Cisco UCS Director Express for Big Data

Cisco UCS Director Express offers turnkey deployment, ongoing management, and maintenance of big data clusters on Cisco UCS Converged Infrastructure for Big Data

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 the delivery of data center resources.

Cisco UCS Director Express for Big Data is an open private-cloud platform that delivers on-premises Big-Data-as-a-Service (BDaaS) from the core to the edge. Automated workflows configure, deploy, and manage the infrastructure resources and big data platforms such as Hadoop and Splunk Enterprise across Cisco UCS Integrated Infrastructure for Big Data and Analytics – a general-purpose converged infrastructure for big data. A self-service portal, a modern service catalog, and more than 2500 multivendor tasks enable on-demand access to integrated services across your data center stacks. This feature allows IT professionals and development teams to manage infrastructure and big data cluster services on demand.

Third-party software and solution vendors can develop and support plug-ins to the platform using a publically available Software-Development Kit (SDK) with open southbound Application Programming Interfaces (APIs) that are downloadable. The unified API is supported by the broader Cisco UCS ecosystem of DevOps and IT Operations Management (ITOM) tools, which means that 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 Express for Big Data.

Table 1. Main features and benefits

Feature or function	Benefit
Big data cluster management	• On-demand deployment and ongoing management of Hadoop clusters of multiple Hadoop distributions (Cloudera, Hortonworks, and MapR) and Splunk Enterprise. • Day 2 operations, such as software upgrades, cluster expansions, seamless maintenance, capacity upgrades, and in-service disk replacements • Support for Apache Kafka, Apache Spark, and Apache Storm for streaming workloads • Storage utilization monitoring, big data cluster metrics, custom workflows • Ability to manage/expand Hadoop clusters via Cloudera Manager, Ambari, MapR-Control System (MCS). • Support for multiple UCS domains and Splunk multi-site features.
Orchestration engine	• 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
Self-service portal	• Allows end users to order and deploy big data cluster instances that conform to IT-prescribed policies and governance with approval processes, budget validation, and lifecycle management • Extensible service platform creates new service offers with ability to catalog services

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Feature or function	Benefit
Support for Cisco® Application Centric Infrastructure (Cisco ACI™) and ACI Anywhere	• Workflows that 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 capacity to define contracts between different container tiers, allowing you to apply rules between tiers • Cisco ACI Multi-Site Controller Automation, which enables centralized automation, configuration, and management
Developer functions	• Native Java editor shall be used to build custom tasks using built-in 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 3.6 includes the following new features:

- Cisco Intersight™ device connector: This feature enables Cisco UCS Director Express to be claimed as a managed device, so that usage data, such as managed third-party accounts, license usage, etc., can be collected. Cisco UCS Director Express administrators can update software using the southbound connectors, during maintenance, 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 endpoints, with input / output variables inside the XML body content. This functionality is supported during provisioning and rollback.
- Preprovision workflows: Standard catalogs can now be configured to execute a preprovisioning workflow as well as a post-provisioning workflow. Any workflow can be used for both the pre- 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.

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 Device and Software Support Table List for details)

	Vendor or OS support	OS versions or supported models
Bare metal	CentOS Red Hat Enterprise Linux Oracle Linux	7.3 and 7.4 RHEL 7.3, and 7.4 Oracle Enterprise Linux 7.4
Big data software support	Cloudera Enterprise Data Hub Hortonworks Data Platform MapR Splunk Enterprise	5.13, 5.14 2.6.3, 2.6.4 5.2.1, 6.0 6.6, 7.0
Server support	Cisco	Cisco UCS C220 M5/M4/M3 Rack Servers, Cisco UCS S3260 Storage Servers
Network	Cisco	Cisco UCS 6248/6296 Fabric Interconnects, Cisco UCS 6332 Fabric Interconnects

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More detailed information about vendor-specific models and supported operating systems is available in the Cisco UCS Director Express for Big Data 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 Express has a subscription-based license model. The more you buy in a single order, the better the price point.

Use the PID “CUIC-SVR-OFFERS=” and choose the following:

1. Select to accept “CUIC-TERM” (UCS Director License Terms).
2. Select “CUIC BASE-K9” unless you have previously ordered this base license.

Use the PID “CUIC-EBDS-LIC=” and select from the following:

1. Select to accept the “CUIC-TERM” (UCS Director License Terms)
2. Select “CUIC-EBDS-LIC”, enter the number of servers, and choose the duration.

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 on Microsoft HyperV Manager. The 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.

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

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

Please refer to the Cisco UCS Director Express for Big Data 3.6 Deployment and Management 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 Capital financing

Financing to help you achieve your objectives

Cisco Capital® can help you acquire the technology you need to achieve your objectives and stay competitive. We can help you reduce CapEx, accelerate your growth, and optimize your investment dollars and ROI. Cisco Capital financing gives you flexibility in acquiring hardware, software, services, and complementary third-party equipment. And there's just one predictable payment. Cisco Capital is available in more than 100 countries. Learn more.

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