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Upgrading the Cisco DCNM Classic LAN Deployment

Overview

From Cisco DCNM Release 11.4(1), the Classic LAN deployment is unsupported. If you are planning to upgrade your Classic LAN deployment to DCNM Release 11.4(1), the only available upgrade option is to the DCNM Release 11.4(1) LAN Fabric deployment, and it is done automatically during the DCNM inline upgrade process.

The following table summarizes upgrades for your Classic LAN deployment to the :

When you perform the inline upgrade from older releases to Cisco DCNM Release 11.4(1), automatic conversion to LAN Fabric mode using **LAN_Classic** and **Fabric_Group** fabric templates is done.

Note We recommend that you to familiarize yourself with the Cisco DCNM LAN Fabric functionalities before proceeding with the upgrade. For information, see .

Prerequisites

- Review the Cisco DCNM LAN Fabric Verified Scalability section to ensure your existing deployment needs are met. See *Verified Scalability Guide for Cisco DCNM*.

Guidelines and Limitations

- In the Classic LAN deployment, if you are managing switches using the in-band interfaces, upgrading to the LAN Fabric deployment is not supported. You need to change to managing switches using the management (mgmt0) interfaces, and then upgrade.

  The support for in-band interface management is expected to be available in a future release.

- VDC Auto-Provisioning (VOAP) for Cisco Nexus 7000 Series switches is not supported in the LAN Fabric installation mode.
- The following configurations are not migrated from Classic LAN to the LAN Fabric Deployment:
  - Config archive jobs.

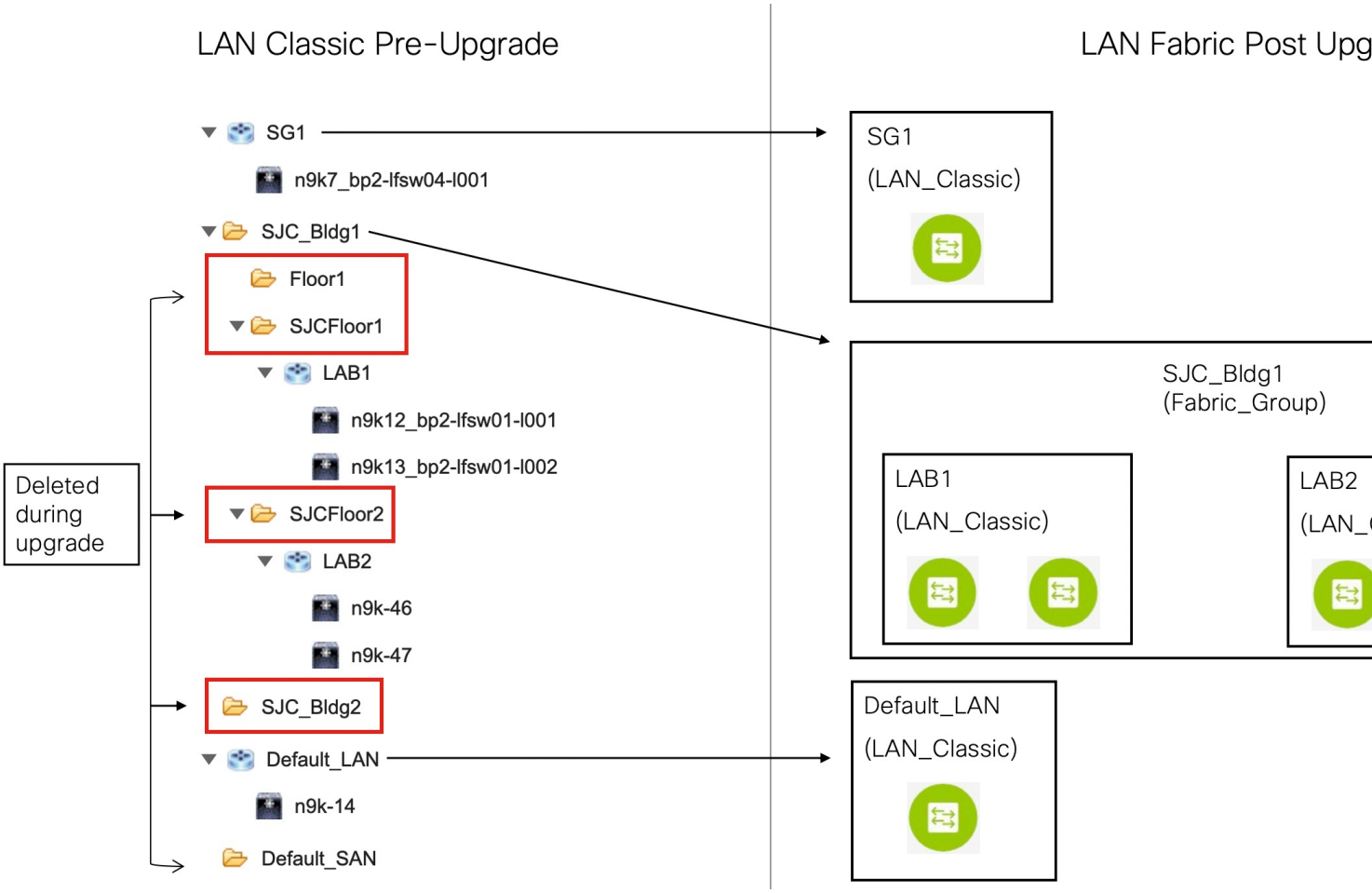
    Post upgrade, you should configure the fabric backups from the fabric settings.

