Cisco UCS Director Release Notes, Release 6.6

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Cisco UCS Director Release Notes

Cisco UCS Director

Cisco UCS Director delivers unified, highly secure management for supported compute, network, storage, and virtualization platforms and for the industry's leading converged infrastructure solutions, which are based on the Cisco Unified Computing System (Cisco UCS) and Cisco Nexus platforms. Cisco UCS Director extends the unification of computing and network layers through Cisco UCS to provide data center administrators with comprehensive visibility and management capabilities for compute, network, storage, and virtualization. For more information, see Cisco UCS Director on Cisco.com.

Revision History

Release	Date	Description
6.6	April 30, 2018	Created for Release 6.6.

System Requirements

The system requirements for this release are available in the Cisco UCS Director installation and upgrade guides for the following:

- VMware vSphere
- Microsoft Hyper-V

Supported Browser Versions

Cisco UCS Director supports the following browsers:

- Internet Explorer 8 or higher
- Firefox 12 or higher (PC and Apple MAC)
- Safari 6 or higher
- Google Chrome 18 or higher
- Opera 12 or higher (PC and Apple MAC)

Minimum System Requirements for a Single-Node Setup

The minimum system requirements depend on the number of VMs you plan to manage. We recommend deploying a Cisco UCS Director VM on a local datastore with a minimum of 25 MBps I/O speed, or on an external datastore with a minimum of 50 MBps I/O speed.

（注）

- For optimal performance, the entire memory and CPU allocations specified in the tables below should be reserved. If you do not follow these specifications, then performance could be affected. For example, for a small, single node deployment 4 vCPU cores with 3000 MHz and 16G of memory must be reserved for the Cisco UCS Director VM.
- The minimum memory required for the inframgr service is automatically set during deployment. However, if you want to modify the memory for the inframgr service, edit the inframgr.env file available in the following location:

  `/opt/infra/bin/`

  In this file, update the "MEMORY_MAX" parameter to the value you want. After changing this parameter, restart the inframgr service for the changes to take effect. The default memory settings are MEMORY_MIN=6144m and MEMORY_MAX=6144m.

For information about minimum system requirements for a multi-node setup, see the Cisco UCS Director Multi-Node Installation and Configuration Guide.

Up to 2,000 VMs

If you plan to manage up to 2,000 VMs, the Cisco UCS Director environment must meet at least the minimum system requirements in the following table.

表 1 : Minimum System Requirements for up to 2,000 VMs

Element	Minimum Supported Requirement
vCPU	4
Memory	16 GB
Primary Disk (Hard Disk 1)	100 GB
Secondary Disk (Hard Disk 2)	100 GB
IOPS	1200

Up to 5,000 VMs

If you plan to manage no more than 5,000 VMs, the Cisco UCS Director environment must meet at least the minimum system requirements and recommended configurations in the following tables.

表 2 : Minimum System Requirements for up to 5,000 VMs

Element	Minimum Supported Requirement
vCPU	8
Memory	20 GB
Primary Disk (Hard Disk 1)	100 GB
Secondary Disk (Hard Disk 2)	100 GB
IOPS	1200

You must also edit the **MEMORY_MIN** and **MEMORY_MAX** settings in `/opt/infra/bin/inframgr.env` as follows:

MEMORY_MIN=8192m

MEMORY_MAX=8192m

Restart the inframgr service after making the memory size changes.

Edit the following parameters in the `/etc/my.cnf` file.

表 3 : Minimum Database Configuration

Element	Minimum Supported Configuration
thread_cache_size	100
max_connections	1000
innodb_lock_wait_timeout	100
query_cache_size	128 MB
innodb_buffer_pool_size	2048 MB
max_connect_errors	10000
connect_timeout	20
innodb_read_io_threads	64
innodb_write_io_threads	64

Restart the Cisco UCS Director database and all Cisco UCS Director services after making these changes to the `/etc/my.cnf`.

Minimum System Requirements for a Multi-Node Setup

The minimum system requirements for a multi-node setup depends upon the number of VMs that need to be supported by Cisco UCS Director. We recommend deploying a Cisco UCS Director VM on a local datastore with a minimum of 25 Mbps I/O speed, or on an external datastore with a minimum of 50 Mbps I/O speed. The following table describes the number of VMs supported by each deployment size.

