Migrate Your Management Center

Migrate Management Centers

The Management Center migration wizard allows you to migrate from one Management Center model to another Management Center model. The wizard simplifies your migration experience. After the migration, configurations and events from the source Management Center are available in the target Management Center.

There are two methods of migrating a Management Center:

- Connected mode: Connect to the source Management Center for migration. Use this method when the source and target Management Centers can connect to each other over HTTPS.
- Migration bundle mode: Create a migration bundle in the source Management Center and upload it to the target Management Center. Use this method when the source and target Management Centers cannot connect to each other over HTTPS.

Benefits of Using the Management Center Migration Wizard

- Simplified migration: Migrate the Management Center seamlessly using an intuitive wizard.
- Uninterrupted source Management Center: Ensures that the source Management Center is unaffected, whether the migration succeeds or fails.
- Comprehensive readiness checks: Ensures compatibility between the models to minimize errors.
- Realtime monitoring: Tracks the progress of the migration using the user interface.
- Extensive licensing support: Provides support for all licensing modes such as evaluation, connected, and Specific License Reservation (SLR).

Supported Migration Paths

To migrate Management Center 1000/2500/4500/1600/2600/4600 to a Cloud-Delivered Firewall Management Center (cdFMC), see the chapter "Migrate On-Prem Management Center Managed Secure Firewall Threat Defense to Cloud-Delivered Firewall Management Center" in *Managing Firewall Threat Defense with Cloud-delivered Firewall Management Center in Cisco Security Cloud Control*.

The table lists the supported target Management Center models that you can migrate to from your source Management Center model.

Max. Managed Devices	Source Model	Target Model											
		FMC 1600	FMC 2600	FMC 4600	Management Center 1700	Management Center 2700	Management Center 4700	Management Center 1800	Management Center 2800	Management Center 4800	FMCv300 (VMware)	FMCv300 (AWS)	FMCv300 (Azure)
2	FMCv2 (VMware)	Yes	Yes	Yes	—	—	—	—	—	—	Yes	—	—
10	FMCv10 (VMware)	Yes	Yes	Yes	—	—	—	—	—	—	Yes	—	—
25	FMCv25 (VMware)	Yes	Yes	Yes	—	—	—	—	—	—	Yes	—	—
25	FMCv25 (Azure)	—	—	—	—	—	—	—	—	—	—	—	Yes
50	FMC 1000	Yes	Yes	Yes	Yes	Yes	Yes	—	—	—	Yes	—	—
50	FMC 1600	—	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	—	—
250	FMC 2000	—	Yes	Yes	—	—	—	—	—	—	Yes	—	—
300	FMC 2500	—	Yes	Yes	—	Yes	Yes	—	—	—	Yes	—	—
300	FMC 2600	—	—	Yes	—	Yes	Yes	—	Yes	Yes	Yes	—	—
300	FMCv300 (VMware)	—	Yes	Yes	—	—	—	—	—	—	—	—	—
750	FMC 4000	—	—	Yes	—	—	—	—	—	—	—	—	—
750	FMC 4500	—	—	Yes	—	—	Yes	—	—	—	—	—	—
750	FMC 4600	—	—	—	—	—	Yes	—	—	Yes	Yes	Yes	Yes
50	Management Center 1700	—	—	—	—	Yes	Yes	—	—	—	—	—	—
300	Management Center 2700	—	—	—	—	—	Yes	—	—	—	—	—	—

Max. Managed Devices	Source Model	Target Model											
		FMC 1600	FMC 2600	FMC 4600	Management Center 1700	Management Center 2700	Management Center 4700	Management Center 1800	Management Center 2800	Management Center 4800	FMCv300 (VMware)	FMCv300 (AWS)	FMC (Az
1000	Management Center 4700	—	—	—	—	—	—	—	—	—	—	—	—
50	Management Center 1800	—	—	—	—	—	—	—	Yes	Yes	—	—	—
300	Management Center 2800	—	—	—	—	—	—	—	—	Yes	—	—	—
2000	Management Center 4800	—	—	—	—	—	—	—	—	—	—	—	—

Note To migrate within the same model of Management Center 1800, 2800, or 4800, use back up and restore data.

Prerequisites for Migration

Supported Versions

- Source Management Center must be 10.0.
- Target Management Center must be Version 10.0.
- Managed Threat Defense devices must be Version 7.3 and later.