  - CLI jobs.
  - POAP DHCP configuration.

    Post upgrade, you should configure the Fabric Settings for POAP.

Migration of Fabrics

The DCNM upgrade from Classic LAN automatically creates fabric instances in LAN Fabric to match the Classic LAN switch and container groups. The inline upgrade to the LAN Fabric mode preserves only two levels of hierarchy if nested grouping is present. All intermediate and/or empty groups are automatically removed. For reference, see the following image:



The summary of the migration behavior is as follows:

- Only switch groups that hold switches will be migrated over to a fabric instance using the **LAN_Classic** fabric template. In this example, **SG1**, **LAB1, LAB2,** and **Default_LAN** are migrated.
- Only two levels of hierarchy is maintained during the upgrade. Any intermediate groups are deleted, and the lowest level switch groups are promoted to the top of the hierarchy.

  In this example:

  - **SJC_Bldg1** is the top-level container group that has valid switch groups in Classic LAN. Therefore, a fabric instance for **SJC_Bldg1** is created in LAN Fabric, and it uses the **Fabric_Group** template.
  - Fabric instances for **LAB1** and **LAB2**are created using the **LAN_Classic** fabric template in LAN Fabric. These fabric instances are made member fabrics of **SJC_Bldg1**.

    - The intermediate **SJCFloor1** and **SJCFloor2** containers are not carried over to LAN Fabric.

- Container groups that do not have any valid switch groups are not migrated. In this example, **Floor1** and **SJC_Bldg2** are not migrated.
- Switch groups will be migrated to standalone fabric instances using the **LAN_Classic** fabric template. In this example, **Default_LAN** is migrated to LAN Fabric with the **LAN_Classic** fabric template.
- After migration, the devices will be placed in the **Migration Mode** in fabrics associated with the **LAN_Classic** fabric template. The fabric will be in the **Fabric Monitor Mode**.

  For more information about the next steps, see *Upgrading from the Classic LAN Deployment to the LAN Fabric Deployment*.

Supported Switch Roles in LAN Fabric Post Upgrade

Some of the switch roles supported in the Classic LAN installation mode are not available in LAN Fabric. The following table shows the switch roles in Classic LAN and their equivalents in LAN Fabric:

Classic LAN (Pre-Upgrade)	**LAN Fabric (Post Upgrade)**
Border PE	Border
Edge	Edge Router
FEX Host Admin VDC	Access

