Cisco UCS Director Release 6.8(7.0)

²⁶ Supported with Cisco UCS Director Release 6.8(7.0)

²⁷ Supported with Cisco UCS Director Release 6.8(7.0)

²⁸ Supported with Cisco UCS Director Release 6.8(7.0)

²⁹ Supported with Cisco UCS Director Release 6.8(8.0)

³⁰ Supported with Cisco UCS Director Release 6.8(8.0)

³¹ Supported with Cisco UCS Director Release 6.8(8.0)

³² Supported with Cisco UCS Director Release 6.8(8.0)

³³ Supported with Cisco UCS Director Release 6.8(8.0)

Third-Party Authentication Software Support

The following table outlines support for third party authentication software.

Software	Supported Versions
Microsoft Active Directory	Windows 2008 Windows 2012 Windows 2016 Windows 2019 Windows 2022 ³⁴
OpenLDAP	slapd 2.4.23 (Feb 3 2014 19:11:35) \$ mockbuild@c6b10.bsys.dev.centos.org:/builddir/build/ BUILD/openldap-2.4.2 3/openldap-2.4.23/build-servers/servers/slapd
Cisco Identity Services Engine (Cisco ISE) ³⁵	2.7.0.356 ³⁶ 2.4.0.357 and cumulative patches 4, 6, and 10 2.60.156 and later 3.0 3.1 3.2 ³⁷

³⁴ Supported with Cisco UCS Director Release 6.9(0.0)

³⁵ Supported with Cisco UCS Director Base Platform Connector Pack release 6.7.3.1

³⁶ Supported with Cisco Network Devices Connector Pack Release 6.7.4.1

³⁷ Supported with Cisco UCS Director Release 6.9(0.0)

Server Support

Cisco UCS Director enables the management and orchestration of multiple server platforms from various server vendors. This support information is grouped by vendor.

Cisco Server Support

The following table outlines support for Cisco UCS servers and related hardware and software. Where a version includes an "x", all patches for that version are supported. For example, Release 3.0(1x) includes support for 3.0(1c), 3.0(1d) and so on.



Note All Cisco UCS Director functionality may not be available across all supported Cisco UCS software versions. Certain features may not be available in older versions of Cisco UCS software.

The following table shows Cisco UCS Director compatibility with Cisco UCS hardware and software. This table does not reflect the compatibility between Cisco UCS hardware and software. For information regarding Cisco UCS compatibility, see the [Cisco UCS hardware and software interoperability matrices](#) for the appropriate release.

Components	Supported Models	Certified Software	Supported Software
Cisco UCS Manager	Software All fabric interconnect, servers, and other hardware models supported by the version of Cisco UCS Manager (see the hardware and software interoperability matrices) .	Cisco UCS Infrastructure Bundle and Cisco UCS Manager Software Bundle, Release: 4.3(3a) ³⁸ 4.3(2b) ³⁹ 4.2(3b) ⁴⁰ 4.2(1l) ⁴¹ 4.1(1a) 4.0(1c) 4.0(4b)	Cisco UCS Infrastructure Bundle and Cisco UCS Manager Software Bundle, Releases: 4.3(x) 4.2(x) 4.1(x) 4.0(x) 3.2(x) 3.1(x) 3.0(x) 2.2(x)
Cisco UCS Central	Software	Cisco UCS Central Releases 2.0(1s) ⁴² 2.0(1f) 2.0(1t) ⁴³	Cisco UCS Central , Releases: 2.0(x) 1.5(x) 1.4(x) 1.3(x) 1.2(x)
Cisco UCS C-Series Rack Servers (Standalone through Rack accounts)	All models supported by the firmware versions for Cisco IMC Supervisor, Release 2.2 (see the Cisco IMC Supervisor Release Notes, Release 2.2).		All software versions supported by Cisco IMC Supervisor (see the Cisco IMC Supervisor Release Notes, Release 2.2).
Cisco 8-Socket C-Series Rack Mount Servers for SAP HANA	Cisco C880 M4		Firmware versions: BA14099 BA15013
Cisco UCS E-Series Servers (Standalone through Rack accounts)	All models supported by the firmware versions for Cisco IMC Supervisor, Release 2.2 (see the Cisco IMC Supervisor Release Notes, Release 2.2).		All software versions supported by Cisco IMC Supervisor (see the Cisco IMC Supervisor Release Notes, Release 2.2).