General Prerequisites

- See Supported Migration Paths, on page 2 to determine which target model you can migrate to from your source model.
- Ensure that the target Management Center does not have managed devices.
- Ensure that the target Management Center has the same number of interfaces as your source Management Center.
- Manually correct the UTC time of the source or target Management Center.
- Verify that the target Management Center and source Management Center have same versions of Vulnerability Database (VDB), Lightweight Security Package (LSP), and Snort Rule Update (SRU).
- Complete all pending deployments successfully.

License Prerequisites

- Use one of these licensing modes: Evaluation, Connected, and Specific License Reservation (SLR).
- Verify the Threat Defense entitlements in Cisco Smart Software Manager (CSSM).
- Obtain required licenses for additional Threat Defense devices to migrate a Management Center to a higher platform and manage more Threat Defense devices.
- Obtain a license for Management Center virtual (FMCv) if your target Management Center is virtual.

Prerequisites for Using Connected Mode

- We recommend that both source and target Management Centers are in the same subnet because the target Management Center will take the original IP address of the source Management Center.
- Ensure that the source Management Center is reachable from the target Management Center over HTTPS (port 443). If it is not reachable, use the migration bundle mode of migration.
- Ensure that you have two users—one for logging into the source Management Center UI and an admin user for performing model migration.
- Ensure that REST API is enabled (**Administration** > **Configuration** > **REST API Preferences** > **Enable REST API**).

Prerequisites for Using Migration Bundle Mode

To migrate the Management Center using a migration bundle file, you must create it.

1. In the source Management Center, run the **sudo fmc_model_migration_cli.pl** script in the expert mode.

   The script creates the migration bundle file **source_database_content.tgz** at **/var/log/sf**. Don't change the file format of the migration bundle.
2. Download the migration bundle.

We recommend that both source and target Management Centers are in the same subnet because the target Management Center will take the original IP address of the source Management Center.

Prerequisites for High Availability

- Ensure that you meet all the HA requirements. For more information, see Requirements for Management Center High Availability.
- If the source Management Center is part of HA, you must connect to the active Management Center.
- Ensure that the target Management Center is not part of an HA pair.

Prerequisites for Management Center Virtual Migration

- When you migrate a Management Center virtual (FMCv) to another Management Center virtual within a public cloud, we recommend the following:
  - Use reserved static public IP addresses instead of default public IP addresses.
  - Use FQDN or DNS name because it can be moved across the public IP addresses.

- Run the following command in the Threat Defense device CLI if you do not want to update the public IP address of the target Management Center virtual:

  configure manager add DONTRESOLVE *any_key any_key_for_nat_field_input*

  Before you run the above command, ensure that the Management Center virtual can connect to the Threat Defense device.

- Update the Management Center virtual IP address on the Threat Defense device using the following command in the Threat Defense device CLI if you do not perform the above operations:

  configure manager edit *fmc_uuid* **displayname** *fmc_ipaddress*

- When you migrate from Management Center 4600 to Management Center Virtual 300 (FMCv300) for Azure:

  - Update the network configuration of Management Center Virtual 300 to match the Azure networking requirements.

  - SSH to each managed Threat Defense and update the Management Center manager address using the **configure manager edit** command.

Prerequisites for Migrating Management Center 1600, 2600, or 4600 to Management Center 1700, 2700, or 4700

Upgrade Management Center 1600, 2600, or 4600 to 7.4.x or 7.6.x. For more information about upgrade, see *Cisco Secure Firewall Threat Defense Upgrade Guide for Management Center*.

Prerequisites for Migrating Management Center 4600 to Management Center Virtual 300 (FMCv300) for AWS or VMware

- Note that Management Center Virtual 300 has lower limits than Management Center 4600. We recommend that you review Table 1 before the migration.

Table 1: Compatibility Check for Migrating Management Center 4600 to Management Center Virtual 300 for AWS or VMware

Performance and Functionality	Management Center 4600 (Current Configuration)	Management Center Virtual 300 (Maximum Limit)
Overall size (Event Storage Space)	3.2 TB	2 TB
Total devices	750	300
Maximum IPS events	300 million	60 million
Memory	128 GB	64 GB
CPU	Two Intel Xeon 4214 processors	32 vCPUs
Maximum network map size (hosts/users)	600,000/600,000	150,000/150,000
Maximum event rate (events per second)	20,000 eps	12,000 eps

- For migrating Management Center 4600 to Management Center Virtual 300 (FMCv300) for AWS or VMware:

- Ensure that the source Management Centers are Versions 7.4.x or 7.6.x.
- Ensure that Management Center Virtual 300 for AWS or VMware has a license that you must apply after the migration.