Deployment Size	Number of VMs Supported
Small	5,000 to 10,000 VMs
Medium	10,000 to 20,000 VMs
Large	20,000 to 50,000 VMs

Minimum System Requirements for a Small Multi-Node Setup

The small multi-node setup supports from 5,000 to 10,000 VMs. We recommend that this deployment include the following nodes:

- One primary node
- Two service nodes
- One inventory database
- One monitoring database

（注） For optimal performance, dedicate the CPU and memory resources to the VMs.

Minimum Requirements for each Primary Node and Service Node

Element	Minimum Supported Requirement
vCPU	4
Memory	16 GB
Hard disk	100 GB

Minimum Requirements for the Inventory Database

Element	Minimum Supported Requirement
vCPU	4
Memory	16 GB
Hard disk	100 GB (SSD Type Storage)

Minimum Requirements for the Monitoring Database

Element	Minimum Supported Requirement
vCPU	4
Memory	16 GB
Hard disk	100 GB (SSD Type Storage)

Minimum Memory Configuration for Cisco UCS Director Services on Primary and Service Nodes

Service	Recommended Configuration	File Location	Parameter
inframgr	8192m	`/opt/infra/bin/inframgr.env`	MEMORY_MAX

（注） To modify the memory settings for the inframgr service, in the `inframgr.env` file, update the "MEMORY_MAX" parameter to the value you want. After changing this parameter, restart the inframgr service for the changes to take effect.

Additional Changes

You may also need to edit the `/opt/infra/bin/inframgr.env` file and update the **JVM_ARGS** property, if the following configuration is not present. This change is needed only on the primary and service nodes (in a multi-node setup). Restart the inframgr service for the changes to take effect

-XX:MaxMetaspaceSize=1024m, -XX:MaxDirectMemorySize=1024m

After editing, your changes should like the following:

JVM_ARGS="-DSVC=$SVC -Xms$MEMORY_MIN -Xmx$MEMORY_MAX $MAX_THREAD_STACK_SIZE -XX:MaxMetaspaceSize=1024m, -XX:MaxDirectMemorySize=1024m $INFRAMGR_REMOTE_DEBUG_OPTS -Djava.security.manager -Djava.security.policy=security.policy -DpreInitSchema=true -verbose:gc -Dfile.encoding=UTF-8 $JMX_OPTS"

（注） We recommend not copying and pasting from this document as special characters such as hyphens and quotes get translated to unwanted characters.

You may also need to log in as root to the inventory and monitoring nodes and edit the following parameters in the `/etc/my.cnf` file:

innodb_buffer_pool_size= 6144M

max_connections=1000

This change is only applicable to multi-node deployments and not for single-node configurations.

Minimum System Requirements for a Medium Multi-Node Setup

The medium multi-node setup supports between 10,000 and 20,000 VMs. We recommend that this deployment include the following nodes:

- One primary node
- Three service nodes
- One inventory database
- One monitoring database

（注） For optimal performance, reserve additional CPU and memory resources.

Minimum Requirements for each Primary Node and Service Node

Element	Minimum Supported Requirement
vCPU	8
Memory	30 GB
Hard disk	100 GB

Minimum Resource Requirements for the Inventory Database

Element	Minimum Supported Requirement
vCPU	8
Memory	60 GB
Hard disk	100 GB (SSD type storage)

Minimum Resource Requirements for the Monitoring Database

Element	Minimum Supported Requirement
vCPU	8
Memory	60 GB
Hard disk	100 GB (SSD type storage)

Minimum Memory Configuration for Cisco UCS Director Services on Primary and Service Nodes

Service	Recommended Configuration	File Location	Parameter
inframgr	12288m	`/opt/infra/bin/inframgr.env`	MEMORY_MAX

To modify the memory settings for the inframgr service, in the `inframgr.env` file, update the "MEMORY_MAX" parameter to the value you want. After changing this parameter, restart the inframgr service for the changes to take effect.

