



Migrating ASA to an FDM-Managed Device Workflow

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How to Implement the Migration Process

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Prepare for Migration

To prepare your devices for migration, ensure that:

- You have a CDO tenant and you can log into it. See [Initial Login](#) for more information.
- You have onboarded to your tenant the ASA device or ASA configuration file that you want to migrate to an FDM-managed device.

Your ASA's running configuration file must be less than 4.5 MB and 22,000 lines. See [Confirming ASA Running Configuration Size](#).

- You have onboard an FDM-managed device to CDO if you want to migrate the ASA configuration to the device directly after the migration process, or if you want to migrate EtherChannel configurations to the FDM-managed device. See [Onboard an FTD device](#) for more information.

- The devices must be in **synced** state.

This ensures that the running configuration on the device and the running configuration that is stored in CDO are the same.

- Your ASA is running software version 8.4 or later.

To know more about device support summary, unsupported devices, hardware and software specifics, see [Software and Hardware Supported by CDO](#).

Onboard an ASA Device

Click (+) from the **Inventory** page.

The **Onboarding** page displays where you can onboard the device.

How to Onboard an ASA Device

Perform the following to onboard an ASA device with any of these options:

- Onboard a live ASA device.
- Import configuration for offline management:
 - Enter the **Device Name** and chose the **Device Type** as ASA.
 - Click **Browse** to choose the ASA Configuration file that is a *.TXT* or a *.CFG* file.
 - Click **Upload**.

Optimize Your ASA Policies Before You Migrate

Now that you have all your ASAs onboarded, start using CDO to identify and correct problems with network objects, optimize your existing policies, review your VPN connections, and upgrade your ASAs to the newest releases.

Resolve Network Object Issues

Start to optimize the security policies on your ASAs by resolving issues with network policy [objects](#).

- [Unused objects](#)—CDO identifies network policy objects that exist in a device configuration but are not referenced by another object, an access-list, or a NAT rule. Find these unused objects and delete them.
- [Duplicate objects](#)—Duplicate objects are two or more objects on the same device with different names but the same values. These objects are usually created accidentally, serve similar purposes, and are used

by different policies. Look for opportunities to standardize names while recognizing that some duplicates may exist for legitimate reasons.

- **Inconsistent objects**—Inconsistent objects are objects on two or more devices with the same name but different values. Sometimes users create objects in different configurations with same name and content but over time the values of these objects diverge which creates the inconsistency. Consider standardizing the values in these objects or renaming one to identify it as a different object.

Fix Shadow Rules

Now that you have resolved your network object issues, review network policies for [shadow rules](#) and fix them. A shadow rule is marked by a half-moon badge on the network policies page. It is a rule in a policy that will never trigger because a rule with higher priority in the policy acts on all the packets before they reach the shadowed rule. If there is a shadowed rule that will never be hit, remove it, or [edit the policy](#) to bring that rule "into the light."

Add EtherChannel Configurations to FDM-Managed Device Before Migrating

Before you begin

Review this information:

- [Prepare for Migration, on page 1](#)
- The [Guidelines and Limitations](#) for migrating EtherChannels.

Procedure

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- Step 1** Before migrating the EtherChannel configurations, you must create the equivalent number of EtherChannels on the FDM-managed device that you are migrating from ASA. You can use CDO to create the EtherChannels. See [Add an EtherChannel Interface for an FDM-Managed Device](#) for instructions.
- The minimum configuration for an EtherChannel is an EtherChannel ID and at least one EtherChannel member.
- Step 2** Deploy the changes to your FDM-managed device.
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What to do next

Continue to [Run the Migration, on page 3](#).

Run the Migration

Select the Device to Migrate

You can select the ASA device for migration using any of the following methods:

- [Launch the FDM Migration Wizard and Select the Device.](#)
- [Select the Device and Launch the FDM Migration Wizard](#)

Launch the FDM Migration Wizard and Select the Device

Procedure

Step 1 Log into your CDO tenant.

Step 2 In the navigation bar, click **Tools & Services**.

Step 3 Under **Tools & Services**, select **ASA to FDM Migration**.

Note The *show-fdm* and *enable-asa-to-fdm-migration* feature flags must be enabled to view the **ASA to FDM Migration** option under **Tools & Services**. Contact TAC to activate the **ASA to FDM Migration** option if unavailable under **Tools & Services**.