Migrate a Management Center Using the Connected Mode

Before you begin

Ensure that the source Management Center is reachable from the target Management Center.

Procedure

Step 1 Choose **Administration** > **Advanced** > **Migrate Management Center**.

Step 2 Under **Choose migration method**:

a) In the **Source Firewall Management Center IP address** field, enter the IP address or FQDN of the source Management Center.

   You can use an IPv4 or IPv6 address.

b) In the **Username** and **Password** fields, enter the credentials.

c) Click **Connect**.

   After you connect to the source Management Center, its certificate is displayed.

Step 3 Under **Prepare and start migration**:

The wizard runs a compatibility check to ensure that the Management Center is prepared for migration. If any issues are found, errors, warnings, or both are displayed.

a) Review the errors and warnings and take the required actions on the device.

b) (Optional) Check the **Migrate events** check box, if required.

   Note that migrating events can take a long time depending on the size of the events database.

c) Click **Start migration**.

Step 4 Under **View migration status**:

The migration proceeds in four main stages:

a. Migration initiation on source Management Center

b. Migration bundle generation

c. Migration bundle transfer

d. Migration initiation on target Management Center

A temporary user interface is displayed after the first three migration stages are completed successfully.

a) Log into the target Management Center web interface.

b) In the **Username** and **Password** fields, enter your credentials.

c) Click **Log In**.

A progress bar indicates the progress of the migration. Click **Show logs** to view the migration logs.

Step 5 After the migration is complete, click **Reboot** to restart the target Management Center.

Note
Before you click **Reboot**, unregister the source Management Center from Smart Licensing and shut it down.

Step 6 Register the target Management Center in Smart Licensing after the reboot.

What to do next

Perform the Recommendations for Post Migration Activities, on page 11.

Migrate a Management Center Using a Migration Bundle

Before you begin

Create and download a migration bundle file. For more information, see Prerequisites for Using Migration Bundle Mode, on page 4.

Procedure

Step 1 Choose **Administration** > **Advanced** > **Migrate Management Center**.

Step 2 Under **Choose migration method**:

a) Click **Upload migration bundle**.
b) Click **Browse** in the **Upload migration bundle** dialog box.
c) Select the migration bundle from the local drive and click **Open**.

By default, the maximum file size of the migration bundle is 100 GB.

(Optional) To upload a migration bundle that exceeds 100 GB, you must increase the file size limit by using a command. Run the **/usr/local/sf/bin/update_max_upload_limit.sh** command in the target Management Center to increase the file size limit.

Step 3 Under **Prepare and start migration**:

The wizard runs a compatibility check to ensure that the Management Center is prepared for migration. If any issues are found, errors, warnings, or both are displayed.

a) Review the errors and warnings and take the required actions on the device.
b) (Optional) Check the **Migrate events** check box, if required.

Note that migrating events can take a long time depending on the size of the events database. This check box is disabled if the bundle does not have any events.

c) Click **Start migration**.

Step 4 Under **View migration status**:

The migration proceeds in four main stages:

a. Migration initiation on source Management Center

b. Migration bundle generation

c. Migration bundle transfer

d. Migration initiation on target Management Center

The wizard skips the first three steps because you uploaded the migration bundle. A temporary user interface is displayed after the fourth stage.

a) Log into the target Management Center web interface.
b) In the **Username** and **Password** fields, enter your credentials.
c) Click **Log In**.

A progress bar indicates the progress of the migration. Click **Show logs** to view the migration logs.

Step 5 After the migration is complete, perform these steps:

a) Unregister the source Management Center from Smart Licensing.
b) Shut down the source Management Center.
c) Click **Reboot**.

Step 6 After the reboot, register the target Management Center in Smart Licensing.

What to do next

Perform the Recommendations for Post Migration Activities, on page 11.