³⁸ Supported with UCS Director and BareMetal Agent OVA Release 6900, for Cisco Cisco UCS C240M7(EMR) rack server.

³⁹ Supported with UCS Director and BareMetal Agent OVA Release 6900, for Cisco UCSX410 M7 4 Socket Compute Node.

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 - Supported with Cisco UCS Director Patch Release 6.8.6.0, for C240 M6 Rack Server and Cisco UCS B200 M6 2 Socket Blade Server.
 - Supported with BareMetal Agent Patch Release 6.8.6.0, for Cisco UCS B200 M6 2 Socket Blade Server.
 - Supported with BareMetal Agent Patch Release 6.8.7.0, for Cisco UCS M6 Rack Server.
- 41 Supported with Cisco UCS Director Patch Release 6.8.3.0, for M4 and M5 server models.
- 42
 - Supported with Cisco UCS Director Patch Release 6.8.8.0
- 43
 - Supported with Cisco UCS Director Patch Release 6.8.8.0.
 - Supported with Cisco UCS Director OVA Release 6.9.0.0.

HP Server Support

The following table outlines support for HP servers and related management software.

Components	Supported Models	Supported Software
HP Servers with HP Integrated Lights-Out 2 (iLO2)	Any HP server model or platform that supports iLO2	iLO 2.29
HP Servers with HP Integrated Lights-Out 3 (iLO3)	Any HP server model or platform that supports iLO3	iLO 1.57
HP Servers with HP Integrated Lights-Out 4 (iLO4)	Any HP server model or platform that supports iLO4	iLO 1.01
HP Servers with HP Integrated Lights-Out 5 (iLO5)	Any HP server model or platform that supports iLO5	iLO 1.37 or higher
HP Servers with HP Onboard Administrator (OA)	HP OA chassis with c7000 blade servers	HP OA 4.3 HP OA 4.22 HP OA 3.60

Dell Server Support

The following table outlines support for Dell servers and related hardware and software.



Note Cisco UCS Director leverages the IPMI interface on Dell servers for all management and orchestration capabilities across both blade and rack-mount form factors. Cisco UCS Director does not support any other Dell management interface as of this publication.

Components	Supported Models	Supported Software
Dell Servers with Intelligent Platform Management Interface (IPMI) 2.0	Any Dell server model that supports IPMI 2.0	IPMI 2.0

Network and Fabric Support

Cisco UCS Director enables the management and orchestration of multiple network and fabric platforms from various vendors. This support information is grouped by vendor.

Cisco Network and Fabric Support

The following table outlines support for Cisco network and fabric devices.

Certified models and software have been systematically tested by Cisco and are warranted to work with the listed component.

Supported models and software are fully supported by Cisco on the listed component even if not fully tested.



Note This support includes the Nexus Operating System (NX-OS) kickstart and system software images. Nexus support currently includes the Layer 2 feature-set only. The Layer 3 feature-set is not supported at this time.

Components	Certified Models	Supported Models	Certified Software Version	Supported Software Version
Cisco IOS Devices	C2960S	C2960S Other devices that support the software version	IOS 15.2.2(2) E9 ⁴⁴ IOS 12.2(55)SE5	IOS 15.2.2(2) E9 IOS 12.2(55)SE5
Cisco Nexus 1000 Series Distributed Virtual Switch	Nexus 1000V for VMware vSphere		NX-OS, Release: 5.2(1)SV3(4.1c) MD 5.2(1)SV3(4.1b) ⁴⁵ 5.2(1)SV3(4.1)	NX-OS, Releases: 5.2(x)SV3(x) 5.2(x)SVx(x) 4.2(x)SVx(x) 4.0(x)
	Nexus 1000V for Microsoft Hyper-V			5.2(1)SM3(1.1b)

