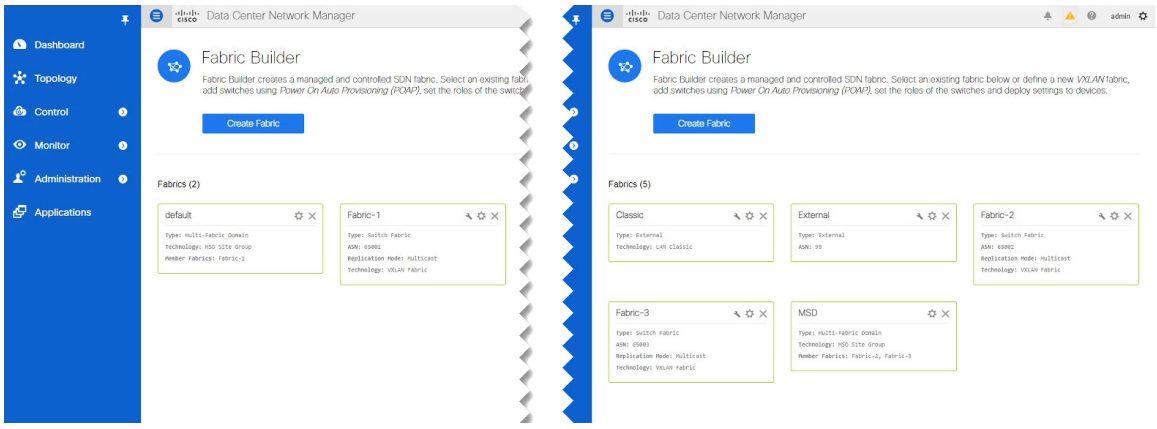
Brownfield Import of VRFs and Networks

Overview

The following sections describe the brownfield import use case scenario which will allow you to import existing DCNM fabric configurations, including fabrics that are part of a Multi-Site Domain (MSD), and to stretch those configurations across multiple greenfield or brownfield fabrics from a single location using Multi-Site Orchestrator. The same use case is demonstrated in the *Cisco DCNM VRF and Network Configuration using Multi-Site Orchestrator* video demo.

The examples in this chapter will use two different DCNM controllers where `Fabric-1` from the first DCNM is a single fabric, while `Fabric-2` and `Fabric-3` are part of an MSD and are managed by the second DCNM:



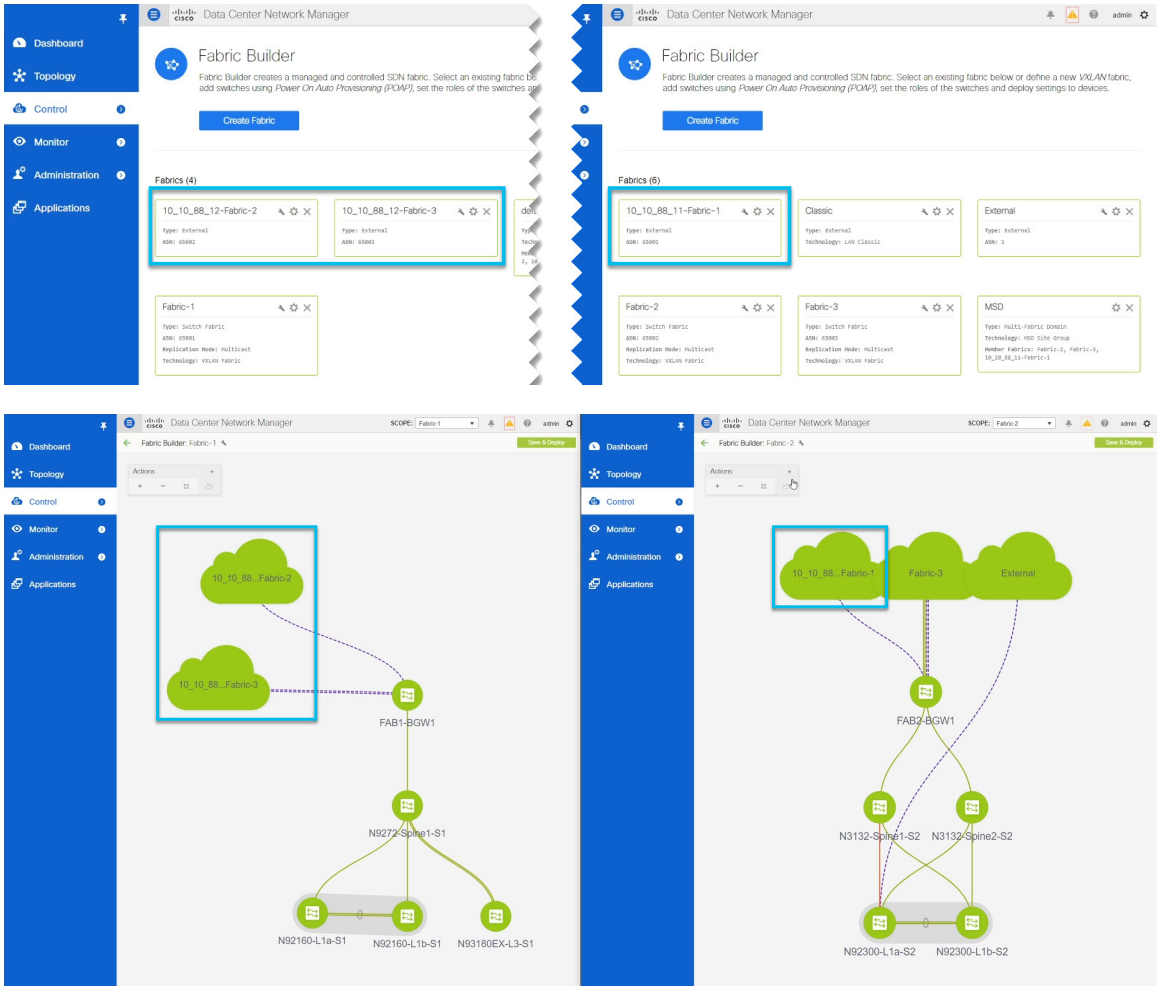
The following sections will detail how to import existing configuration, then stretch it from one fabric to another managed by different DCNMs, as well as how to deploy brand new VRFs and networks.

Prerequisites

Before you can import and manage VRFs and networks from the existing DCNM fabrics in your environment, you must have the following:

- Nexus Dashboard cluster deployed and the Multi-Site Orchestrator application installed, as described in *Cisco Nexus Dashboard Deployment Guide* and *Cisco Multi-Site Orchestrator Deployment Guide*.
- Existing DCNM fabrics on-boarded in the Nexus Dashboard and enabled for management in the Multi-Site Orchestrator GUI, as described in Adding and Deleting Sites.
- Have the inter-site infrastructure configured and deployed, as described in Configuring Infra for Cisco DCNM Sites.

  Expanding on the example fabrics show in the "Overview" section above, after you configure the Infra settings for all fabrics, you will see the inter-site connectivity deployed to each DCNM:



Create Schema and Templates for Importing Configuration

This section describes how to create a schema and template where you will import existing and then create new configurations.

Before you begin

- You must have reviewed and completed the prerequisites described in Prerequisites, on page 2.

Step 1 Log in to your Multi-Site Orchestrator GUI.

