Working with Cisco UCS Manager

This chapter includes the following sections:

Cisco UCS Domains and Cisco UCS Central

Cisco UCS Central provides centralized management capabilities to multiple Cisco UCS domains across one or more data centers. Cisco UCS Central works with Cisco UCS Manager to provide a scalable management solution for a growing Cisco UCS environment.

Cisco UCS Central does not reduce or change any local management capabilities of Cisco UCS Manager, such as its API. This allows you to continue using Cisco UCS Manager the same way you did before Cisco UCS Central. This also allows all existing third party integrations to continue to operate without change.

Registering Cisco UCS Domains

To manage Cisco UCS Manager through Cisco UCS Central, you must register the Cisco UCS domains in Cisco UCS Central. You can register a Cisco UCS domain as a part of a domain group or as an ungrouped domain. When you have a domain group, all registered domains in the domain group can share common policies and other configurations.

You can use a Fully Qualified Domain Name (FQDN) or IP address to register Cisco UCS domains in Cisco UCS Central.

Note During the initial registration process with Cisco UCS Central, all of the active Cisco UCS Manager GUI sessions are terminated.

Before registering a domain in Cisco UCS Central, do the following:

- Configure an NTP server and the correct time zone in both Cisco UCS Manager and Cisco UCS Central to ensure that they are in sync. If the time and date in the Cisco UCS domain and Cisco UCS Central are out of sync, the registration might fail.

- Obtain the hostname or IP address of Cisco UCS Central. You cannot use the same hostname for both Cisco UCS Central and Cisco UCS Manager. For standalone mode, use individual VM IP address. If you plan to setup in cluster mode, use virtual IP address.

- Obtain the shared secret that you configured when you deployed Cisco UCS Central.

Note
- Cisco recommends that you always register Cisco UCS domains using Cisco UCS Central's Fully Qualified Domain Name (FQDN). If domains are registered with FQDN, any change in the Cisco UCS Central IP address is transparent to the domain.

- If you register Cisco UCS domains using a domain name, Cisco UCS Manager can gracefully move to a different IP address.

  If you register a Cisco UCS domain in Cisco UCS Central using an IP address, you cannot change the IP address used by Cisco UCS Manager. If you need to change the IP address, you must contact Cisco TAC.

- If Cisco UCS Central is deployed on RHEL 7.2 KVM, the first time you register a Cisco UCS domain, you must regenerate the certificate using the **set regenerate yes** command.

- If the registered Cisco UCS domains have a latency of greater than 300ms for a round trip from Cisco UCS Central, there might be some performance implications for the Cisco UCS domains.

- When you unregister a Cisco UCS domain from Cisco UCS Central the global service profiles become local service profiles in Cisco UCS Manager.

  For more information about Changing Cisco UCS Central's IP address, see Changing Cisco UCS Central IP Address, on page 5.

Warning You must upgrade to Cisco UCS Manager Release 2.1(2) or greater before registering with Cisco UCS Central. If you try to register earlier versions of Cisco UCS Manager, the registration will fail.

Registering a Cisco UCS Domain Using Cisco UCS Manager GUI

Procedure

Step 1 In Cisco UCS Manager **Navigation** pane, click **Admin** tab.

Step 2 On the **Admin** tab, expand **All** > **Communication Management**.

Step 3 Click the **UCS Central** node.

Step 4 In the **Actions** area, click **Register With UCS Central**.

Step 5 In the **Register with UCS Central** dialog box,

a) Enter the host name or IP address in the **Hostname/IP Address** field.
We recommend that you use a hostname rather than an IP address. To use a hostname, you must configure a DNS server. If the Cisco UCS domain is not registered with Cisco UCS Central, or DNS management is set to local, configure a DNS server in Cisco UCS Manager. If the Cisco UCS domain is registered with Cisco UCS Central and DNS management is set to global, configure a DNS server in Cisco UCS Central.

b) Enter the shared secret or password in the **Shared Secret** field.

Step 6 In the **Policy Resolution Control** area, click **Global** if you want the policy or configuration to be managed by Cisco UCS Central or click **Local** to manage the policy or configuration by Cisco UCS Manager.

Step 7 Click **OK**.

Unregistering a Cisco UCS Domain Using Cisco UCS Manager GUI

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Caution If you want to unregister any registered Cisco UCS Domain in a production system, contact Cisco Technical Support.