Components	Certified Models	Supported Models	Certified Software Version	Supported Software Version
Cisco Nexus 3000 Series Data Center Switches	3064T	30xx	9.3(12)	NX-OS, Releases: 9.3(x) 7.0(x)Ix(x) 6.2(x)
	3132Q	31xx	9.3(11)	
	3172	32xx	9.3(10)	
		35xx	9.3(7a) 9.3(4) ⁴⁶ 9.2.1	
Cisco Nexus 5000 Series Data Center Switches	5548UP	554x	NX-OS, Release: 7.3(13)N1(1)	NX-OS, Releases: 7.3(x) 7.2(x) 7.1(x) 7.0(x)
	5548P		7.3(12)N1(1)	
			7.3(7)N1(1b) ⁴⁷	
			7.3(4)N1(1)	
	5596Q	559x	NX-OS, Release: 7.3(4)N1(1)	
	C5624Q 5648Q 5696Q 56128P	56xx	7.3(9)N1(1)	
5672UP	56xx	7.3(9)N1(1) 7.3(13)N1(1)		
Cisco Nexus 6000 Series Switches	6001	60xx		7.3(x) 7.2(x) 7.0(x)
Cisco Nexus 7000 Series Data Center Switches (M-series I/O modules do not support Fabric Path and are not listed)	7004	70xx	NX-OS, Releases: 8.4(7) 8.4(6) 8.4(4a) 8.4(2) 8.3(1)	NX-OS, Releases: 8.4(x) 8.2(x) 8.0(x) 7.3(x) 7.2(x) 6.2(x)
			7010	

Components	Certified Models	Supported Models	Certified Software Version	Supported Software Version
Cisco Nexus 9000 Series Data Center Switches (standalone mode only)	93120 93128	931xx	NX-OS, Release: 9.3(10) 9.2.1	NX-OS, Releases: 9.3(x) 7.0(3)Ix(x) 6.1(x)Ix
	9332PQ	93xx	NX-OS, Release: 9.3(10) 9.3(7a) 9.3(4) ⁴⁸ 9.2.1	
	9372PX 9372TX	937x	9.3(10)	
	9396PX 9396TX		NX-OS, Release: 9.3(11) 9.3(10) 7.0(3)I7(5a)	
	9508 9504		9.3(10)	
	9516		10.4(2)F 10.3(3) 10.3(2) 9.3(10)	NX-OS, Releases: 10.4(x) 10.3(x) 9.3(x)

Components	Certified Models	Supported Models	Certified Software Version	Supported Software Version
Cisco MDS Data Center Fabric Switches	M9148S	M91xx	NX-OS, Release:	9.4x
	M9124		8.5(1)	9.2(x)
	M9148		8.4(1a)	8.5(x)
	M9148S		8.3(2)	8.4(x)
			8.3(1)	8.3(x)
	M9250i	M92xx	9.4(1a)	8.2(x)
			9.2(1a)	8.1(x)
	M9396S		NX-OS, Release:	7.3(x)
			8.3(2)	6.2(x)
	M9396T		8.3(1)	
M9500		9.2(2)		
M9506				
M9509				
M9513				
M9706	M97xx			
M9710				

⁴⁴ Supported with Cisco Network Devices Connector Pack Release 6.7.4.1

⁴⁵ Supported with Cisco Network Devices Connector Pack Release 6.7.4.1

⁴⁶ Supported with Cisco Network Devices Connector Pack Release 6.7.4.1

⁴⁷ Supported with Cisco Network Devices Connector Pack Release 6.7.4.1

⁴⁸ Supported with Cisco Devices Network Connector Pack Release 6.7.4.1

Cisco Application Centric Infrastructure and Related Software Support

The following table outlines support for Cisco Application Centric Infrastructure (Cisco ACI) components.

