



Cisco Intelligent Automation for Cloud Compatibility & Requirements Matrix

Release 4.1

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Cisco Intelligent Automation for Cloud 4.0 Compatibility & Requirements Matrix
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Cisco Intelligent Automation for Cloud 4.1

Compatibility Matrix

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This document describes the version and compatibility requirements for installing and upgrading Cisco Intelligent Automation for Cloud (Cisco IAC). This document also provides information about the hardware platforms and software products that are compatible with Cisco Intelligent Automation for Cloud. Review the product documentation for additional software prerequisites to make sure there are no conflicts when installing the prerequisites. While other possible functional combinations of technologies exist, only the items listed in this table have been tested and are supported for CIAC.

		Cisco Intelligent Automation for Cloud Releases					
		4.1	4.0.0	3.1.1	3.1	3.0.2	3.0.1
Component	Version Information						
Amazon							
Amazon AWS (EC2)	1.0.0	●	●	○	○	○	○
Application Configuration Management Servers							
Puppet Labs	3.2.2 (Enterprise or Community)	●	○	○	○	○	○
Chef	11.0.12	●	○	○	○	○	○
Citrix							
Citrix Netscaler VPX	10.1 Build 119.7.nc	●	●	○	○	○	○
Cisco IAC Management Appliance							
CentOS	5.7 64-bit (English)	●	●	○	○	○	○
Cisco Prime Network							
Cisco Prime Network Registrar IPAM	8.1.1	●	●	○	○	○	○
Cisco Prime Network Services Controller	3.2.1	●	●	○	○	○	○
Cisco Prime Network Services Controller	3.2.2	●	○	○	○	○	○
Cisco Prime Service Catalog							
Cisco Prime Service Catalog	9.4	○	○	○	●	●	○
	9.4.1	○	○	●	○	○	○
	9.4.1 R2	○	○	●	○	○	○
	10.0	○	●	●	○	○	○
	10.0 Patch 1q	○	●	○	○	○	○
	10.0R2 Patch v3k	●	○	○	○	○	○
Application Server for Cisco Prime Service Catalog	JBoss 4.2.3 with Sun JDK 6 Update 23 or higher	○	○	○	○	○	●
	JBoss 7.1.1 with Sun JDK 6 Update 30 or higher	●	●	●	●	●	○
System Database for Cisco Prime Service Catalog	Microsoft SQL Server 2008 Standard Edition or Enterprise Edition (English). Process Orchestrator additionally supports failover clustering.	●	●	●	●	●	●
	Oracle Database 11g R2 Enterprise Edition (Process Orchestrator can only run on Oracle Real Application Clusters (RAC) 11g R2.)	●	●	●	●	●	●
Operating System for Cisco Prime Service Catalog	CentOS 5.6 64-bit (English)	○	○	●	●	●	●
	CentOS 5.7 64-bit (English)	●	●	●	○	○	○
	CentOS 5.8 64-bit (English)	○	○	●	○	○	○
	MS Windows Server 2008 R2 64-bit (English) SP1	●	●	●	●	●	●
	Red Hat Enterprise Linux 5.6 64-bit (English)	○	○	●	●	●	●
	Red Hat Enterprise Linux 5.9 64-bit (English)	●	●	○	●	●	●
Web Server for Cisco Prime Service Catalog	Microsoft IIS 7.5	●	●	●	●	●	●
	Apache 2.4.6	●	●	○	○	○	○
	Apache 2.2.3 ¹	●	●	●	○	○	○
	IBM HTTP Server (IHS) 7.0.0.x	●	●	●	○	○	○
Cisco Process Orchestrator							
Cisco Process Orchestrator	2.3.1	○	○	○	○	○	●

KEY	● NEW for this release
	● Fully supported
	○ Not supported
	◐ Partially supported