Migrating High-Availability Management Center Models

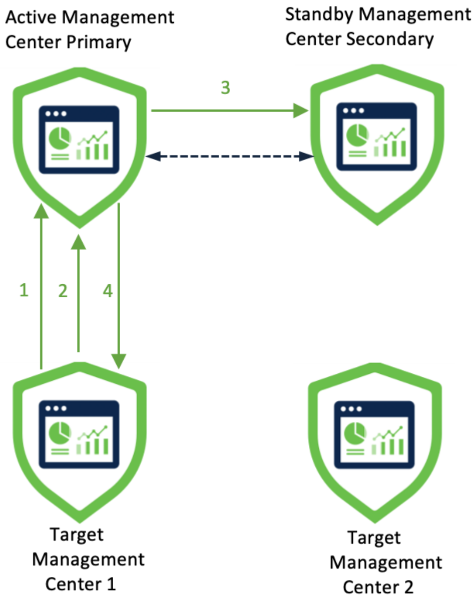
You can migrate your Management Center HA setup by using the Management Center model migration wizard.

When the source Management Center is in an HA configuration, we recommend that you initiate the migration from the active peer. The source Management Center promotes the standby Management Center to the active unit.

Summary

This section explains the different migration stages of Management Centers in an HA setup.

Figure 1: Source and Target Management Centers in an HA Setup


Active Management Center Primary
Standby Management Center Secondary
3
1
2
4
Target Management Center 1
Target Management Center 2

In Figure 1, active Management Center primary and standby Management Center secondary are the source Management Centers.

Note You must unregister the source Management Centers from Smart Licensing. Shut down the Management Centers before rebooting them.

After the migration:

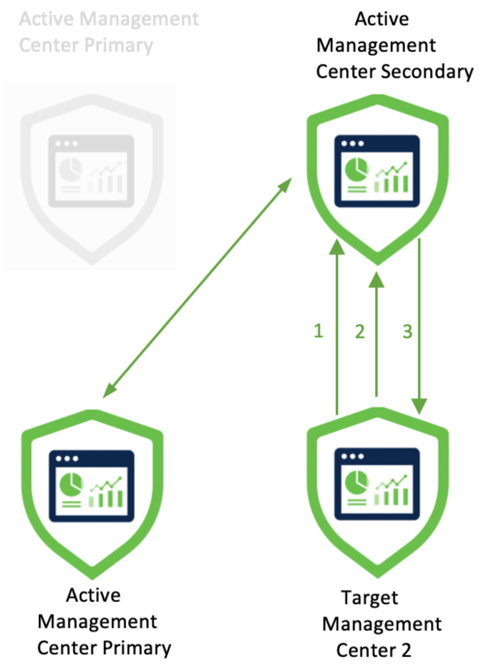
- Target Management Center 1 becomes active Management Center primary.
- Target Management Center 2 becomes active Management Center secondary.

These stages describe how active Management Center primary migrates to target Management Center 1:

1. Target Management Center 1 connects to the active source Management Center.
2. Target Management Center 1 initiates migration bundle generation.
3. Active Management Center promotes the standby Management Center to active state.
4. Target Management Center 1 downloads the migration bundle and initiates migration.

Workflow

Figure 2: Migration of Active Management Center Secondary

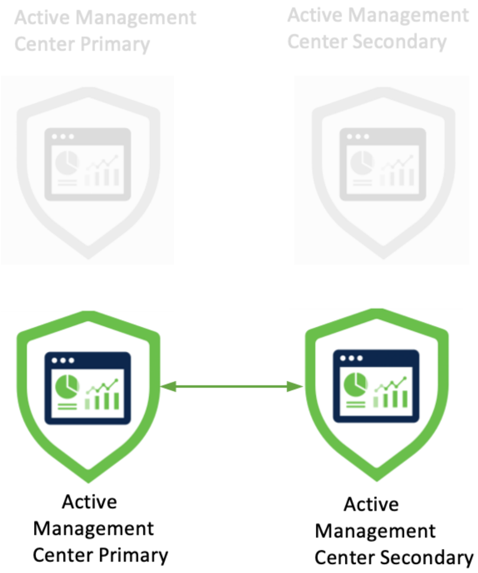

Active Management Center Primary
Active Management Center Secondary
1
2
3
Active Management Center Primary
Target Management Center 2

In Figure 2, after the first migration, target Management Center 1 is the active Management Center primary.

Start the migration of the source active Management Center secondary to the target Management Center 2. These stages describe this migration:

1. Target Management Center 2 connects to the active source Management Center.
2. Target Management Center 2 initiates migration bundle generation.
3. Target Management Center 2 downloads migration bundle and initiates migration.