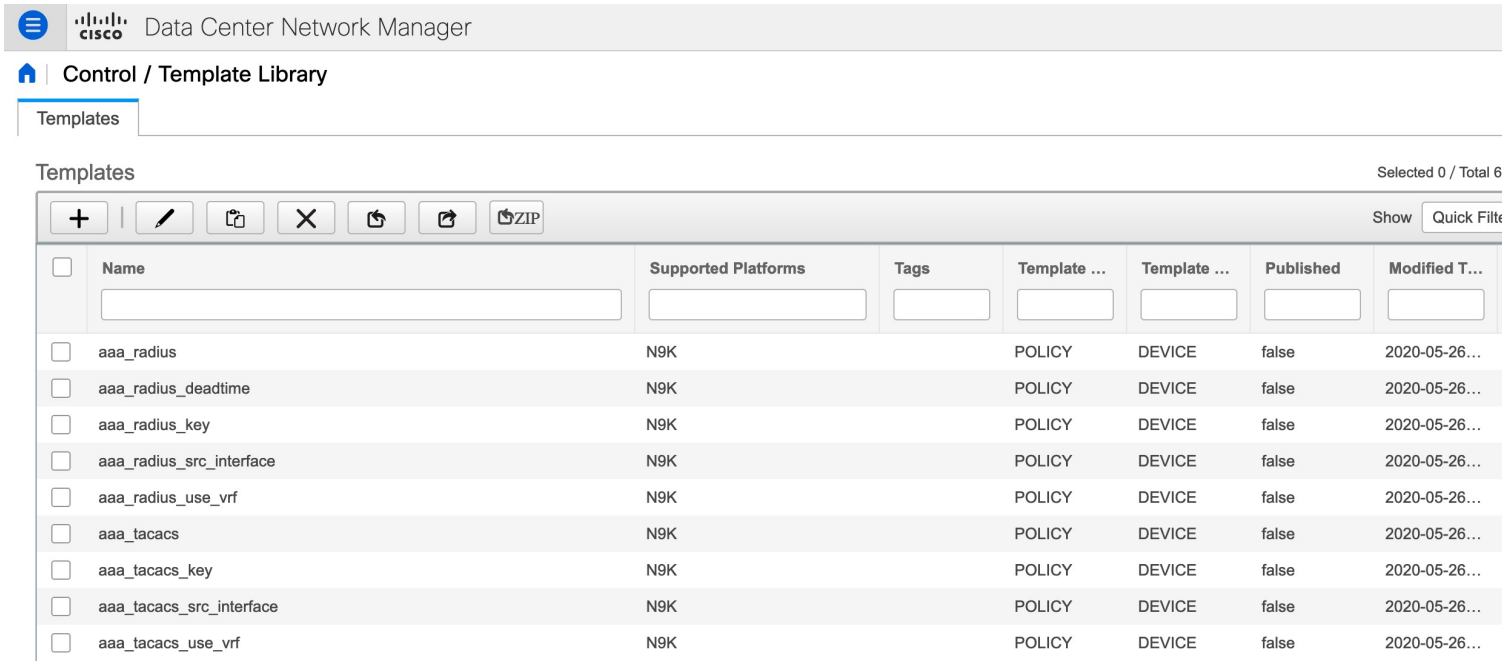
Note that these roles are automatically mapped to their equivalent roles in LAN Fabric after the upgrade.