KEY	NEW for this release Fully supported Not supported Partially supported
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		Cisco Intelligent Automation for Cloud Releases					
		4.1	4.0.0	3.1.1	3.1	3.0.2	3.0.1
Component	Version Information						
	2.3.2	○	○	○	○	●	○
	2.3.4	○	○	○	●	○	○
	2.3.5	○	○	●	○	○	○
	3.0.0 Patch 5	○	●	○	○	○	○
	3.0.2 Patch + Hotfix 10	●	○	○	○	○	○
Application Server for Cisco Process Orchestrator	Microsoft .NET Framework 4.0	●	●	●	●	●	●
	Microsoft .NET Framework 4.5	●	●	○	○	●	●
Operating System for Cisco Process Orchestrator	MS Windows Server 2008 R2 64-bit (English)	●	●	●	●	●	●
	MS Windows Server 2012 R2 64-bit (English)	●	●	○	○	○	○
Java Runtime (JRE) for Cisco Process Orchestrator	Oracle Java SE 6 (JRE 1.6)	○	○	●	●	○	○
	Oracle Java SE 7 (JRE 1.7)	●	●	○	○	○	○
System Database for Process Orchestrator	Microsoft SQL Server 2008 Standard Edition or Enterprise Edition (English). Process Orchestrator additionally supports failover clustering.	●	●	●	●	●	●
	Oracle Database 11g R2 Enterprise Edition (Process Orchestrator can only run on Oracle Real Application Clusters (RAC) 11g R2.)	●	●	●	●	●	●
Web Server for Process Orchestrator	Microsoft IIS 6.0	●	●	●	●	●	●
	Microsoft IIS 7.0	●	●	●	●	●	●
	Microsoft IIS 7.5	●	●	●	●	●	●
	Microsoft IIS 8.0 (Windows Server 2012)	●	●	○	○	○	○
Cisco Unified Computing System (UCS)							
Cisco UCS Director	3.4.0.1	○	●	○	○	○	○
	4.1.0.0	○	●	○	○	○	○
	4.1.0.4	●	○	○	○	○	○
Cisco UCS Manager	1.30	○	○	○	○	○	○
	1.4	○	○	○	○	○	○
	2.0	●	●	●	●	●	●
	2.1	●	●	○	○	○	○
	2.1(3a)	●	○	○	○	○	○
Cisco UCS Models	B series	●	●	●	●	●	●
	C Series (when connected to USC Manager)	●	●	○	○	○	○
Network Discovery							
Cisco Virtual Security Gateway	2.1.1	●	●	○	○	○	○
Network Discovery	Cisco ASA 1000v 8.7.1	●	●	○	○	○	○
	Cisco CSR 1000v XE 3.12	●	●	○	○	○	○
	Cisco Nexus 1000v 4.2.1.SV2.2.2.bin	●	●	○	○	○	○
	Cisco ASR 9000	●	●	○	○	○	○
	Cisco Nexus 7000	●	●	○	○	○	○
	Cisco Nexus 5000	●	○	○	○	○	○
VMWare							
VMware vSphere/vCenter	4.1 (English)	●	●	●	●	●	●
	5.0 (English)	●	●	●	●	○	○
	5.0 Update 1	●	●	●	○	○	○
	5.1 (English)	●	●	○	○	○	○
	5.5 (English)	●	○	○	○	○	○
VMware vCloud Director	5.1 (API v5.1)	●	●	○	○	○	○
	5.5	●	○	○	○	○	○
VMware vCenter Server Deploying Virtual	VMware ESXi 4.1	●	●	●	●	●	●

		Cisco Intelligent Automation for Cloud Releases					
		4.1	4.0.0	3.1.1	3.1	3.0.2	3.0.1
Component	Version Information						
Machines ²	VMware ESXi 5.0	●	●	●	●	●	●
	VMware ESXi 5.0 Update 1	●	●	●	○	○	○
	VMware ESXi 5.1	●	●	●	○	○	○
VMware vCenter Server Provisioning	VMware ESXi 4.1 (on 4.1 Clusters)	◐	◐	◐	◐	◐	◐
	VMware ESXi 5.1	◐	◐	○	○	○	○
VMware PowerCLI Powershell Plugin (32-bit version only)	VMware vSphere PowerCLI 4.1 (English)	○	○	○	●	●	●
	VMware vSphere PowerCLI 5.0/5.0.1 (English)	○	○	○	●	●	●
	VMware vSphere PowerCLI 5.1 (English)	●	●	●	○	○	○
	VMware vSphere PowerCLI 5.5 (English)	●	●	○	○	○	○
LDAP							
LDAP Server	Microsoft Active Directory 2003 (English)	●	●	●	●	●	●
	Microsoft Active Directory 2008 (English)	●	●	●	●	●	●
	Microsoft Active Directory 2012 (English)	●	●	●	●	●	●
OpenStack							
OpenStack	Essex on Ubuntu 12.04 (Nova)	●	●	○	○	○	○
	OpenStack Havana, OpenStack Ice House	●	○	○	○	○	○
Service Assurance							
Prime Performance Manager (PPM)	1.5.1	●	○	○	○	○	○
Web Browser (Service Portal Module)							
Browsers	Microsoft Internet Explorer 10	●	◐	◐	◐	○	○
	Google Chrome 33	●	●	○	○	○	○
	Mozilla Firefox 28	●	●	◐	○	○	○
	Apple Safari 7	●	◐	○	○	○	○