When you unregister a Cisco UCS Domain from Cisco UCS Central:

- You can no longer manage the service profiles, policies and other configuration for the Cisco UCS Domain from Cisco UCS Central.

- All global service profiles and policies become local and continues to operate as local entities. When you re-register the domain, the service profiles and polices still remain local.

Procedure

Step 1	In Cisco UCS Manager **Navigation** pane, click **Admin** tab.
Step 2	On the **Admin** tab, expand **All** > **Communication Management**.
Step 3	Click the **UCS Central** node.
Step 4	In the **Actions** area, click **Unregister With UCS Central**.
Step 5	If the Cisco UCS Manager GUI displays a confirmation dialog box, click **Yes**.
Step 6	Click **OK**.

Registering a Cisco UCS Domain Using Cisco UCS Manager CLI

Procedure

	Command or Action	Purpose
Step 1	UCS-A# **scope system**	Enters system mode.
Step 2	UCS-A/system # **create control-ep policy** *ucs-central*	Creates the policy required to register the Cisco UCS Domain with Cisco UCS Central. *ucs-central* can be the hostname or IP address of the virtual machine where Cisco UCS Central is deployed. **Note** We recommend that you use a hostname rather than an IP address. To use a hostname, you must configure a DNS server. If the Cisco UCS domain is not registered with Cisco UCS Central, or DNS management is set to local, configure a DNS server in Cisco UCS Manager. If the Cisco UCS domain is registered with Cisco UCS Central and DNS management is set to global, configure a DNS server in Cisco UCS Central.
Step 3	Shared Secret for Registration: *shared-secret*	Enter the shared secret (or password) that was configured when Cisco UCS Central was deployed.
Step 4	UCS-A/system/control-ep # **commit-buffer**	Commits the transaction to the system configuration.

The following example registers a Cisco UCS Domain with a Cisco UCS Central system with a FQDN, and commits the transaction:

```
UCS-A# scope system
UCS-A /system # create control-ep policy UCSCentral.MyCompany.com
Shared Secret for Registration: S3cretW0rd!
UCS-A /system/control-ep* # commit-buffer
UCS-A /system/control-ep #
```

Unregistering a Cisco UCS Domain Using Cisco UCS Manager CLI

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Caution   If you want to unregister any registered Cisco UCS Domain in a production system, contact Cisco Technical Support.

When you unregister a Cisco UCS Domain from Cisco UCS Central:

- You can no longer manage the service profiles, policies and other configuration for the Cisco UCS Domain from Cisco UCS Central.

- All global service profiles and policies become local and continues to operate as local entities. When you re-register the domain, the service profiles and polices still remain local.

Procedure

	Command or Action	Purpose
Step 1	UCS-A# **scope system**	Enters system mode.
Step 2	UCS-A/system # **delete control-ep policy**	Deletes the policy and unregisters the Cisco UCS Domain from Cisco UCS Central.
Step 3	UCS-A/system # **commit-buffer**	Commits the transaction to the system configuration.

The following example unregisters a Cisco UCS Domain from Cisco UCS Central and commits the transaction:

```
UCS-A# scope system
UCS-A /system # delete control-ep policy
UCS-A /system* # commit-buffer
UCS-A /system #
```

Changing Cisco UCS Central IP Address

Cisco recommends that you always register Cisco UCS domains using Cisco UCS Central's Fully Qualified Domain Name (FQDN). If domains are registered with FQDN, any change in the Cisco UCS Central IP address is transparent to the domain. Changing Cisco UCS Central's IP address is supported only when Cisco UCS Central has a Fully Qualified Domain Name (FQDN), and when the Cisco UCS domain is registered using a Cisco UCS Central domain name.

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Note   Changing Cisco UCS Central's IP address is not supported if Cisco UCS domains are registered using Cisco UCS Central's IP address.

Procedure

Step 1 Delete the existing Cisco UCS Central IP address from the DNS server for the hostname and enter the new IP address and the Cisco UCS Central hostname.

Step 2 On the virtual infrastructure management platform (for example, VMware vCenter), change the virtual network interface (VIF) to point to the new subnet.

Step 3 From the Cisco UCS Central VM console, change the IP address of the network interface.