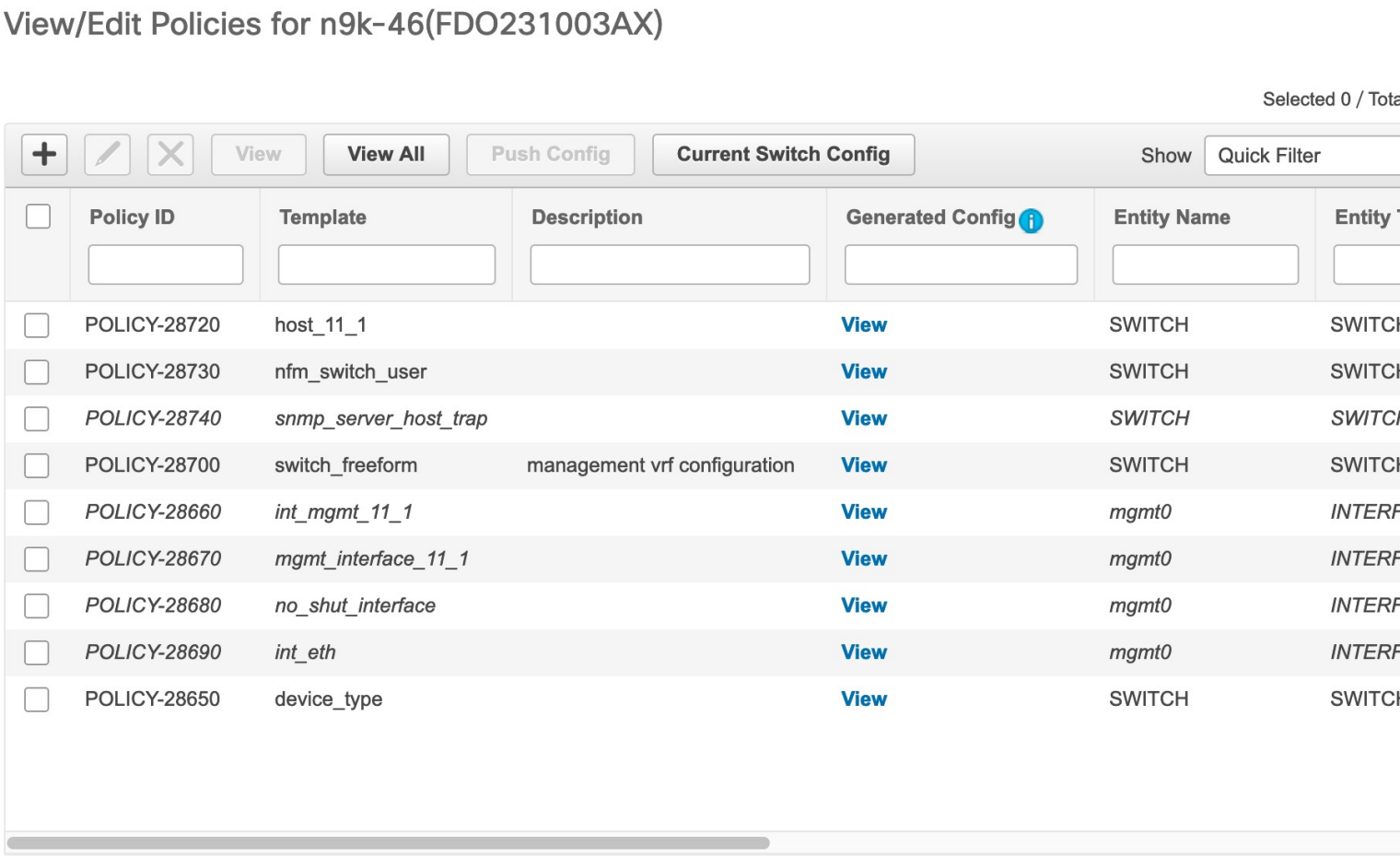
The following switch roles remain the same in LAN Fabric after the upgrade:

- Spine
- Leaf
- Border Spine
- Border
- Border Gateway
- Edge Router
- Core Router
- Access
- Aggregation

Classic LAN Templates in LAN Fabric

The templates of **templateType = CLI** are converted to **templateType = POLICY**. These templates are displayed in **Control > Template Library**. If needed, PTIs can be created from the **View/Edit Policies** window.





Note If policies that are updated automatically need to be reviewed, a backup of the original file is saved with a .bak extension in the following directory on DCNM: `/usr/local/cisco/dcm/dcnm/data/templates/`.

Some of the template language constructs that are available in Classic LAN are not supported in LAN Fabric installation. For example:

- Custom prompt handling
- Command execution logic
- Derived/Inherited templates

Note The templates need to be edited appropriately to work with LAN Fabric.

Unsupported Template Language Content

The following Classic LAN template language features are not supported in the LAN Fabric installation mode.

Note that the existing templates using this content are not supported. They need to be reviewed and/or edited to create compatible templates.

1. Interactive command handling:

   Include prompt and response as part of the template content for handling interactive commands.

   For example:

```
##template variables
string srcFile;
string srcDir;
string password;
string vrf;
##

##template content
copy scp://root@10.127.117.65/$$srcFile$$ bootflash: vrf $$vrf$$ <prompt:'(yes/no)?',
response:'yes'> <prompt:'(y/n)?[n]',
response:'y'> <prompt:'password:',
response:'$$password$$'>
```

2. Dynamic decision

   Config template provides a special internal variable **LAST_CMD_RESPONSE**.

   For example:

```
##template content
 show vlan id $$vlan_id$$
 if($$LAST_CMD_RESPONSE$$ contains
        "not found"){
 vlan $$vlan_id$$
 }
 else{
 }
```

3. Template referencing

   In this case, templates are referenced from another template.