Minimum Inventory Database Configuration

Component	Minimum Supported Configuration
thread_cache_size	2000
max_connections	2000

Component	Minimum Supported Configuration
innodb_lock_wait_timeout	100
query_cache_size	128 MB
innodb_buffer_pool_size	43,008 MB
max_connect_errors	10,000
connect_timeout	20
innodb_read_io_threads	64
innodb_write_io_threads	64

Make these changes in the `/etc/my.cnf` file.

Minimum Monitoring Database Configuration

Component	Minimum Supported Configuration
thread_cache_size	2000
max_connections	2000
innodb_lock_wait_timeout	100
query_cache_size	128 MB
innodb_buffer_pool_size	43,008 MB
max_connect_errors	10,000
connect_timeout	20
innodb_read_io_threads	64
innodb_write_io_threads	64

Make these changes in the `/etc/my.cnf` file.

Additional Changes

You may also need to edit the `/opt/infra/bin/inframgr.env` file and update the **JVM_ARGS** property, if the following configuration is not present. This change is needed only on the primary and service nodes (in a multi-node setup). Restart the inframgr service for the changes to take effect.

-XX:MaxMetaspaceSize=1024m, -XX:MaxDirectMemorySize=1024m

After editing, your changes should look like the following:

JVM_ARGS="-DSVC=$SVC -Xms$MEMORY_MIN -Xmx$MEMORY_MAX $MAX_THREAD_STACK_SIZE -XX:MaxMetaspaceSize=1024m, -XX:MaxDirectMemorySize=1024m $INFRAMGR_REMOTE_DEBUG_OPTS

-Djava.security.manager -Djava.security.policy=security.policy -DpreInitSchema=true -verbose:gc -Dfile.encoding=UTF-8 $JMX_OPTS"

（注） We recommend not copying and pasting from this document as special characters such as hyphens and quotes get translated to unwanted characters.

Minimum System Requirements for a Large Multi-Node Setup

The large multi-node setup supports between 20,000 and 50,000 VMs. We recommend that this deployment include the following nodes:

- One primary node
- Six service nodes
- One inventory database
- One monitoring database

（注） For optimal performance, reserve additional CPU and memory resources.

Minimum Resource Requirements for each Primary Node and Service Node

Element	Minimum Supported Requirement
vCPU	8
Memory	60 GB
Hard disk	100 GB

Minimum Resource Requirements for the Inventory Database

Element	Minimum Supported Requirement
vCPU	8
Memory	120 GB
Hard disk	200 GB (SSD type storage)

Minimum Resource Requirements for the Monitoring Database

Element	Minimum Supported Requirement
vCPU	8
Memory	120 GB
Hard disk	600 GB (SSD type storage)

Minimum Memory Configuration for Cisco UCS Director Services on Primary and Service Nodes

Service	Recommended Configuration	File Location	Parameter
inframgr	24576m	`/opt/infra/bin/inframgr.env`	MEMORY_MAX

To modify the memory settings for the inframgr service, in the `inframgr.env` file, update the "MEMORY_MAX" parameter to the value you want. After changing this parameter, restart the **inframgr** service for the changes to take effect.

Minimum Inventory Database Configuration

Component	Minimum Supported Configuration
thread_cache_size	4000
max_connections	4000
innodb_lock_wait_timeout	100
query_cache_size	128 MB
innodb_buffer_pool_size	86,016 MB
max_connect_errors	10,000
connect_timeout	20
innodb_read_io_threads	64
innodb_write_io_threads	64

Make these changes in the `/etc/my.cnf` file.

Minimum Monitoring Database Configuration

Component	Minimum Supported Configuration
thread_cache_size	4000
max_connections	4000
innodb_lock_wait_timeout	100
query_cache_size	128 MB
innodb_buffer_pool_size	86,016 MB
max_connect_errors	10,000
connect_timeout	20
innodb_read_io_threads	64
innodb_write_io_threads	64

Make these changes in the `/etc/my.cnf` file.

Additional Changes

You may also need to edit the `/opt/infra/bin/inframgr.env` file and update the **JVM_ARGS** property, if the following configuration is not present. This change is needed only on the primary and service nodes (in a multi-node setup). Restart the inframgr service for the changes to take effect.