Software	Certified Versions	Supported Versions
Cisco Application Centric Infrastructure Controllers	6.0.4(c) 6.0(2h)(F) 6.0(1j) 5.2(6e), 6.0(1g) 5.2(3g) 5.1(3e) 5.0(2h) ⁴⁹ 4.2(4i) ⁵⁰ 4.1(2u), and 4.2(2g) ⁵¹ 4.0(0.234g), 4.0(1h), 4.0(3d) ⁵² 3.2(4b)	6.0(x) 5.2(x) 5.1(x) 5.0(x) 4.2(x) 4.1(x) 4.0(x) 3.2(x), 3.2(xm) 3.1(x), 3.1(xi), 3.1(xm) 3.0(x) 2.(x) 1.(x)
Cisco Application Centric Infrastructure Multi-Site Controllers	4.2(3e) 4.1(2e) 4.1(1i) 3.7(1l), 4.0(2i) 3.5(2f) 3.1(3i) 3.0(3i) ⁵³ 2.2(4e) ⁵⁴ 2.1(2g) and 2.2(2c) ⁵⁵ 2.0(0.453), 2.0(2d) ⁵⁶ 1.2(4b)	4.2(3x) 4.1(2x) 4.0(x) 3.7(x) 3.5(x) 3.1(x) 3.0(x) 2.2(x) 2.1(x) 2.0(x) 1.2(x) 1.1(x)

⁴⁹ Supported with Cisco ACI APIC Connector Pack Release 6.7.4.2

⁵⁰ Supported with Cisco ACI APIC Connector Pack Release 6.7.4.1

⁵¹ Supported with Cisco ACI APIC Connector Pack Release 6.7.3.2.

⁵² Supported with Cisco ACI APIC Connector Pack Release 6.7.2.1

⁵³ Supported with Cisco ACI Multi-Site Connector Pack Release 6.7.4.2

⁵⁴ Supported with Cisco ACI APIC Connector Pack Release 6.7.4.1

⁵⁵ Supported with Cisco ACI Multi-Site Connector Pack Release 6.7.3.1.

⁵⁶ Supported with Cisco ACI Multi-Site Connector Pack Release 6.7.2.1



Note Cisco ACI Multi-Site Controller is called as:

- Multi-Site Controller, in versions until 1.1(x)
- Multi-Site Orchestrator, in versions between 1.1(x) and 3.1(x)
- Nexus Dashboard Orchestrator, in versions released after 3.1(x)

Support for Related Software with Cisco ACI

The following table outlines support for related software used with Cisco ACI.

Components	Supported Hardware Versions	Supported Software Versions	Certified Device Packages	Supported Device Packages
Citrix NetScaler VPX		10.1 and later		Major Version: 1.0, Minor Version: 52.41 Major Version: 1.0, Minor Version: 10.1-129.52 Major Version 1.0, Minor Version 10.1-129.62 Major Version 10.5 Minor Version 52.1155
Citrix NetScaler SDX	8015	10.1 and later		Major Version: 1.0, Minor Version: 52.41 Major Version: 1.0, Minor Version: 10.1-129.52 Major Version 1.0, Minor Version 10.1-129.62 Major Version 10.5 Minor Version 56.22
Citrix NetScaler 1000V		10.1 and later		Major Version: 1.0, Minor Version: 52.41 Major Version: 1.0, Minor Version: 10.1-129.52 Major Version 1.0, Minor Version 10.1-129.62

Components	Supported Hardware Versions	Supported Software Versions	Certified Device Packages	Supported Device Packages
Cisco ASAv		9.9.1	9.5(2)	9.6(x) 9.5(x) 9.4(x) 9.3(x) 9.2(x)
Cisco ASA	5555	9.9.1	9.5(2)	9.6(x)
	5585		9.5(2)	9.5(x) 9.4(x) 9.3(x) 9.2(x)

Support for Cisco Application Virtual Switch

Component	Certified Model	Certified Software Version	Supported Software Version
Cisco Application Virtual Switch	Cisco Application Virtual Switch for VMware vSphere	5.2(1)SV3(1.20)	5.2(1)SV3(x)

Brocade Network and Fabric Support

The following table outlines support for Brocade network and fabric devices.

Components	Certified Models	Supported Models	Certified Software	Supported Software
Brocade DCX Backbone	DCX-8510	DCX85xx	v7.3.1c	7.3.x v7.2.x
VDX Network & Fabric/Storage Switches	VDX6740	VDC67xx	v7.1.0	v7.1.x
Brocade Silksworm SAN Switches			FOS v6.3.0a	FOS6.x

F5 Network and Load Balancer Support

The following table outlines support for F5 network and load balancer devices.



Note Remote user authentication is not supported for F5 Load Balancer with a version less than 12.0.0. To use remote authentication, you must have F5 Load Balancer 12.0.0(0.0.606) and follow the instructions provided by F5.