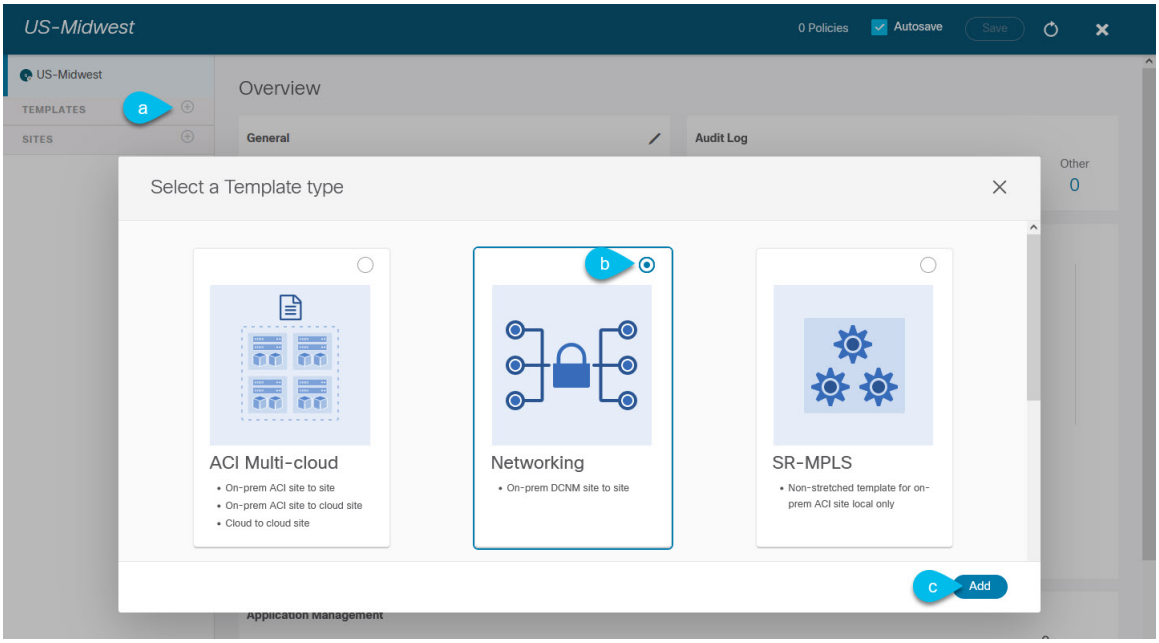
Step 2 Create a new schema.

a) From the left navigation pane, choose **Application Management** > **Schemas**.
b) On the Schemas page, click **Add Schema**.
c) In the schema creation dialog, provide the **Name** and optional description for the schema.

By default, the new schema is empty, so you need to add one or more templates.

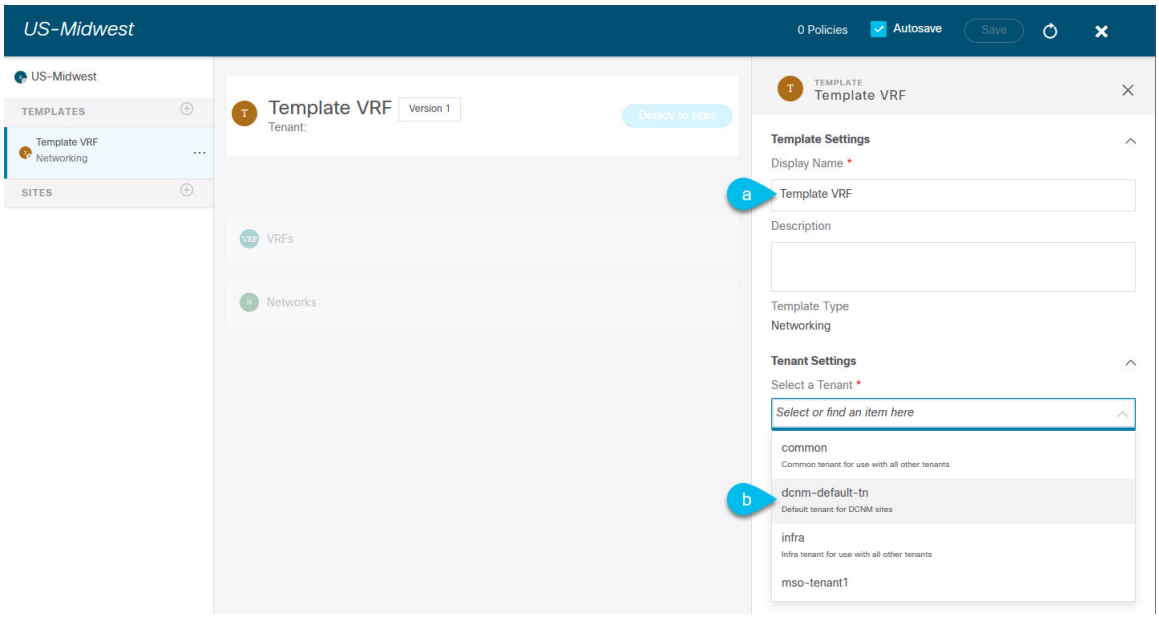
Step 3 Create a template.

We recommend creating two separate templates: one for the VRFs and one for Networks. The following two steps will describe how to create a tempalte.



a) In the left sidebar under **Templates**, click the + sign to add a new template.
b) In the **Select a Template type** window, choose **Networking** for the template type.
c) Click **Add** to create the template.