-XX:MaxMetaspaceSize=1024m, -XX:MaxDirectMemorySize=1024m

After editing, your changes should look like the following:

JVM_ARGS="-DSVC=$SVC -Xms$MEMORY_MIN -Xmx$MEMORY_MAX $MAX_THREAD_STACK_SIZE -XX:MaxMetaspaceSize=1024m, -XX:MaxDirectMemorySize=1024m $INFRAMGR_REMOTE_DEBUG_OPTS -Djava.security.manager -Djava.security.policy=security.policy -DpreInitSchema=true -verbose:gc -Dfile.encoding=UTF-8 $JMX_OPTS"

（注） We recommend not copying and pasting from this document as special characters such as hyphens and quotes get translated to unwanted characters.

Installation and Upgrade Notes

Cisco UCS Director uses a standard virtual machine that is delivered in OVF format for VMware, and in VHD format for Microsoft Hyper-V. It can be hosted on VMware vSphere or vCenter, or on Microsoft Hyper-V Manager. For installation instructions, see the appropriate Cisco UCS Director installation guide.

Cisco UCS Director, Release 6.6 is installed on two disks in the virtual machine (VM). The primary disk (Hard Disk 1) hosts the operating system and the Cisco UCS Director application. The secondary disk (Hard Disk 2) hosts the Cisco UCS Director database. For information on the system requirements for both these disks, see the Cisco UCS Director installation guide or the *Cisco UCS Director Upgrade Guide*.

（注） Cisco UCS Director OVF and VHD zip files are created using zip 3.x in CentOS 6.x. For Linux systems, you can extract the zip files with unzip 6.x or higher or with the latest version of the 7-Zip archiving tool. For Windows systems, you can extract the zip files with the native Extract All in Windows Explorer for Windows 10 and Windows Server 2012 or with the latest versions of archiving tools such as 7-Zip or WinRAR.

（注） After you apply the upgrade patch and complete that installation, choose the Start Services option of ShellAdmin to start/restart the Cisco UCS Director services and complete the patch process. The patch process is not complete until the services have started, the login screen is displayed, and the admin user can sign in.

All Cisco UCS Director services must be stopped before you perform other ShellAdmin procedures, such as apply additional patches, take a database backup, or restore a database from a backup.

Installing Cisco UCS Director Powershell Agent and the Powershell Console

Installing a newer version of the PowerShell Agent requires that you uninstall the older version first. To remove the older version of PowerShell Agent, stop the Cisco PSA Service first and then uninstall the agent. For instructions on installing, see Cisco UCS Director PowerShell Agent Installation and Configuration Guide, Release 6.6.

Before installing Cisco UCS Director Powershell Console 6.6, you must uninstall the earlier version of the Powershell Console from the system. To install the latest version, download and double-click the `UCSDirector_PSC_6.6.0.0.exe` file.

Supported Upgrade Paths to Cisco UCS Director, Release 6.6

The following are the supported upgrade paths for Cisco UCS Director, Release 6.6.

See the Cisco UCS Director Upgrade Guide for detailed steps on how to upgrade to Release 6.6 from your current release.

Upgrade Paths from Release 6.5(0.0)

- From Release 6.5(0.0) to Release 6.6(0.0)
- From Release 6.5(0.1) to Release 6.6(0.0)
- From Release 6.5(0.2) to Release 6.6(0.0)
- From Release 6.5(0.3) to Release 6.6(0.0)

Upgrade Paths from Release 6.0(0.0)

A direct upgrade to Release 6.6(0.0) from Release 6.0(x.x) is not supported. You must upgrade to a 6.5(x.x) release first.

Upgrade Paths from Release 5.5(x.x)

A direct upgrade to Release 6.6(0.0) from Release 5.5(x.x) is not supported. You must first upgrade to a 6.0(x.x) release, then upgrade to release 6.5(x.x) and then finally upgrade to Release 6.6(0.0).

New and Changed Features

This section provides an overview of the significant new and changed features in this release. This section does not provide an exhaustive list of all enhancements included in this release.

（注） For information about the physical and virtual devices and software supported by Cisco UCS Director in this release, see the Compatibility Matrix for this release.