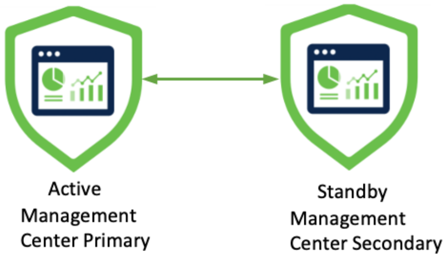
Figure 3: Migrated Management Centers


Active Management Center Primary
Active Management Center Secondary
Active Management Center Primary
Active Management Center Secondary

In Figure 3, after migration, both the target Management Centers will be active and automatically connect to each other.

Note The HA enters a 'split-brain' state where both peers become active units. To resolve this state, designate one as active, while the other becomes the standby unit.

Figure 4: Final State of Migrated Management Centers


Active Management Center Primary
Standby Management Center Secondary

Recommendations for Post Migration Activities

After a successful migration, we recommend some best practices and additional tasks:

- You must update the following parameters:
  - (Optional) IP address of the target Management Center. By default, after migration the target Management Center gets the IP address of the source Management Center.
  - Manager details in all the managed Threat Defense devices. For more information, see Update the Management Center IP Address or Hostname on a Firewall Threat Defense Device, on page 13. If

the IP address of the Management Center changes, ensure that you edit the manager in the Threat Defense devices. This is not required if the Management Center can reach the Threat Defense device.

- After migration, to manage a different group of Threat Defense devices in the source Management Center:
  - Ensure that source Management Center cannot reach the stale Threat Defense devices.
  - Delete the stale devices that are now managed by the target Management Center from the source Management Center.

Note If the source Management Center can reach the stale devices, these devices will be deregistered from the target Management Center.

- If the source Management Center is part of HA, after migration you must configure the Management Center as the active or standby Management Center.

License-Related Activities

- Smart Licensing: Deregister the licenses from the source Management Center and register the licenses in the target Management Center.
- Evaluation license: If the source Management Center has an evaluation license, after migration, the target Management Center will have an evaluation license.
- For virtual Management Centers, ensure that the virtual Management CenterManagement Center has a license. For example, when you migrate from FMCv25 to FMCv300, you should apply a FMCv300 license post migration.

Cisco Secure Dynamic Attributes Connector Activities

After migration, the values of Cisco Secure Dynamic Attributes Connector (CSDAC) or dynamic objects are removed. You must download the IP addresses associated with that object and reconfigure the values.

Security Certifications Compliance

If the source Management Center is Unified Capabilities Approved Products List (UCAPL) compliant or Common Criteria (CC) compliant, after migration, the target Management Center will also be UCAPL or CC compliant.

Troubleshooting

- If your migration fails when using the migration bundle mode, do not reuse the bundle when you retry the migration. Generate a new migration bundle.
- If your migration fails and you cannot log in to the target Management Center’s UI, you must reimage the target Management Center.

Update the Management Center IP Address or Hostname on a Firewall Threat Defense Device

After migration, if the network configuration of the target Firewall Management Center is different from that of the source Firewall Management Center, you must update the IP address or hostname of the Firewall Management Center on each Firewall Threat Defense device.

Procedure

Step 1 From the Firewall Threat Defense CLI, run the **show managers** command to get the unique identifier of the Firewall Management Center:

Example:

```
> show managers
Type                      : Manager
Host                      : xx.xx.x.x
Display name              : xx.xx.x.x
Identifier                : f7ffad78-bf16-11ec-a737-baa2f76ef602
Registration              : Completed
Management type           : Configuration and analytics
```

Step 2 Run the **configure manager** command to update the Firewall Management Center IP address or hostname:

configure manager edit *fmc_uuid* **hostname** *fmc_ipaddress*

Example:

```
> configure manager edit f7ffad78-bf16-11ec-a737-baa2f76ef602 hostname xx.xx.x.x
Updating hostname from xx.xx.x.x to xx.xx.x.x
Manager hostname updated.
```

Step 3 Run the **configure manager** command to update the Firewall Management Center display name:

configure manager edit *fmc_uuid* **displayname** *fmc_ipaddress*

Example:

```
> configure manager edit f7ffad78-bf16-11ec-a737-baa2f76ef602 displayname xx.xx.x.x
Updating displayname from xx.xx.x.x to xx.xx.x.x
Manager displayname updated.
```

Step 4 Run the **show managers** command again to verify the updated Firewall Management Center configuration.