Step 4 In the FDM Migration page, click (+) to add an ASA device or to upload config file you want to migrate to the FDM-managed device.

Step 5 Upload the ASA config file or select the device from the drop-down list.

If there have been previous migrations of this device, you will see the resulting migrations from the selected device.

For more information on filtering, see [About Migrations Filters](#).

If this is a new migration, click **Start a new migration for (device name)**.

Select the Device and Launch the FDM Migration Wizard

Procedure

Step 1 Log into your CDO tenant.

Step 2 In the navigation bar, click **Inventory**.

Step 3 Click the **Devices** tab to locate your device.

Step 4 Click the **ASA** tab and select the ASA device or model you want to migrate to the FDM-managed device.

The device details of the selected ASA device like the location, model, serial, and so on, are displayed in the **Device Details** pane.

Step 5 In the **Device Actions** pane, click **Migrate to FDM**.

If there have been previous migrations of this device, you will see the resulting migrations from the selected device.

For more information on filtering, see [About Migrations Filters](#).

If this is a new migration, click **Start a new migration for (device name)**.

Step 6 (Optional) If you want to select a different ASA device or a model to migrate to the FDM template, see [About Migrations Filters](#).

(Optional) Update the Migration Name

Migration name is auto-generated based on the device name and the timestamp.

Procedure

Step 1 In the **FDM Migration** screen, you can also update the migration name or retain the default name. CDO allows you to search the migration list with the migration name.

Note The FDM template name will be the same as the migration name by default.

Step 2 Click **Next** to trigger the migration.

(Optional) Preserve the Running Configuration



Note This is applicable only when you chose live ASA from the **Inventory** page.

In **Preserve Running Configuration**, the Migration tool allows you to save CDO's copy of the ASA's running configuration as an configuration file. This model device configuration is used for migration thus not affecting the live ASA.

The following options are available for migrating a CDO's copy of the ASA's running configuration to FDM-managed device:

- Create an configuration file from the CDO's copy of the ASA's running device



Note Allows you to retain a snapshot (model device) of the ASA configuration at the point of initiating the migration. When you are required to make the configuration changes for migration purposes, you can use the configuration file without affecting/interrupting the CDO's copy of the ASA's running configuration.

- Migrate the configuration directly from the device



Note The source configuration for the migration is a CDO's copy of the ASA's running configuration. The migration tool considers only the configuration from the time the migration starts. Any changes to that CDO's copy of the ASA's running configuration later, will not be reflected in the resulting migration. The additional migration attempts from the changed CDO's copy of the ASA's running configuration might result in different FDM-managed device configurations.

Procedure

Step 1 Enter the model device name under **Model Device Name** field.

Step 2 Perform one of these actions:

a) Click **Next**.

The model device is created and triggers the migration for that device.

b) Click **Skip** to trigger the migration on the live ASA.

Parsing the ASA Configuration



Note Depending on the size of the configuration files and the number of other devices or services, it may take a while for the configuration to get parsed. For more information, see [Confirming ASA Running Configuration Size](#).

The parsing of the migration continues until it succeeds or fails. The migration process gathers ASA information, parses it, creates an FDM template and enables this FDM template to be applied to a device in CDO. For more information on FDM templates, see [Templates](#). During the parsing phase, the migration process generates a **Migration Report** and a **Migration Log** that identify:

- ASA configuration items that are fully migrated, partially migrated, unsupported for migration, and ignored for migration.
- ASA configuration lines with errors, listing the ASA CLIs that the migration process cannot recognize; this blocks migration.



Note Management interface and Static routes that are associated with the management interface are not migrated.

Fix the Migration Errors

When there is a migration error, you can review the **Review Migration Report** and **Review Migration Log** in the **FDM Migration** screen.

Select **Download Report** and **Download Log** from the **FDM Migration** screen to download the migration report and logs.

Reports and logs must be able to print the lines in the ASA configuration that caused the parsing failure. Navigate to the ASA device that you have chosen for migration, update the ASA configuration, and then restart the new migration.

If the parse is successful but the FDM template creation fails, navigate to **Template > Workflows** or **Migration > Workflows** to identify any failures and address the issues.

Reparse After Fixing the Migration Errors

You can reparse the ASA configuration after fixing the migration errors. Perform the following:

- In the **FDM Migration** screen, click **Go to Configuration**.
- Go to the specific configuration and make the configuration changes that caused the conversion failure.
- Once you make the updates for the correct configuration, click **Re-parse the configuration** to trigger the migration against the changed configuration.