New and Changed Features in Release 6.6

Support for Cisco ACI Multi-Site Controller

This release of Cisco UCS Director introduces a new connector for creating and managing ACI Multi-Site Controller accounts. As an administrator, you can create ACI Multi-Site Controller accounts, and perform actions such as adding, editing and deleting APIC controller accounts, and assigning accounts to a pod. You can manage the user, site, tenant, and schema of these ACI Multi-Site Controller accounts.

Documented in the Cisco UCS Director APIC Management Guide.

Cisco ACI Multi-Site Use Cases on Cisco UCS Director

The basic use cases of implementing Cisco ACI Multi-Site with Cisco UCS Director is documented in the Cisco ACI Multi-Site Use Cases on Cisco UCS Director guide. The guide captures the prerequisites and the configuration of objects on ACI Multi-Site controller and APIC controller to implement the use case.

Dynamic Input for Orchestration Workflows

This release provides greater control of user input to Orchestration Workflows. You can define workflow input processing rules that make display of some user inputs contingent on other input values. This feature is also called "Dynamic Forms" or "Progressive Disclosure."

Documented in the Cisco UCS Director Orchestration Guide.

See sample workflows included in the **Examples** folder available from the **Orchestration** > **Workflows** screen.

Introduction of the Device Connector Tab

The **Device Connector** tab connects Cisco UCS Director to Cisco Intersight, the cloud-hosted server management system. It enables Cisco UCS Director to be managed and monitored through Cisco Intersight.

To register a device with Cisco Intersight in the cloud, you must do the following:

1. Configure the device connector proxy settings—Required only if you have proxy configuration enabled.
2. Use the device serial number and security code to validate your access to the device from Cisco Intersight and claim the device.

After the device connector is configured and the device is claimed, you can launch the user interface of Cisco UCS Director from Cisco Intersight.

Documented in the Cisco UCS Director Administration Guide and Cisco UCS Director Express for Big Data Deployment and Management Guide.

Support for Launching Cisco UCS Director From Cisco Intersight

After the device connector is configured and the device is claimed, you can launch the Cisco UCS Director user interface from Cisco Intersight.

重要 If any of the Cisco UCS Director services are down, you cannot launch Cisco UCS Director from Cisco Intersight.

A message stating that there is no service is displayed.

Although you can launch Cisco UCS Director from Cisco Intersight, following are some of the restrictions that you need to be aware of:

- You cannot edit a user profile.
- You cannot perform any import and export actions.
- The main menu and the Dashboard are disabled.
- The **Device Connector** tab is not visible.
- You cannot perform any launch actions.
- You cannot upgrade connector packs.
- You cannot generate any summary reports.
- The user name is displayed as Cisco Intersight user when you launch Cisco UCS Director.
- All service requests and audit log details are logged as Admin user.

Documented in the Cisco UCS Director Administration Guide and Cisco UCS Director Express for Big Data Deployment and Management Guide.

Introduction of Connector Packs

This release introduces connector packs that are delivered as .zip files that help you perform connector level upgrade in Cisco UCS Director independently, without impacting any other connectors in the system. When a system running Cisco UCS Director is claimed in Cisco Intersight, as a system administrator, you can view a list of recent connector packs versions that are available. You can either upgrade all or specific connector pack versions on the system using the graphical user interface of Cisco UCS Director.

重要 Upgrading connector packs is not available in a multi-node setup.

Documented in the Cisco UCS Director Administration Guide and Cisco UCS Director Express for Big Data Deployment and Management Guide.

Support for SPICE Console for VMs in KVM Accounts

This release introduces support for launching the Simple Protocol for Independent Computing Environments (SPICE) console for VMs within a Red Hat KVM account.

Documented in the Cisco UCS Director Red Hat Enterprise KVM Management Guide.

HyperFlex Replication Support Using Cisco UCS Director

In Cisco UCS Director, you can protect VMs for disaster recovery by scheduling periodic snapshots between two HyperFlex (HX) clusters. You can protect individual VMs and you can create protection groups with schedules and policies that apply to every VM in the group.

Documented in the Cisco UCS Director HyperFlex Systems Management Guide.