Components	Certified Models	Supported Models	Certified Software	Supported Software
F5 Load Balancer (physical device only)	Big-IP 2200	Big-IP VPR-B25xx	14.1.2.3 ⁵⁷	14.x.x
	Big-IP VPR-C2400		13.0.0	13.x.x
			12.1.2	12.x.x
			11.6.1	11.x.x
Virtual Device			17.1.0.2	17.x.x

⁵⁷ Supported with Cisco UCS Director F5 BIG-IP Connector Pack Release 6.7.4.1

Security and Firewall Support

Cisco UCS Director enables the management and orchestration of Cisco security and firewall platforms.

Cisco Security and Firewall Support

The following table outlines support for Cisco security and firewalls.

Components	Certified Models	Supported Models	Certified Software	Supported Software
Cisco ASA 5500 Series Firewall	5510, 5515	55xx	9.12(4)	9.12(x)
			9.9.2	9.6(x)
				9.5(x)
				9.4(x)
				9.3(x)
				9.2(x)
Cisco ASA 5500-X Series Firewall	5555-X	55xx-X	9.12(4) ⁵⁸	9.12(x)
	5585-X		9.9.2	9.6(x)
				9.4(x)
				9.3(x)
			9.2(x)	

Components	Certified Models	Supported Models	Certified Software	Supported Software
Cisco ASAv	Virtual		9.20.2 9.19.1 9.18.2 9.16.1 9.14(1) ⁵⁹ 9.9.2	9.20(x) 9.19(x) 9.18(x) 9.16(x) 9.14(x)x 9.7(x) 9.6(x) 9.5(x) 9.4(x) 9.3(x) 9.2(x)
Cisco FirePower 2110	FPR-2140	FPR-21-XX	9.20.2 9.19.1 9.18.2 9.16.1 9.10(1)	9.20x 9.16(x) 9.10(x)
Cisco FirePower 4110	FPR4K-SM-12	FPR4K-XX	9.18.3 9.18.2 9.16.1 9.15(1)	9.16(x) 9.15(x)
Cisco Virtual Security Gateway			4.2(1)VSG2(1.1)	4.2.x
Cisco Prime Network Services Controller			3.4.1*	3.4.x

⁵⁸ Supported with Cisco Network Devices Connector Pack Release 6.7.4.1

⁵⁹ Supported with Cisco Network Devices Connector Pack Release 6.7.4.1

Storage Support

Cisco UCS Director enables the management and orchestration of multiple storage platforms from various vendors. This support information is grouped by vendor.

EMC Storage Support

The following table outlines support for EMC storage devices.

Components	Supported Models	Certified Software	Supported Software	Supported Management Interfaces
PowerMax ⁶⁰	PowerMax_2000 PowerMax_8000	Enginuity: 5978.221.221 Symmetrix CLI (symcli): 9.0.0.0 9.1.0.0 9.2.0.0		Linux-based Solutions Enabler v9.0. Windows-based Solutions Enabler v9.0, v9.1, v9.2.
VMAX All Flash	VMAX 250F VMAX 450F VMAX 850F VMAX 950F	Enginuity: 5978.221.221 Symmetrix CLI (symcli): 9.0.0.0		Windows-based Solutions Enabler v9.0.
Symmetrix VMAX (block only)	VMAX 10K VMAX 40K	Enginuity: 5876.309.196 Symmetrix CLI (symcli): 8.3.0.22	Enginuity: 5876.x.x Symmetrix CLI (symcli): v7.5.1.0 v7.6.1.0 v8.0.2.0 8.1.0.24 8.2.0.18 8.3.0.x	Linux-based Solutions Enabler: v7.5 v7.6 v8.0 v8.1.0.24 v8.2.0.18 v8.3.0.22 v8.4.0.9 Windows-based Solutions Enabler: v 8.0 8.1.0.24 8.2.0.18 8.3.0.22 8.4.0.9

