

Cisco UCS Director

Cisco UCS[®] Director enables a foundation for open private cloud Infrastructure as a Service (IaaS) and orchestration across Cisco[®] and third-party hardware.

Product overview

Automation delivers the essential scale, speed, and repeatable accuracy that your business needs to increase productivity and respond quickly to business opportunities. Cisco Unified Computing System[™] (Cisco UCS) Director replaces manual configuration and provisioning processes with orchestration to optimize and simplify delivery of data center resources.

This open private-cloud platform delivers on-premises Infrastructure as a Service (IaaS) from the core to the edge. Automated workflows configure, deploy, and manage infrastructure resources across Cisco and third-party computing, network, and storage resources and converged and hyperconverged infrastructure solutions. A self-service portal, modern service catalog, and the more than 2500 multivendor tasks enable the on-demand access to integrated services across data center stacks. This function allows IT professionals and development teams to order and manage infrastructure services on demand.

Cisco UCS Director is supported by a broad, well-established ecosystem. Third-party hardware and solution vendors support the platform using a publically available SDK with open southbound Application Programming Interfaces (APIs) that are downloadable. The SDK contains all of the required APIs and management functions for the third-party hardware or solution to be added into the Cisco UCS Director management model. The unified API is supported by the broader Cisco UCS ecosystem of DevOps and IT Operations Management (ITOM) tools, meaning you can transition to cloud using existing tools as you adopt new automation and continuous delivery processes.

Features and benefits

Table 1 lists the main features and benefits of Cisco UCS Director.

Table 1. Main features and benefits

Feature or function	Benefit
Orchestration engine	<ul style="list-style-type: none"> On-demand rollout of infrastructure components, bare-metal servers, and virtualized resources with automated configuration, deployment, and management of data center infrastructure stacks Library of more than 2500 multivendor tasks for creating end-to-end infrastructure services Detection of resource changes coupled with resource movement to update workflows Extended automation of tasks such as Domain Name System (DNS) changes; Storage-Area Network (SAN) zoning; name changes; database installation; disaster-recovery failover; and decommissioning of servers, hosts, and virtual machines
Self-service portal	<ul style="list-style-type: none"> Allows end users to order and deploy new infrastructure instances conforming to IT-prescribed policies and governance with approval processes, budget validation, and lifecycle management With integrated service capabilities, delivers IaaS in shared service model (VPC Shared); users can provision virtual machines and applications from a pool of assigned resources by using predefined policies and workflow service requests Extensible service platform creates new service offers with ability to catalog services Offers metering of resource usage and consumption for showback reports that can be exported to third-party billing systems

Feature or function	Benefit
Broad heterogeneous support	<ul style="list-style-type: none"> • Ability to automate a wide array of tasks and use cases across a broad variety of supported Cisco and third-party hardware and software data center components (refer to Table 2). • Automated setup of VCE VxBlock, NetApp FlexPod, IBM VersaStack, and Pure FlashStack converged infrastructure. • Day-0 setup and day-1 definition and deployment of Cisco Unified Computing System™ (Cisco UCS®) servers, Cisco HyperFlex™ hyperconverged infrastructure, and Cisco Nexus® switches. • Provisioning and management of physical and virtual switches and dynamic network technologies. • Automated provisioning and management of storage virtual machines, filers, virtual filers, Logical Unit Numbers (LUNs), and volumes. • Discovery, mapping, and monitoring of physical and logical data center topologies. • Unified management of Cisco UCS domains.
Ecosystem and integrations	<ul style="list-style-type: none"> • Ecosystem of partner integrations into the Cisco UCS Director platform use the Cisco UCS Director Open Automation Development Kit. • Cisco Validated Designs (CVD) have been developed for a broad range of application stacks and Platform-as-a-Service (PaaS) solutions. • Integration into Cisco Workload Optimization Manager (Cisco WOM) allows you to provision or decommission host servers, virtual machines, and storage. This action will occur when Cisco WOM determines that the demand for these commodities exceeds supply and new instances are required. • Integration with ServiceNow, Cisco Prime® Service Catalog, and other service catalogs uses the northbound API.
Support for Cisco Application Centric Infrastructure (Cisco ACI®) and ACI Anywhere	<ul style="list-style-type: none"> • Workflows orchestrate the Application Policy Infrastructure Controller (APIC) configuration and management tasks. • Support for multitenancy, which enables policy-based and shared use of the infrastructure, and the ability to define contracts between different container tiers allow you to apply rules between tiers. • Cisco ACI Multi-Site Controller Automation enables centralized automation, configuration, and management.
Developer functions	<ul style="list-style-type: none"> • Native Java editor builds custom tasks with Cisco UCS Director Java libraries that enable orchestration operations. • Native execution of commands or scripts is performed on Microsoft's PowerShell agent. • More than 400 predefined and certified code samples are available from a free community site.