Resource Limits Support for Hyper-V Provisioning

This release of Cisco UCS Director introduces support for configuring resource limits for provisioning Hyper-V systems.

Documented in the Cisco UCS Director Administration Guide.

Enhanced Scheduling Capabilities for System Tasks

This release of Cisco UCS Director introduces an option to schedule a system task with a **Fixed Delay** option. This option enables a fixed time delay between consecutive executions of a system task.

By default, most system tasks are configured with the **Fixed Delay** option. However, there are a few tasks that are configured with the **Fixed Rate** option.

This release also introduces the capability to configure a customized frequency for the system tasks.

Documented in the Cisco UCS Director Administration Guide.

Pre-Provisioning and Post-Provisioning Workflow Support for Standard Catalogs

This release of Cisco UCS Director introduces support for configuring standard catalogs to execute a pre-provisioning workflow in addition to the post-provisioning workflow. With this support, you can run tasks to determine if all prerequisites have been met to provision a VM, such as availability of IP addresses, or creating VLAN on external switch. After provisioning a VM, you can run tasks to perform additional procedures such as set user permissions, add VM directories or configure vNICs.

With the introduction of pre-provisioning support, the input type for tasks "Create Standard Catalog" and "Modify Standard Catalog" has changed from **Workflow** to **Compound Workflow**. If you configured workflows with these tasks in earlier releases of Cisco UCS Director with the task input configured as **Workflow**, then after upgrading to Release 6.6, the workflow validation fails. You must manually edit the user input for the workflows, and change the **Task Input type** to **Compound Workflow**. To determine the workflows that are impacted, run the following command:

```
/opt/infra/sysmgr/getStandardCatalogTaskWorkflows.sh
```

This command lists the workflow name, the version, and the name of the folder that contains the workflow.

This input type change does not impact existing Catalogs or new Catalogs. It only affects workflows that use the two tasks mentioned above.

Documented in the Cisco UCS Director Administration Guide and the Cisco UCS Director Orchestration Guide.

Introduction of the Global Dashlet Option

In this release of Cisco UCS Director, the **Global Dashlet** option has been introduced. Administrators can use this option to configure the number of dashlets that users within all groups can view when they login to the End User Portal.

Documented in the Cisco UCS Director Administration Guide.

Support for Selecting User Groups as Approvers for VDC Actions

From this release onwards, while adding, editing or cloning a virtual data center, you can either choose user groups or individual users as the first and second level approvers. If you choose User Groups as approvers, you can also specify if the task requires approval from all users of the groups.

Documented in the Cisco UCS Director Administration Guide.

Support for Manually Adding Search-based Organizational Units (OUs)

This release of Cisco UCS Director introduces a new option to provide OUs manually to the system and to synchronize user records with the LDAP server. In addition, you can enable or disable the manual search based OU integration at any point in time.

Documented in the Cisco UCS Director Administration Guide.

Deprecated Support for Verisign Identity Protection (VIP) Authentication

From this release onwards, configuring an authentication preference using the Verisign Identity Protection (VIP) Authentication Service is no longer supported. This option is currently displayed in the user interface of the administrative portal, and will be removed in a subsequent release.

Classic View No Longer Available

From this release onwards, the Classic view of the user interface is no longer available. In release 6.5, administrators could set the system to launch the Classic View user interface for subsequent login sessions. Also, administrators could specify this setting for login sessions of other users as well. These options have now been removed.

Documented in the Cisco UCS Director Administration Guide.

Support for Fabric Extender (FEX)

This release supports creating FEX profiles to configure FEX interfaces and to define policies for host-facing ports.

Documented in the Cisco UCS Director APIC Management Guide.

Write and Execute CloupiaScript Permissions

This release of Cisco UCS Director introduces the Write CloupiaScript and Execute CloupiaScript permissions to control user access to CloupiaScript. By default, the user will have permission to write and execute custom tasks using CloupiaScript.

Documented in the Cisco UCS Director Custom Task Getting Started Guide and Cisco UCS Director Administration Guide.