Components	Supported Models	Certified Software	Supported Software	Supported Management Interfaces
Symmetrix VMAX3	VMAX 100K VMAX 200K VMAX 400K	Enginuity: 5977.1125.1125 Symmetrix CLI (symcli): 8.3.0.22	Enginuity: 5977.x.x Symmetrix CLI (symcli): v8.0.2.0 v8.1.0 v8.1.0.24 v8.2.0.18 v8.3.0.22 v8.4.0.9 v8.4.0.9	Linux-based Solutions Enabler v8.0 Linux-based Solutions Enabler v8.1.0 v8.1.0.24 v8.2.0.18 v8.3.0.22 v8.4.0.9 Windows-based Solutions Enabler: v8.0 v8.1.0 v8.1.0.24 v8.2.0.18 v8.3.0.22 v8.4.0.9
VNX2 (File, Block, Unified)	VNX 5200 VNX 5400 VNX 5600 VNX 5800 VNX 7600 VNX 8000	File: Operating Environment (OE) v8.1.9.217 Block: Flare OS 05.33.009.5.218	File: Operating Environment (OE) v8.1.0 v8.1.0.15 v8.1.9.x Block: Flare OS 05.33.009.5.x	Navisphere naviseccli: Revision 7.33.9.1.55 (certified) Revision 7.33.9.1.84 (supported) VM: CentOS 6.4 NaviCLI installed on one of the following: CentOS 6.4 Windows 2008

Components	Supported Models	Certified Software	Supported Software	Supported Management Interfaces
VPLEX	Local	6.0.1.07.00.44	v5.2.1.01.00.02 v5.3.0.01.00.04 v5.4 v6.0.1.01.00.04 (6.0 Service Pack 1, Patch 1) v6.0.1.07.00.x	
	Metro	6.0.1.07.00.44	v5.2.1.01.00.02 v5.3.0.01.00.04 v5.4 v6.0.1.01.00.04 (6.0 Service Pack 1, Patch 1) v6.0.1.07.00.x	
VNXe	VNXe-3200	3.1.5.8711957	v3.0.1.4029529 v3.1.5.x v3.1.8.9340299	
RecoverPoint	RecoverPoint EX	5.1.0.1	4.0.2 4.1.SP2.P1 4.4.SP1.P1 5.0SP1 5.1.0.x	
	RecoverPoint Cluster	5.1.0.1	4.4 SP1 5.1.0.x	
Isilon	S200-2U-Dual-24GB- 2x1GE-2x10GE SFP+-7373GB X200-2U-Single-6144MB- 2x1GE-2x10GE SFP+-6144GB NL400-4U-Dual-12GB- 4x1GE-36TB	7.2.1.5	7.1.0.0 7.2.0.3 7.2.1.x	

Components	Supported Models	Certified Software	Supported Software	Supported Management Interfaces
EMC Unity		UnityOS: 4.3.1.1525703027	UnityOS: 4.1.1.9138882 4.3.0.1522077968 4.3.1.x	
XtremIO	XIOS	4.0.25-27	4.0.15 4.0.25-x	
	XMS	6.0.1 build 30	4.2.1 6.0.x	
XtremIO2	XIOS		6.1.0-96	
	XMS		6.1.0 build 99	

⁶⁰ Supported with Cisco UCS Director Release 6.7(1.0).

NetApp Storage Support

The following table outlines support for NetApp storage devices.



Note For NetApp Data-ONTAP 7-Mode, Cisco UCS Director can connect either directly to the storage controllers or it can leverage the NetApp OnCommand Unified Manager Core to proxy the management of each storage controller.

Components	Supported Models	Certified Versions	Supported Versions	Supported Management Interfaces
NetApp FAS (Data-ONTAP 7-Mode)	NetApp FAS (Data-ONTAP 7-Mode)	Data-ONTAP 8.2.5	Data-ONTAP 8.2.x	Direct Data ONTAP Ether
NetApp FAS (Clustered Data ONTAP)	All FAS models supported by NetApp Clustered Data-ONTAP, except All Flash FAS	Data-ONTAP 9.4 Data-ONTAP 9.5 ⁶¹ Data-ONTAP 9.6 ⁶² Data-ONTAP 9.7 ⁶³	Data-ONTAP 9.3 Data-ONTAP 9.4 Data-ONTAP 9.5 Data-ONTAP 9.6 Data-ONTAP 9.7	NetApp Clustered Data ONTAP- Management Logical Interface (LIF)