¹ Virtual appliance only

² You can only add a VDC if the datacenter has a cluster. Cisco IAC does not support data centers with one host (no cluster). Therefore, when you register a compute POD with connection to Vcenter datacenter, that datacenter must have one or more clusters.

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Minimum Hardware Requirements

Platform Element	Component	Client	Server
Cisco Process Orchestrator Server ³	CPU	2.8 GHz or higher core (Dual core systems recommended)	64-bit 2.8 GHz or higher core (Quad core systems recommended)
	Memory	2 GB minimum (4 GB or higher recommended)	2 GB minimum (8 GB or higher recommended) 8 GB of RAM (if Microsoft SQL Server is installed on same machine as Process Orchestrator) It is recommended that the database reside on a separate server.
	Disk Space	1 GB dedicated to Process Orchestrator (2 GB or higher recommended)	1 GB of available hard disk space dedicated to Process Orchestrator (2 GB or higher recommended) ⁴
Cisco Prime Service Catalog	CPU	—	Intel Core 2 Dual processor or equivalent
	Memory	—	4 GB RAM
	Disk Space	—	40 GB free hard disk space
Cisco Prime Service Catalog Database	CPU	—	Intel Core 2 Dual processor or equivalent
	Memory	—	4 GB RAM
	Disk Space	—	50 GB free hard disk space ⁵

³ For complete installation prerequisites, see the latest *Process Orchestrator Installation and Administration Guide* on Cisco.com.

⁴ For disk space sizing formula, see the latest *Process Orchestrator Installation and Administration Guide* on Cisco.com.

⁵ Disk space requirement is dependent on the projected size of your Service Portal databases over time, to account for the growth in user data, service definitional data, transactional data, and reporting data.

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Minimum Software Requirements

Component	Server	Requirements ⁶
Application Server Operating System	Cisco Process Orchestrator	Microsoft Windows Server, installed with US English regional language, date and currency settings
	Cisco Prime Service Catalog	Microsoft Windows Server, installed with US English regional language, date and currency settings Red Hat Enterprise Linux
Application Server Framework	Cisco Process Orchestrator	.NET Framework VMware vSphere PowerCLI
	Cisco Prime Service Catalog	Jboss
Application Software	Cisco Process Orchestrator	Process Orchestrator
	Cisco Prime Service Catalog	Cisco Prime Service Catalog Cisco Prime Service Catalog patch (if required) REX adapter
LDAP Server ⁷	Cisco Process Orchestrator	Microsoft Active Directory
	Cisco Prime Service Catalog	Microsoft Active Directory IBM Tivoli Directory Server Sun Java System Directory Server
	NOTE: For Cisco Prime Service Catalog, you must create the six user groups in the directory: Cloud Provider Technical Administrator, Field Extender, Organization Technical Administrator, Solutions Team, Virtual Server Owner, and Virtual and Physical Server Owner. These user groups will serve as containers for identifying user role assignments. The user groups must be named according to the role name in Cisco Prime Service Catalog. Consult the documentation that comes with your directory software for instructions on setting up user groups.	
Web Server	Cisco Process Orchestrator	Microsoft Internet Information Services (IIS)
	Cisco Prime Service Catalog	Microsoft Internet Information Services (IIS)
Database	Cisco Process Orchestrator	Microsoft SQL Server Oracle Database Enterprise Edition
	Cisco Prime Service Catalog	Microsoft SQL Server Oracle Database Enterprise Edition
Web Browser	Cisco Process Orchestrator	Microsoft Internet Explorer Mozilla Firefox
	Cisco Prime Service Catalog	Microsoft Internet Explorer Mozilla Firefox
Virtualization	Hypervisor ⁸	VMware ESXi
	Hypervisor Manager	VMware vCenter/vSphere
	OpenStack	
	Amazon EC2	
	UCS Director	
Physical Server Provisioning	Cisco UCS Manager	Cisco UCS blades
Network Discovery, Enterprise Message Bus, Image Repository	Cisco IAC Management Appliance	Operating system is provided in appliance (see matrix above)

⁶ See the Cisco IAC Compatibility Matrix tab at the front of this document for the supported versions.