Execute Generic API task

This release of Cisco UCS Director provides the Execute Generic API task that helps you to define parameters to interact with REST API based systems easily. This task handles any JSON/XML interactions automatically and generates task output as needed. This approach helps you to extend the functionality of Cisco UCS Director.

Documented in the Cisco UCS Director Fundamentals Guide.

You can find instructions on working with the Generic API task in the Working with Generic API Task of Cisco UCS Director guide.

Custom Input Validation

This release of Cisco UCS Director provides an option to validate any input at runtime using a customer-provided script. This customer-provided script (written in bash, javascript. python, or perl) can validate user inputs and flag errors before submitting the service request.

Documented in the Cisco UCS Director Custom Task Getting Started Guide.

See sample workflows included in the **Examples** folder available from the **Orchestration** > **Workflows** screen.

REST API support for managing import and export of artifacts

This release of Cisco UCS Director provides REST API support for managing import and export of artifacts. You can export and import workflows, custom tasks, script modules, and activities in Cisco UCS Director.

Documented in the Cisco UCS Director REST API Cookbook.

Support for adding Windows license for virtual machine (VM)

This release of Cisco UCS Director provides support to add Windows licenses that you want to use for VM while creating an application container template for fenced virtual container, adding an application profile, and adding VMs.

Documented in the Cisco UCS Director Application Container Guide.

Summary Screen Enhancements for Create Service Request Action

While creating a service request using an advanced catalog, the **Summary** screen displays information on all the values that you entered while creating the service request.

While provisioning a VM using an advanced catalog, the **Summary** screen displays the approximate service request cost estimate.

Documented in the Cisco UCS Director Administration Guide.

Auto-Populate Input Values from a Previous Service Request

When re-executing an Orchestration Workflow, you can optionally copy the workflow input values from a previous service request. You choose from a list of previous service requests running the same workflow.

Documented in the Cisco UCS Director Orchestration Guide.

Support for Virtual SAN Cluster Configuration through Cisco UCS Central

This release of Cisco UCS Director introduces support for VSAN cluster configuration on servers managed through Cisco UCS Central accounts. You can use a workflow to configure servers managed through the Cisco UCS Central account, install ESXi on an SD on these servers, add them to the vCenter and create a VSAN cluster with these hosts.

Documented in the Cisco UCS Director UCS Central Management Guide and Cisco UCS Director VMware vSphere Management Guide.

Introduction of Scoped Inventory Tasks for Cisco UCS Central Accounts

This release of Cisco UCS Director introduces the following workflow tasks for Cisco UCS Central accounts:

- Request Inventory Collection by DN
- Request Inventory Collection by Resource

These tasks support running an inventory process on a specific resource type, such as service profile, or on a specific object running as part of the workflow. With the addition of these tasks, the inventory process does not affect the parallel execution of other service requests for the same Cisco UCS Central account.

Documented in the Cisco UCS Director UCS Central Management Guide.

Support for Firmware Upgrade for Standalone C-Series Server

This release of Cisco UCS Director introduces the ability to automate the firmware upgrade of the Standalone C-series server using a workflow task.

Documented in the Cisco UCS Director UCS Central Management Guide.

Support for External DHCP Servers with Cisco Bare Metal Agent

This release of Cisco UCS Director and Cisco Bare Metal Agent have been qualified with using external DHCP server for OS deployments.

Documented in the Cisco UCS Director Bare Metal Agent Installation and Configuration Guide.

Support for Encrypting the Root Password in the Kickstart File

This release of Cisco UCS Director introduces support for encrypting the root password in the `ks.cfg` file.

Documented in the Cisco UCS Director Bare Metal Agent Installation and Configuration Guide.

Support for Big Data Cluster Versions

This release introduces support for Cloudera 5.13.1 and 5.14.0, MapR 5.2.2 and 6.0.0, Hortonworks 2.6.3 and 2.6.4, and Splunk 7.

Documented in the Cisco UCS Director Express for Big Data Deployment and Management Guide.

Support for Customizing the Port Number

This release introduces support for specifying a custom port number while adding a Hadoop or Splunk derived account.

Documented in the Cisco UCS Director Express for Big Data Deployment and Management Guide.