Components	Supported Models	Certified Versions	Supported Versions	Supported Management Interfaces
Netapp AFF (ALL Flash FAS ONTAP)	ALL Flash FAS	Data-ONTAP 9.4 Data-ONTAP 9.5 ⁶⁴ Data-ONTAP 9.6 ⁶⁵ Data-ONTAP 9.7 ⁶⁶ Data-ONTAP 9.12.1 Data-ONTAP 9.13.1	Data-ONTAP 9.3 Data-ONTAP 9.4 Data-ONTAP 9.5 Data-ONTAP 9.6 Data-ONTAP 9.7 Data-ONTAP 9.12 Data-ONTAP 9.13	
NetApp OnCommand Unified Manager Core (7-Mode only)	Software	NetApp OnCommand Data Fabric Manager 4.0 NetApp OnCommand Unified Manager Core 5.0.2 (formerly named Data Fabric Manager)		
Virtual Storage Console	Plugin for VMware vCenter	4.2.1 6.0	4.2.x 6.x	

⁶¹ Supported with Cisco UCS Director Release 6.7(1.0).

⁶² Supported with Cisco UCS Director Release 6.7(3.0).

⁶³ Supported with Cisco UCS Director Release 6.7(3.0).

⁶⁴ Supported with Cisco UCS Director Release 6.7(1.0).

⁶⁵ Supported with Cisco UCS Director Release 6.7(3.0).

⁶⁶ Supported with Cisco UCS Director Release 6.7(3.0).

IBM Storwize Storage Support

The following table outlines support for IBM Storwize storage devices:

Components	Certified Versions	Supported Versions	Supported Management Interfaces
IBM Storwize V5000	7.8.1.5		SSH (Secure Shell)
IBM Storwize V7000 Unified	File: 1.6.1.0-44 Block: 7.6.0.4 (build 1223.160250020000)		SSH (Secure Shell)
IBM Storwize V7000	7.6.0.4 (build 1223.160250020000)		SSH (Secure Shell)

Components	Certified Versions	Supported Versions	Supported Management Interfaces
IBM Storwize V9000	7.8.0.2 (build 133.17.1701251545000)	8.1.2.0	SSH (Secure Shell)
IBM SAN Volume Controller	7.8.0.2 (build 133.17.1701251545000)	8.1.2.0	SSH (Secure Shell)

Hyperconverged Storage Support

The following table outlines support for hyperconverged storage.

Components	Certified Host	Supported Host (Cisco UCS C-Series Rack Servers)	Certified Software	Supported Software
Cisco VSAN Ready Node	C240 M3	C240 M3	VMware VSAN 6.7 VMware VSAN 6.0, with VMware vSphere 6.5	VMware VSAN 6.0 (backward compatibility features of VSAN 5.5), with VMware vSphere 6.0 Update 1
	C240 M4	C240 M4	VMware VSAN 7.0, with VMware vSphere 7.0 VMware VSAN 6.0, with VMware vSphere 6.5	VMware VSAN 6.0 (backward compatibility features of VSAN 5.5), with VMware vSphere 6.0 Update 1

Hyperconverged Infrastructure Support

Cisco UCS Director supports hyperconverged infrastructure. This support information is grouped by vendor.

Cisco HyperFlex System Support

The following table outlines support for Cisco HyperFlex System and related hardware and software.

Components	Supported Models	Certified Software	Supported Software
Cisco HX-Series Server	<p>All compatible hardware for the listed certified and supported Cisco HX Data Platform software (see Cisco HyperFlex HX Data Platform)</p> <p>Note Hyperflex support is available only for VMware clusters. For HyperV clusters, Hyperflex is not supported.</p>	<p>Cisco HX Data Platform, 3.0.1f-29833</p> <p>Cisco HX Data Platform, 3.5.2a-31601⁶⁷</p> <p>Cisco HX Data Platform, 4.0.2a⁶⁸</p> <p>Cisco HX Data Platform, 4.5.2c</p> <p>Cisco HX Data Platform, 5.0.2b</p>	<p>Cisco HX Data Platform, 3.5</p> <p>Cisco HX Data Platform, 4.0⁶⁹</p> <p>Cisco HX Data Platform, 4.5</p>

⁶⁷ Supported with Cisco HyperFlex Connector Pack Release 6.7.2.1

⁶⁸ Supported with Cisco HyperFlex Connector Pack Release 6.7.4.1

⁶⁹ Supported with Cisco HyperFlex Connector Pack Release 6.7.2.1

Converged Infrastructure Software Support

Cisco UCS Director supports software designed for converged infrastructure. This support information is grouped by vendor.