Note The **Re-parse the configuration** option is applicable only when you have updated the configuration file and for the configuration with parsing errors only.

Apply Migration

To apply the migration, you can choose one of these options:

- [Apply Migration Now](#)
- [Apply Migration Later](#)

As per the CDO apply template feature, the FDM template that is created during migration deploys the changes on the device, only to the following: Interfaces, NAT, ACLs, Objects, and Routes.

The DHCP and Data DNS settings are restored to default, as the interface information would have changed during the migration.

The Other settings like VPN, HA, and so on, remain the same on the device.

Apply Migration Now



Note Before applying the migration on a device, check whether the device is in **synced** state.

You can apply the FDM template to any device, review the device template, and deploy to the device later by selecting the FDM-managed device.

Procedure

- Step 1** Select **Apply Migration Now**.
- a) From the **Select FTD Device** drop-down list, select the FDM-managed device for which you want to apply the FDM device template.
The device state must be "**Synced**" with "**Online**" connectivity.
 - b) Click **Select** to select the FDM-managed device.
- Step 2** Click **Next**.
- Step 3** In the **Map Interfaces** row, the Migration tool retrieves a list of **Template Interfaces** and the **Devices Interfaces** on the FDM-managed device. By default, the Firewall Migration Tool maps the interfaces in ASA and the FDM-managed device according to their interface identities. Click **Continue**.

For more information on mapping ASA Interfaces with FDM-managed devices, see [Map ASA Interfaces with Firewall Threat Defense Interfaces](#).

Step 4 Review the FDM template information to be applied to the FDM-managed device, and then click **Apply Template**.

Step 5 In the **Done** row, you can do the following:

You have successfully applied the migrated configuration to the selected FDM-managed device.

- Click **Remove model device used for migration** check box.

Selecting the check box removes the model device that is created from live ASA. This will also remove the model device, deletes the migration logs and the files that are associated with the migration.

Note This check box is displayed only when the live ASA is selected from the **Inventory** page and only if the user has created the model device.

- Click the **Save migrated configuration as a template** check box.

Note This check box is displayed only when the FDM template is applied successfully and is checked by default.

If the check box is unchecked, the FDM template is not saved.

If you encounter any error while applying the FDM template, navigate to **Device > Workflows** to view the errors and address the issues.

Note You can access these FDM templates from the **Devices & Services** page. For more information on the FDM templates, see [Templates](#).

Note After the FDM template is saved successfully, you can perform the following actions:

Take one of these actions:

- Click **Preview and Deploy** to deploy the configuration.

You can verify the list of objects that will be deployed in the **Preview and Deploy** page.

- Click **Go to Devices** that provides you an option to deploy the configuration.

(Optional) Post-Migration Tasks

- Navigate to the FDM template to review the migration results.
- Optimize the configurations using CDO capabilities.
- Deploy the FDM template to the device.

Support for FDM-Managed Device with Management Access Interface Migration



Note The Apply Template feature is not supported for a target device that has management access interface. Modify the FDM template manually before applying it on the target FDM-managed device.

When you apply any migrated FDM template on a target device that has management access interface configured, the apply template feature fails due to mismatch in the mapped interfaces. On the target FDM-managed device, the management access interface configuration and the corresponding static routes must be preserved to ensure the connectivity with CDO. Therefore, to avoid connectivity failures, you must manually configure the management access interfaces along with required static routes by following these steps, and then apply the FDM template. This section provides the procedure that you must follow to ensure successful migration.

If there are multiple management access interfaces and the interfaces are configured incorrectly or unused, you must update the target FDM-managed device to maintain only the relevant management access interface configured, so that the unused interfaces can be used for the migrated configuration.

Procedure

Step 1 Update the physical interface in the template by modifying the IP address and subnet mask of the data interfaces so that it is the same as that of the management access interface.

Note The management access interface of the Target FDM-managed device must be mapped with the management access interface in the FDM template. The IP address and subnet mask of the FDM template must be the same as that of the target FDM-managed device.

- a) Navigate to the **Inventory** page.
- b) Click the **Template** tab.
- c) Click the **Threat Defense** tab and select the FDM device template.
- d) Choose **Interface** from the **Management** pane.
- e) Click **Edit** in the **Editing Physical Interface** dialog box.
- f) Enter the **IP Address** and the **Subnet Mask**.
- g) Click **Save**.