Support for Splunk Multi-Site Cluster Management

This release introduces an option to create a new multi-site Splunk cluster or migrate an existing Splunk cluster to a multi-site Splunk cluster.

Documented in the Cisco UCS Director Express for Big Data Deployment and Management Guide.

Support for NFS Datastore Creation for all Storage Connectors

This release of Cisco UCS Director introduces support for creating and managing the NFS datastore. You can create and delete NAS client networks, allocate IP addresses to a NAS client network, and deallocate IP addresses from a NAS client network.

Documented in the Cisco UCS Director Management Guide for IBM Storwize.

Enhancements to the Cisco UCS Director Shell Interface

This release of Cisco UCS Director introduces support for regenerating device connector REST API access key, granting or denying client access to MySQL port, and cleaning up patch files or directories. This release also introduces an option to limit the number of days the self-signed certificate will be valid.

Documented in the Cisco UCS Director Shell Guide.

Orchestrate VM Provisioning Without VDC

The Orchestration Task Library contains tasks to generically provision VMware or HyperV virtual machines without a virtual data center (VDC) and its associated policies.

The new orchestration tasks are:

- VMware - Provision a VM without VDC
- VMware - Provision a Blank VM
- VMware - Guest Customization
- VMware - Get Snapshots

Documented in the *Cisco UCS Director Task Library*.

New, Modified, and Removed Workflows and Tasks

Following are the new workflows introduced in this release:

VMware-related workflows

- Create Virtual SAN Cluster from Baremetal using UCSC
- Install ESXI on SD Card for Virtual SAN using UCSC
- Install ESXI on SD Card using UCSC

Following are the new tasks introduced in this release:

Cisco UCS-related tasks

- Create UCS Disk Group Policy
- Delete UCS Disk Group Policy
- Create UCS Scrub Policy
- Delete UCS Scrub Policy
- Add UCS Service Profile Template
- Configure UCS Server Port

Rack Server-related tasks

- Add Firmware Image Profile
- Run Rack Server Firmware Upgrade
- Monitor Rack Server Firmware Upgrade
- Delete Firmware Image Profile

The following task has been enhanced in this release:

- Create UCS Boot Policy

The following obsoleted task has been removed from this release:

- VM Provision

Deprecated Support for Workflow Templates

Workflow templates have been deprecated in this release of Cisco UCS Director. These templates will be removed from the product in a subsequent release.

Standalone Task Library Reference

The Orchestration Task Library can be viewed in PDF form on cisco.com and in HTML form on Cisco DevNet. Previously to view the reference you had to log into Cisco UCS Director and click the **Task Library** action on the **Workflows** page.

Documented in the *Cisco UCS Director Orchestration Task Library Reference* and on Cisco DevNet.

Open and Resolved Bugs

The open and resolved bugs for this release are accessible through the Cisco Bug Search Tool. This web-based tool provides you with access to the Cisco bug tracking system, which maintains information about bugs and vulnerabilities in this product and other Cisco hardware and software products.

（注） You must have a Cisco.com account to log in and access the Cisco Bug Search Tool. If you do not have one, you can register for an account.

For more information about the Cisco Bug Search Tool, see the Bug Search Tool Help & FAQ.

Open Bugs in Release 6.6

You can find detailed information about all open bugs in Release 6.6 through the open bug search for Release 6.6. This search uses the following parameters:

Field	Parameter
Product drop-down list	Choose **Series/Model** and enter Cisco UCS Director.

Field	Parameter
Releases drop-down list	Choose **Affecting or Fixed in these Releases** and enter 6.6(0.0).
Filter	Choose **Open** from the Status drop-down list.

Resolved Bugs in Release 6.6

You can find detailed information about all resolved bugs in Release 6.6 through the resolved bug search query for Release 6.6. This search uses the following parameters:

Field	Parameter
Product drop-down list	Choose **Series/Model** and enter Cisco UCS Director.
Releases drop-down list	Choose **Affecting or Fixed in these Releases** and enter 6.6(0.0).
Filter	Choose **Fixed** from the Status drop-down list.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see What's New in Cisco Product Documentation.

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the What's New in Cisco Product Documentation RSS feed. RSS feeds are a free service.

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