Step 4 Provide the name and the tenant for the template.



a) In the right sidebar, specify the **Display Name** for the template.
b) From the **Select a Tenant** dropdown, select the `dcnm-default-tn` tenant.

   This tenant is created in MSO by default specifically for defining objects and configurations for DCNM sites

Step 5 Repeat the pervious two steps to create a second template.

In this release, we recommend creating separate templates for VRFs and Networks within each schema and then deploying the VRF templates first, followed by the templates that contain Networks. This way any VRFs required by the networks will be already created when you push Network configuration to the sites.

Similarly, when undeploying multiple networks and VRFs, we recommend undeploying the Networks template first, followed by the VRF templates. This will ensure that when VRFs are undeployed, there will be no conflicts with any existing Networks still using them.

Step 6 In the top right corner of the schema view, click **Save** to save the schema and template.

You must save the schema and template you created before you can import configuration.

Importing Schema Elements From DCNM Sites

This section describes how to import configuration from existing fabrics.

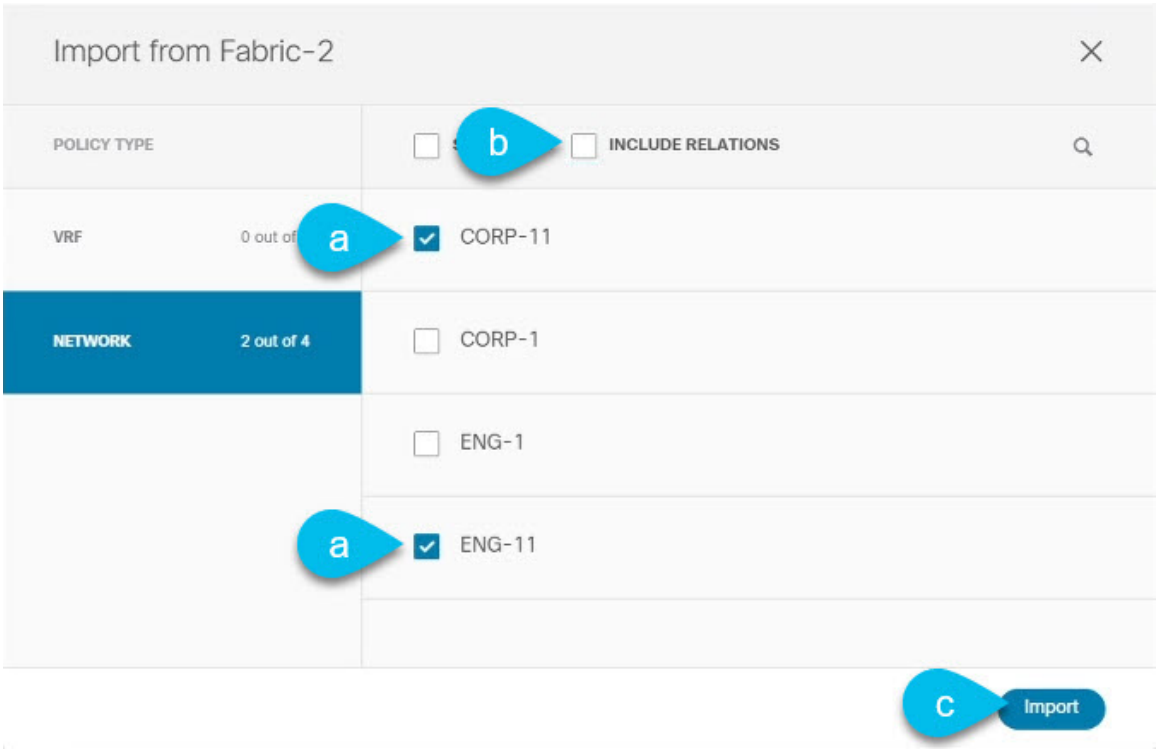
Before you begin

- You must have associated the template with the existing fabrics as described in the previous section.

Step 1 In the main pane click the **Import** button and select the **Site** from which you want to import.

You can import from one fabric at a time, so you will repeat tese steps for each fabric.

Step 2 In the **Import from <*site-name*>** window that opens, select one or more VRFs.



a) In the import screen, you can select all or some of the existing objects.