⁷ LDAP Server requirements only apply if you are using a directory service to import user and organization information.

⁸ For specific ESXi/vCenter compatibility, refer to interoperability guidelines on VMware.com. In addition, UCS Director v4.1.0.4 is required for Hyper-V support in IAC 4.1.

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Default Ports and Protocols

Adapter	Port	Protocol
IAC Platform Elements (Non-PO Targets)		
PPM	4440	HTTPS
RabbitMQ	15672	HTTP/HTTPS
—	80/443 (if HTTPS is supported)	HTTP/HTTPS
—	8080/443 (if HTTPS is supported)	HTTP/HTTPS
—	8088/443 (if HTTPS is supported)	HTTP/HTTPS
—	8089/443 (if HTTPS is supported)	HTTP/HTTPS
—	80/443 (if HTTPS is supported)	HTTP/HTTPS
—	5672	AMQP
—	1443	TCP
—	1521	TNS
—	61527 / 61526	HTTP/HTTPS (SOAP)
—	2081	HTTP/HTTPS
—	61525	HTTP ⁹
—	61525	HTTP
—	80/HTTP for SP web client ¹⁰	80/HTTP for SP web client
PO Targets for Outbound Connections to IAC Platform Elements		
Windows	135 (initially, then any random port.) ¹¹	WMI, Microsoft RPC, Net API, DCOM
Prime Service Catalog	6080, 8080/443 (if HTTPS is supported)	HTTP/HTTPS
Web	6080/443 (if HTTPS is supported)	HTTP/HTTPS
Web	8080/443 (if HTTPS is supported)	HTTP/HTTPS
Web	61527/ 61526	HTTP/HTTPS
AMQP	5672	AMQP
Server Provisioner	802	HTTP (no HTTPS)
Web	80/443 (if HTTPS is supported)	HTTP/HTTPS
PO Targets for Outbound Connections to Other Elements of the Cloud Environment		
SNMP	162	SNMP
Terminal	22	SSH
Web	8774	HTTP/HTTPS
Web	5000	HTTP/HTTPS
VMware Virtual Center	80/443 (if HTTPS is supported)	HTTP/HTTPS
Cisco UCS Manager	80/443 (if HTTPS is supported)	HTTP/HTTPS
Windows	135 initially (then any random port) ¹¹	WMI, Microsoft RPC, Net API, DCOM
Other Connections from the Cloud Environment Back to IAC		
AMQP	5672	AMQP ¹²

⁹ Using WSHttpBinding - <http://www.codeproject.com/Articles/36396/Difference-between-BasicHttpBinding-and-WsHttpBind>

¹⁰ Locally SP may use the following when bare-metal provisioning a client: 21/FTP; 67/BOOTP; 111 TFTP; 139/NetBios; 445/SMB; 4011 BINL

¹¹ Older windows OS's such as 2000, XP, and 2003 use a low port in the range 1025-5000. Later OS's use a high port in the range 1024-65535

¹² There will be messages coming from the target environment to this queue.

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Limitations and Scalability

Entity	Limitations	Notes
Cisco Process Orchestrator Server	Local HA	Multiple application servers with database cluster; a platform element which is associated to all PODs (at a site)
Concurrent users	200 concurrent users	Based on minimum hardware requirements
VMware vCenter Server	Zero or more instances	Not Linked Mode
Cisco Service Catalog	One	
Cisco UCS Manager	Zero or more instances	Only one may be associated to a Compute POD
Cisco Prime IPAMs	Zero or more instances	
Cisco UCS Director	Zero or one instances	One may service multiple Network PODs
Cisco Virtual Security Gateway	Zero or more instances	Two VSGs per Nexus 1000v per Tenant Organization
Cisco Nexus 1000v	Zero or more instances	Networks must be pre-provisioned if no Nexus 1000v is registered
Cisco Prime Network Controller	Zero or more instances	Only one may be associated to a Service Resource Container
Cloud Service Router 1000v (CSR)	Zero or more instances	Two CSRs per Nexus 1000v per Tenant Organization
ASA 1000v	Zero or more instances	One vASA per Nexus 1000v per Tenant Organization
Citrix NetScaler VPX	Zero or more instances	One VPX per Nexus 1000v per Tenant Organization