Step 2 Add the data interface as management access interface in the template settings:

- a) Navigate to the **Inventory** page.
- b) Click the **Template** tab.
- c) Click the **Threat Defense** tab and select the FDM device template.
- d) Navigate to **Settings** on the right side of the **Management** pane.
- e) In the **Data Interface** pane, click + to add an interface as management access interface.

Note Ensure that the data interface has a name, state, and the IP address.

- f) Click **Save**.

Step 3 Add or update the static routes with the interfaces associated on the device. When you map the management access interface to an additional interface, set the routing configuration for the selected FDM-managed device.

For more information to add or update the static routes, see [Configure Static for Threat Devices](#).

Apply Migration Later

Procedure

Step 1 Select **Apply Migration Later**.

A migration template is saved. You can save the created template and apply the template to the FDM-managed device later.

Note You can access the FDM templates from the **Inventory** page.

Once the FDM template is saved successfully, you can perform the following actions:

- Navigate to the FDM template to review the migration results.
- Optimize the FDM template using CDO capabilities.
- Navigate to the destination FDM-managed device and select the FDM template that has to be applied.
- Deploy the FDM template to the device.

Step 2 Click **Done**.

The **Inventory** page is displayed with the preselected FDM template.

CDO allows you to perform all the template-related actions like review policies, configurations, and so on.

Step 3 When you are ready to apply the FDM template:

- a. Select the target FDM-managed device from the **Inventory** page.
- b. Click **Apply Template** from the **Device Actions** pane.
The **Apply Device Configuration** screen is displayed.
- c. Select the FDM template that you want to apply on the device.
- d. Click **Apply**.

Note The Management Interface IP that is running on the device remains unchanged.

View the Migration Actions

The **Migration Table** screen displays the following:

- The Migration Name. By default, CDO generates the migration name that is based on the device name. You can also customize this name. See [\(Optional\) Update the Migration Name](#).
- The timestamp of the last migration activity performed on the device.
- Displays the migration state of the device. For more information on the migration states, see [Migration States and Description](#).
- Allows you to perform various actions like rename, download log, and so on. For more information on the actions, see [Actions and Descriptions](#).

Table 1: Migration States and Description

Migration States	Description
Parsing	Migration in progress.
Parse Error	The parsing is complete, with errors.
Conversion Error	The conversion is complete with errors.
Template Created	The migration is complete. The FDM template is successfully created, but with validation errors.

For more information on fixing the migration errors, see [Fix the Migration Errors](#).

Table 2: Actions and Description

Action	Description
Resume	Resumes from the step where the migration process stopped. For example, if the migration is complete, then the process resumes from applying the FDM template.
Rename	Rename the migration name.
Workflows	Displays the workflow screen.
Download Log	Allows you to download the log files in the TXT format. This is a parsing log.
Download Report	Allows you to download the report details in the HTML format.
Configuration	Allows you to view the ASA configuration against which the migration was performed.
Remove	Removes the migration and its associated files like the log files.

About Migrations Filters:

If you want to select a different ASA device or a model to migrate to the FDM template, use any of the following options:

- Filter by Device
- Filter by Clear option

Filter by Device

You can use many different filters on the **Migrations** page to find objects you are looking for. The migrations filter allows you to filter by device, state, and time range.

Table 3: Filter Attributes and the Descriptions

Filter Attribute	Description
Filter by Device	Allows you to select a specific device for migration.
State	<ul style="list-style-type: none"> • Error—Displays the migration list that is based on the parsing errors. • Done—Displays the migration list that is based on the FDM template that is successfully created.
Time Range	Start, End—Displays the list of devices based on the selected start and end dates of migration.

Filter by Clear option

1. Click **Clear** to clear the filter bar.
2. Click the (+) icon.
3. Select a device from the list or search for it by name and select it.
4. Click **Select**.

The **FDM Migration** screen is displayed.

Deploy the Configuration

The final step is to deploy the configuration changes you made to the device.

For more information, see [Deploy the Device Configuration](#).

See [Managing FDM Devices with Cisco Defense Orchestrator](#) and [Managing FMC with Cisco Defense Orchestrator](#) to learn about how CDO can manage the different aspects of an FDM-managed device and its security policies.