In the example above, we import `ENG-11` and `CORP-11` networks from `Fabric-2` which is part of the MSD.

Note The names of the objects imported into the Multi-Site Orchestrator must be unique across all sites. Importing different objects with duplicate names will cause a schema validation error and the import to fail. If you want to import objects that have the same name, you must first rename them.

b) Esnure that the **Include Relations** box is unchecked.

You will import the VRFs separately into the second template.

c) Click **Import** to import the objects.

Step 3 Repeat the steps to import Networks from other fabrics.

If you select the template under the site from which you imported (`Fabric-2` in this example), the networks will have switch and port configuration already created as they were imported from that site. However, if you select the template under a different fabric (`Fabric-3`), where the same networks also exist, the switch configuration will be empty.

To get the interface configuration for the networks we imported, we import the same networks again from the other fabric.

Step 4 Select the second template and repeat previous two steps to import all required VRFs.

As best practice, you will use one of the templates to import the VRF configuration from your sites and the other template to import the Network configuration.

Deploying Template and Making Changes

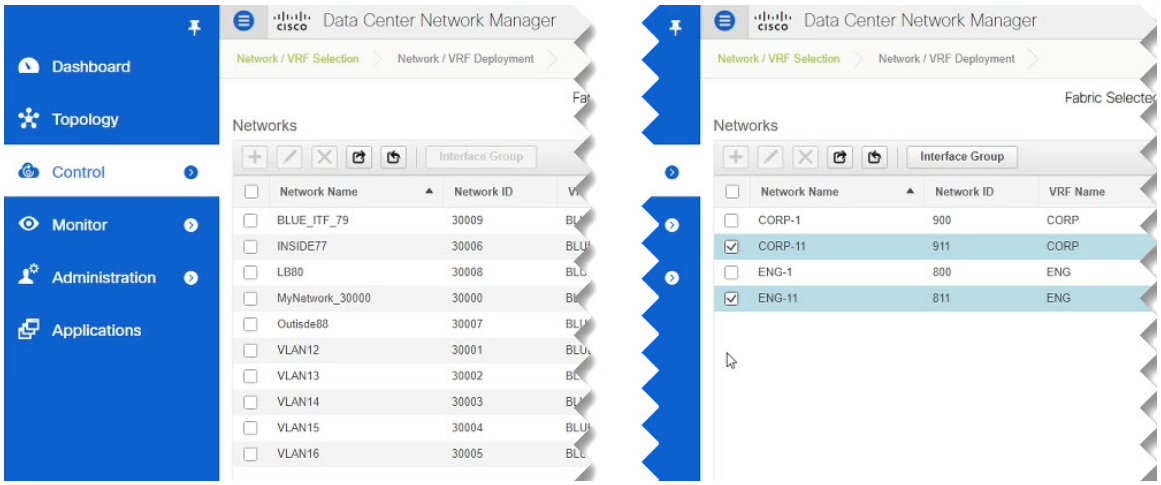
This section describes how to deploy the imported configuration to the site where it doesn't yet exist.

Before you begin

You must have the configuration imported as described in the previous section.

Step 1 In the left sidebar, select the template you want to deploy.

Following the same example, you can use the DCNM UI to verify that the networks and VRFs you have imported from `Fabric-2` and `Fabric-3` do not yet exist in `Fabric-1`.