VCE Software Support

The following table outlines support for VCE converged infrastructure software.

Components	Supported Software
Vision Intelligent Operations	V2.5.3

PowerShell Support

Cisco UCS Director supports Microsoft Windows PowerShell for automation of the administration of system resources. This support information is grouped by PowerShell application.

PowerShell Agent Support

The following table outlines support and system requirements for PowerShell Agent.

Software	Supported Versions
Windows PowerShell	5.1 5.0 4.0 3.0
Operating System	Microsoft Windows Server 2019 Microsoft Windows Server 2016 Microsoft Windows Server 2012 Microsoft Windows Server 2008 R2 64-bit
.Net Framework	4.0 (Full Package) or higher

PowerShell Console Support

The following table outlines support and system requirements for PowerShell Console.

Software	Supported Versions
Windows PowerShell	3.0 4.0 5.0 5.1
Operating System	Any version of the Windows Operating System
.Net Framework	4.0 (Full Package) or higher

Cisco Solution Partner - Certified Support

This section describes the support for integrations with and solutions for Cisco UCS Director that were developed by Cisco partners and have been tested and certified by Cisco.

The intellectual property for these solutions (developed as Cisco UCS Director Open Automation plug-in software) are owned by the partner that developed the solution. Therefore, the plug-in software is not distributed with Cisco UCS Director software from Cisco. You can download all Cisco certified solutions and plug-in software for Cisco UCS Director directly from the website of the partner who developed the plug-in. You can also contact the sales team for the partner or its vendor for more information. Cisco UCS Director customers can also log in to the [Technology Solution Catalog](#) on [Cisco Market Place](#) and search on the partner name for more information about feature support and benefits.

Hitachi Vantara - Certified Support

The following table outlines support for integrations with Cisco UCS Director that were developed by Hitachi Vantara and have been tested and validated by Cisco. This solution is available for download from Hitachi

Vantara. Additional information about the solution is available on the [Hitachi Storage Connector page](#) on Cisco Marketplace.

Solution Name	Solution Version	Supported Models	Supported Software/Firmware Versions
Hitachi Storage Connector for Cisco UCS Director	v2.1.3	VSP	70-06-63-00/00 ⁷²
	v2.2 ⁷⁰	VSP 5500, VSP 5500H, VSP 5100, VSP 5100H	90-01-51-00/00
	v2.3	VSP F1500, VSP G1000, VSP G1500	80-06-70-00/00
	v2.3.1 ⁷¹	VSP F400, VSP F600, VSP F800, VSP G200, VSP G400, VSP G600, VSP G800	83-05-31-x0/00
		VSP F350, VSP F370, VSP F700, VSP F900, VSP G130, VSP G150, VSP G350, VSP G370, VSP G700, VSP G900	88-03-26-x0/00
		VSP Gx00 Unified (G400, G600, G800)	83-05-31-x0/00

⁷⁰ Supported with Cisco UCS Director Release 6.7(3.0)

⁷¹ Supported with Cisco UCS Director Release 6.7(3.0)

⁷² Cisco UCS Director Release 6.7(3.0) is certified with 70-06-28-00/00 and 70-06-65/00

Pure Storage - Certified Support

The following table outlines support for integrations with Cisco UCS Director that were developed by Pure Storage and have been tested and validated by Cisco. Additional information about the solution and a link to download the solution are available on the [Pure Storage Connector for UCS Director page](#) on Cisco Marketplace.

Solution Name	Solution Version	Components	Supported Models	Supported Software
Pure Storage Connector for Cisco UCS Director	v03.1.0	Pure Storage FlashArray	FlashArray //M FlashArray //X	Purity Operating Environment, Releases: 4.x 5.x

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