New features in the latest release

Cisco UCS Director Version 6.6 includes the following new features:

- **Intersight device connector:** This feature enables Cisco UCS Director to be claimed as a managed device, so usage data, such as managed third-party accounts, license usage, etc., can be collected. Cisco UCS Director administrators can update software using the southbound connectors during a maintenance window for rapid delivery of new features and functions.
- **Dynamic input forms:** Workflow designers can think logically and act methodically to control the end-user experience, so the inputs that match their selections progressively reveal fields that are relevant for their current selections.
- **“Generic API” task:** Administrative users can define a generic API task for REST/XML capable end-points, such as vCenter, SCVMM, APIC, ACI MSC, with input / output variables inside the XML body content. This functionality is supported during provisioning and rollback.
- **Pre-provision workflows:** Standard catalogs can now be configured to execute a pre-provisioning workflow as well as a post-provisioning workflow. Any workflow can be used for both the pre-provisioning and post-provisioning steps.
- **Import/export of workflows:** The Representational State Transfer (REST) API enables export and import of standard and complex workflows from GitHub and other repositories along with asynchronous execution.

- Semaphore lock: This feature helps ensure mutual exclusion of a resource through semaphore locking during workflow deployment and rollback.
- Support for Red Hat Virtualization Manager (RHVM) 4.1: This support includes deployment of RH KVM 4.1 OS through Cisco UCS Director Trivial File Transfer Protocol (TFTP) Boot server (BMA), virtual-machine lifecycle management with RHVM 4.1, and console access in the end-user self-service portal.

Platform support

Table 2 gives an overview of Cisco and third-party infrastructure support.

Table 2. Cisco and third-party infrastructure support (refer to Cisco UCS Director [Compatibility Matrix](#) for details)