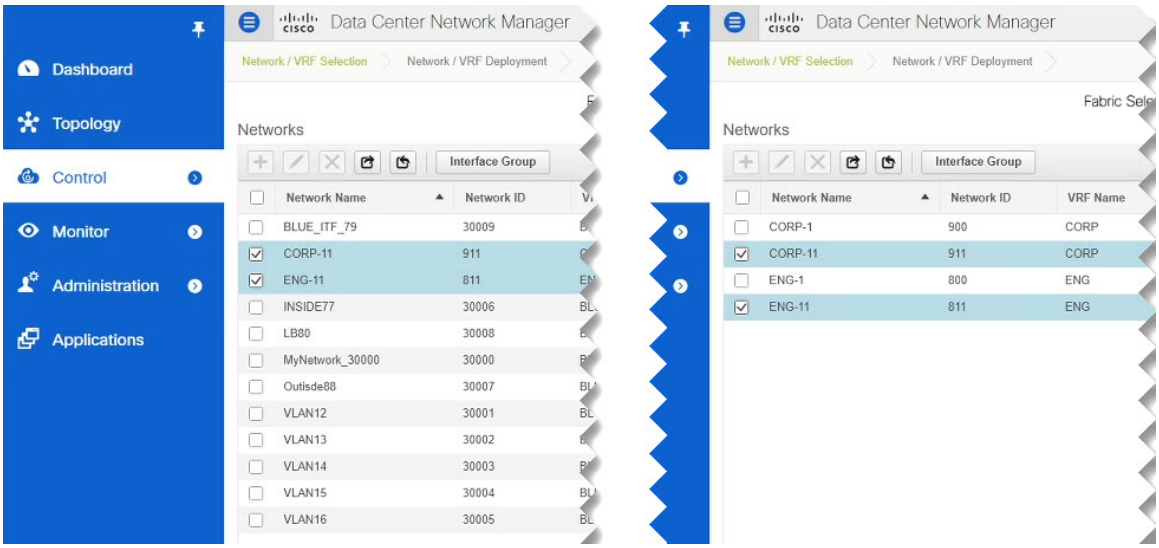
Step 2 In the top right of the template edit view, click **Deploy to sites**.

The **Deploy to Sites** window opens that shows the summary of the objects to be deployed.

Step 3 Click **Deploy** to deploy the template.

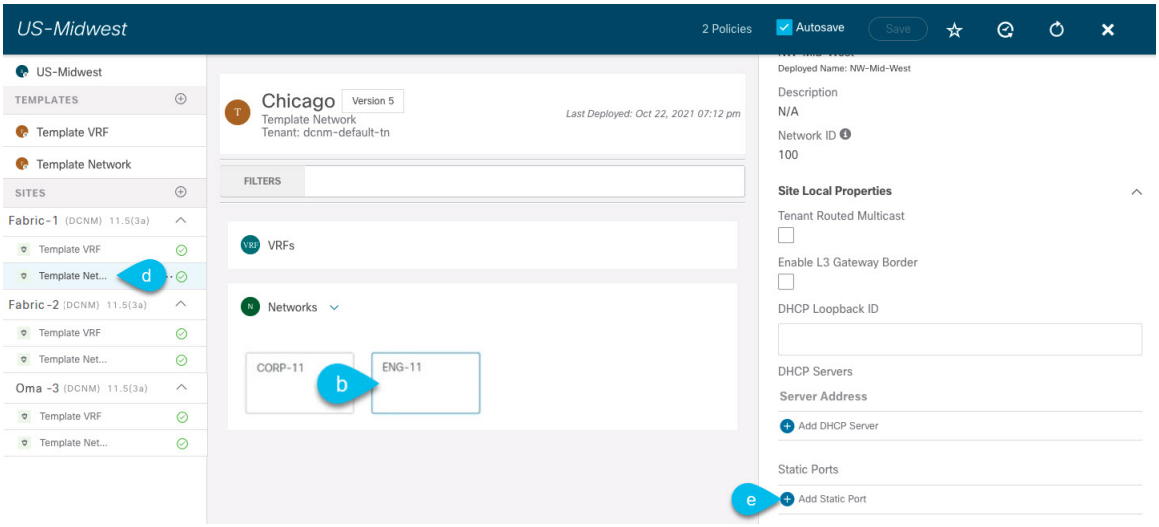
Since this is the first time you are deploying this template, the **Deploy to Sites** summary will show the configuration difference that will be deployed to sites.

It may take a few minutes for the configuration to get deployed. After you see a confirmation message in the MSO GUI, you can verify that the configuration was deployed using the DCNM UI:



Step 4 Assign switch ports to the new network.

We have verified that the network you imported from `Fabric-2` and `Fabric-3` was deployed to `Fabric-1`, we need to assign one or more switch ports to it for `Fabric-1`.



a) Select the template under `Fabric-1`.
b) Select the Network we deployed.
c) In the right sidebar, click **Add Static Ports**.

   In the **Add Static Port** window that opens, select the switch and the port to which you want to assign the network's VLAN. Then click **Save**.

Step 5 Save and redeploy the template with the new configuration changes.

You can once again verify the change by navigating back to the DCNM GUI and refreshing the Networks page. The status of the network will go from `NA` to `In Progress` to `Deployed`.