Step 4 Launch Cisco UCS Central from the GUI using the hostname. If the Cisco UCS Central GUI is inaccessible, then restart **pmon** command from the Cisco UCS Central CLI.

Step 5 Verify the Cisco UCS Central registration status on the Cisco UCS Manager GUI.

Step 6 For a High Availability setup, IP addresses of both the nodes and the virtual IP can be changed only at the primary node as shown in the example below.

The following example is for a standalone setup of a network interface.

Changing IP for a UCS Central system in Standalone mode:

```
UCSC # scope network-interface a
UCSC/network-interface # set net ip 10.10.10.2 gw 10.10.10.1 netmask 255.255.255.0
Warning: When committed, this change may disconnect the current CLI session
UCSC/network-interface* # commit-buffer
UCSC/(local-mgmt)# pmon restart
  Shutting down pmon:        [  OK  ]
  Starting pmon:            [  OK  ]
```

Changing node IP for a UCS Central system in High-Availability mode:

```
UCSC # scope network-interface a
UCSC/network-interface # set net ip 10.10.10.2 gw 10.10.10.1 netmask 255.255.255.0
Warning: When committed, this change may disconnect the current CLI session
UCSC/network-interface* # commit-buffer
UCSC # scope network-interface b
UCSC/network-interface # set net ip 10.10.10.2 gw 10.10.10.1 netmask 255.255.255.0
Warning: When committed, this change may disconnect the current CLI session
UCSC/network-interface* # commit-buffer
UCSC/(local-mgmt)# pmon restart
  Shutting down pmon:        [  OK  ]
  Starting pmon:            [  OK  ]
```

Changing virtual IP for a UCS Central system in High-Availability mode

```
UCSC# scope system
UCSC/system # set virtual-ip
    a.b.c.d System IP Address
    ipv6    System IPv6 Address

UCSC/system # set virtual-ip 10.106.227.206
UCSC/system*# commit buffer
```

Changing Cisco UCS Manager IP Address

You can change the Cisco UCS Manager IP address if Cisco UCS domains are registered to Cisco UCS Central through an IP address. Use the following steps to change the Cisco UCS Manager IP address:

Before You Begin

Ensure that the Fabric Interconnects have connectivity to the new subnet.

Procedure

Step 1 Delete the existing Cisco UCS Manager IP address from the DNS server for the hostname, and enter the new IP address and the same Cisco UCS Manager hostname.

Step 2 From the primary FI console, run the following commands:

Example:

```
UCS-A# scope fabric-interconnect a
UCS-A /fabric-interconnect # set out-of-band ip 10.193.190.61 netmask 255.255.255.0 gw
10.193.190.1
UCS-A /fabric-interconnect* # scope fabric-interconnect b
UCS-A /fabric-interconnect* # set out-of-band ip 10.193.190.62 netmask 255.255.255.0 gw
10.193.190.1
UCS-A /fabric-interconnect* # scope system
UCS-A /system* # set virtual-ip 10.193.190.60
UCS-A /system* # commit-buffer
```

Step 3 After running the commands shown above, launch Cisco UCS Manager using the hostname and verify that the registration status is not changed.

Step 4 Under **service-reg** in the Cisco Cisco UCS Central CLI, verify that the **show clients** commands point to the new IP address for the UCS Domain.

Step 5 (Optional) To check if the IP address is changed, launch Cisco UCS Manager GUI from Cisco UCS Central, and verify that the new IP address is updated in the UI.
You can perform an additional check by updating one of the global service profile labels from the Cisco UCS Central GUI and ensure that the updated label is pushed down to Cisco UCS Manager. You can also create new global service profiles or policies and push them down to Cisco UCS Manager to verify that the new IP address is updated in the UI.

Cisco UCS Central Instance Migration

You can migrate a Cisco UCS Central instance to support Data Center migration or Disaster Recovery use cases. The following are required to successfully migrate a Cisco UCS Central instance:

• Cisco UCS Central has a Fully Qualified Domain Name (FQDN). In order to migrate a Cisco UCS Central instance, the FQDN (hostname) of the instance must remain the same.

• Any registered Cisco UCS Manager instances must continue to be reachable from the Cisco UCS Central instance by how they were registered (domain hostname or IP address).

Note Cisco UCS Central supports changing of the Cisco UCS Central IP address during migration.