	Vendor or OS support	OS versions or supported models
Bare metal	CentOS	6.0, 7.1, 7.2, 7.3 and 7.4
	Microsoft Windows	Windows 2008 R2, Windows 2012, Windows 2012 R2, and Windows 2016
	VMware ESXi	ESXi 5.0, 5.1, 5.5, 6.0, and 6.5
	Red Hat Enterprise Linux	RHEL 6.0, 7.0, 7.1, 7.2, and 7.3
	SUSE Linux	SUSE 11 SP3 on local disk; SUSE 12 and later on local disk
Hypervisor and software-defined storage support	VMware vSphere Hypervisor	ESX/ESXi 5.0, 5.1, 5.5, 6.0, and 6.5
	VMware vSphere vCenter	vCenter 5.0, 5.1, 5.5, 6.0, and 6.5
	VMware Virtual SAN	vSAN 5.5, 6.0, and 6.1
	Microsoft Hyper-V	Hyper-V 2.0 and 3.0
	Microsoft System Center Virtual Machine Manager (VMM)	VMM 3.0, 3.1, 3.2 and 4.0
	Red Hat Enterprise Virtualization Manager (RHEVM)	RHEVM 3.2, 3.3, and 4.1
	Red Hat Enterprise Virtualization Hypervisor (Red Hat KVM)	KVM 3.2.5
Server support	Cisco	Cisco UCS B-Series Blade, Cisco UCS Mini, Cisco UCS C-Series Rack, Cisco 8-socket C-Series Rack, and Cisco UCS E-Series Servers
Network, load balancer, and fabric	Cisco	Cisco Nexus 1000V for VMware vSphere and Microsoft Hyper-V; Cisco Nexus 3000, 5000, 6000, 7000, and 9000; Cisco MDS 9100, 9300, 9200, 9500, and 9700; Cisco IOS [®] Software devices, Cisco ACI Controllers; and Cisco Application Virtual Switch
	Citrix	NetScaler VPX, NetScaler SDX, NetScaler 1000V, ASA, and ASA v
	Brocade	DCX 8510-4 Backbone, VDX 6700 Series, Brocade 300 SAN Switch, and Brocade 300 SAN Switch
	F5	Load Balancer (physical device only)
Firewall support	Cisco	Cisco ASA 5500, 5500-X, and ASA v Series; Virtual Security Gateway; Cisco Prime Network Services Controller; and Identify Services Engine
Storage	EMC	Symmetric VMAX, VMAX3, VNX (File, Block, Unified), VNX2, VPLEX, VNXe, RecoverPoint, Isilon, EMC Unity, and XtremIO
	Hitachi Data Systems	Hitachi Virtual Storage Platform G/F800, G/F400, G/F600, G200, and G1000
	IBM Storwize	V5000, V7000 Unified, V7000, V9000, and IBM SAN Volume Cluster
	NetApp	NetApp FAS Data-ONTAP 7-mode; FAS supporting Clustered Data-IOTAP, except All Flash FAS, NetApp OnCommand 7-mode only; All Flash FAS; and Virtual Storage Console
	Pure Storage	Purity Operating Environment 4.1, 4.5., 4.6, 4.7, 4.8, 4.9, and 4.10
Hyperconverged infrastructure	Cisco	Cisco HX-Series Server and HyperFlex Edge

	Vendor or OS support	OS versions or supported models
Converged infrastructure	Hitachi Data Systems	Hitachi Storage Connector for Cisco UCS Director
	Pure Storage	Pure Storage Connector for Cisco UCS Director
	VCE	Vision Intelligent Operations v2.5.3

More detailed information about vendor-specific models and supported operating systems is available in the Cisco UCS Director [Compatibility Matrix](#).

The Cisco difference

Cisco model-based automation allows IT staff to provision, pool, and schedule resources for delivery within minutes, delivering [significant cost and time savings](#). By abstracting hardware and software into programmable tasks, IT organizations can build automated workflows for virtual, physical, converged, and hyperconverged infrastructure solutions. Cisco UCS Director [increases operational efficiency](#) by validating configurations and resource assignments, reducing the time spent on troubleshooting and bug fixes. Cisco UCS Director offers the following additional features:

- Creation of automated workflows that span Cisco and multivendor hardware as well as converged and hyperconverged solutions
- Automated discovery, mapping, and monitoring of data center topologies to validate workflows in real time and update existing automated services
- Guaranteed mutual exclusion across workflows, helping ensure resource synchronization
- Support for VMware vCenter 6.5 and vSAN 6.2 and Microsoft System Center Virtual Machine Manager (SCVMM) and Hyper-V Server 2016
- Support for new VMware Remote Console (VMRC) HTML-based console SDK

Licensing

Cisco UCS Director has a perpetual-based license model with five quantity tier options. The more you buy in a single order the better the price point. Use the PID “CUIC-SVR-OFFERS=” and select from the following:

- Select “CUIC-BASE-K9” in all cases unless you have previously ordered this base license.
- Select “CUIC-PHY-SVR” and identify the quantity of licenses desired between 1 and 9.
- Select “CUIC-PHY-SVR-10” and identify the quantity of licenses between 10 and 49.
- Select “CUIC-PHY-SVR-50” and identify the quantity of licenses between 50 and 99.
- Select “CUIC-PHY-SVR-100” and identify the quantity of licenses between 100 and 249.
- Select “CUIC-PHY-SVR-250” for any quantity more than 250 servers.

Be sure to select “CUIC-TERM” under “UCS Director License Term”.

For more details, contact your Cisco partner or account team.

System requirements

Cisco UCS Director can be hosted on VMware vSphere or vCenter as well as Microsoft HyperV Manager. Minimum system requirements depend on the number of virtual machines that Cisco UCS Director will manage. For example, if you plan to manage up to 2000 virtual machines, use Table 3 to determine the minimum system requirements.

Table 3. Minimum system requirements for up to 2000 virtual machines

Element	Minimum supported requirement
vCPU	4
Memory	16 GB
Primary disk (hard disk 1)	100 GB
Secondary disk (hard disk 2)	100 GB

Please refer to the [Cisco UCS Director 6.6 Installation Guide](#) for minimum system requirements for larger environments as well as minimum database and memory configurations.

Ordering information

Please contact your Cisco sales representative or partner for ordering information.

Warranty information

Refer to the Cisco [software warranty policy](#) for more details.

Cisco and partner services

Services from Cisco and our certified partners can help you transform your data center and accelerate business innovation and growth. For more information, visit <https://www.cisco.com/go/services>.

Cisco ONE Enterprise Cloud Suite

Cisco UCS Director is a component of the Cisco ONE™ Enterprise Cloud Suite - Infrastructure Automation offer. Enterprise Cloud Suite provides your business with four offers to optimize your data center as well as manage a multicloud environment. You can use each of the offers alone or in combination with others. (See the Cisco ONE Enterprise Cloud Suite Ordering Guide for more details.)

In addition to the Infrastructure Automation offer, the Enterprise Cloud Suite includes the following offers:

- Cloud Management
 - Modeling and deployment of single application profiles across data center, on-premises, and public cloud environments
 - Real-time benchmark capabilities that help ensure cost-effective placement of workloads in hybrid cloud environments
- Workload Optimization
 - Automated optimization and cost efficiency for data center infrastructure
 - Cost and efficiency data for on-premises and public cloud platforms
 - Action data within 1 hour, with 3-day assessment for global environment
- Service Management
 - Unified self-service portal and catalog that increases end-user satisfaction
 - Process automation to integrate business processes and third-party solutions into the self-service portal

Cisco ONE Software

Cisco ONE Software offers a valuable and flexible way to buy software for the WAN, access, and data center domains. At each stage in the product lifecycle, Cisco ONE Software helps make buying, managing, and upgrading your network and infrastructure software easier. Cisco ONE Software provides:

- Flexible licensing models to smoothly distribute customers' software spending over time
- Investment protection for software purchases through software services-enabled license portability
- Access to updates, upgrades, and new technology from Cisco through Cisco Software Support Services (SWSS)
- Lower cost of entry with the new Cisco ONE Subscription for Data Center Cloud and Compute model

Cisco ONE Enterprise Cloud Suite provides the automation tools you need to deliver a self-service experience for all users, freedom of choice for application teams, and the solutions required to transform IT.

Be competitive now

To remain competitive, your organization needs to deliver scale and speed while increasing operation efficiency. Resolve these challenges with Cisco UCS Director. It optimizes the delivery of data center resources with model-based automation that delivers infrastructure within minutes. When combined with Cisco ONE Enterprise Cloud Suite, it provides the foundational automation layer for private cloud deployments. Learn more at <https://www.cisco.com/go/ucsdirector>.

Cisco Capital financing

Financing to help you achieve your objectives

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