   Derived Template:

```
##template properties
 [snip]
 imports = baseTemplate1,baseTemplate2;

        ##
```

For more information about templates, see Cisco DCNM Classic LAN Configuration Guide, Release 11.3(1) and Cisco DCNM LAN Fabric Configuration Guide, Release 11.4(1).

Upgrading from the Classic LAN Deployment to the LAN Fabric Deployment

Procedure

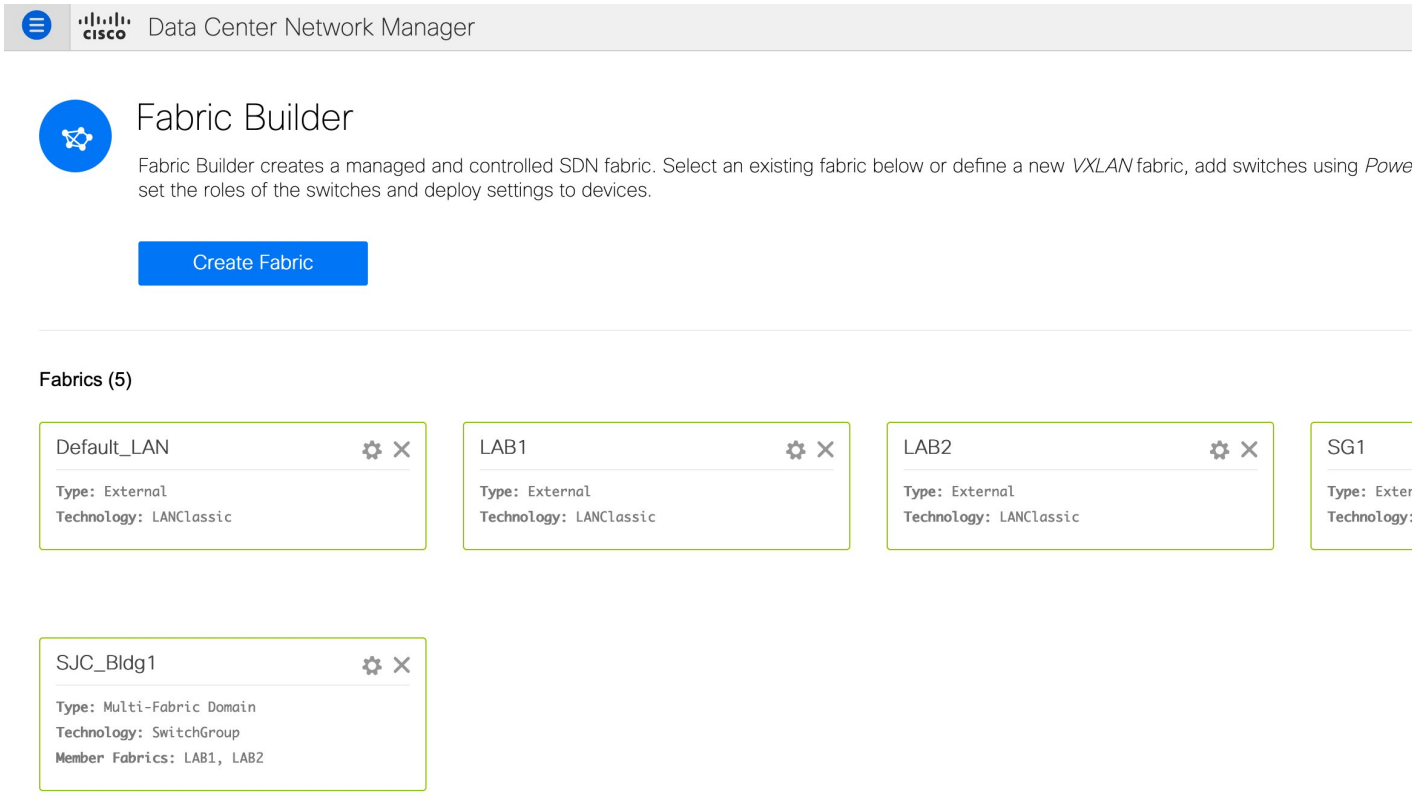
Step 1 Make sure that all switches are reachable from Cisco DCNM before the upgrade.

Note If nested switch groups are in DCNM 11.3(1) and telemetry is enabled on them, you need to disable telemetry on those switch groups before upgrade.

Step 2 Follow the inline upgrade procedure to upgrade to the LAN Fabric deployment.

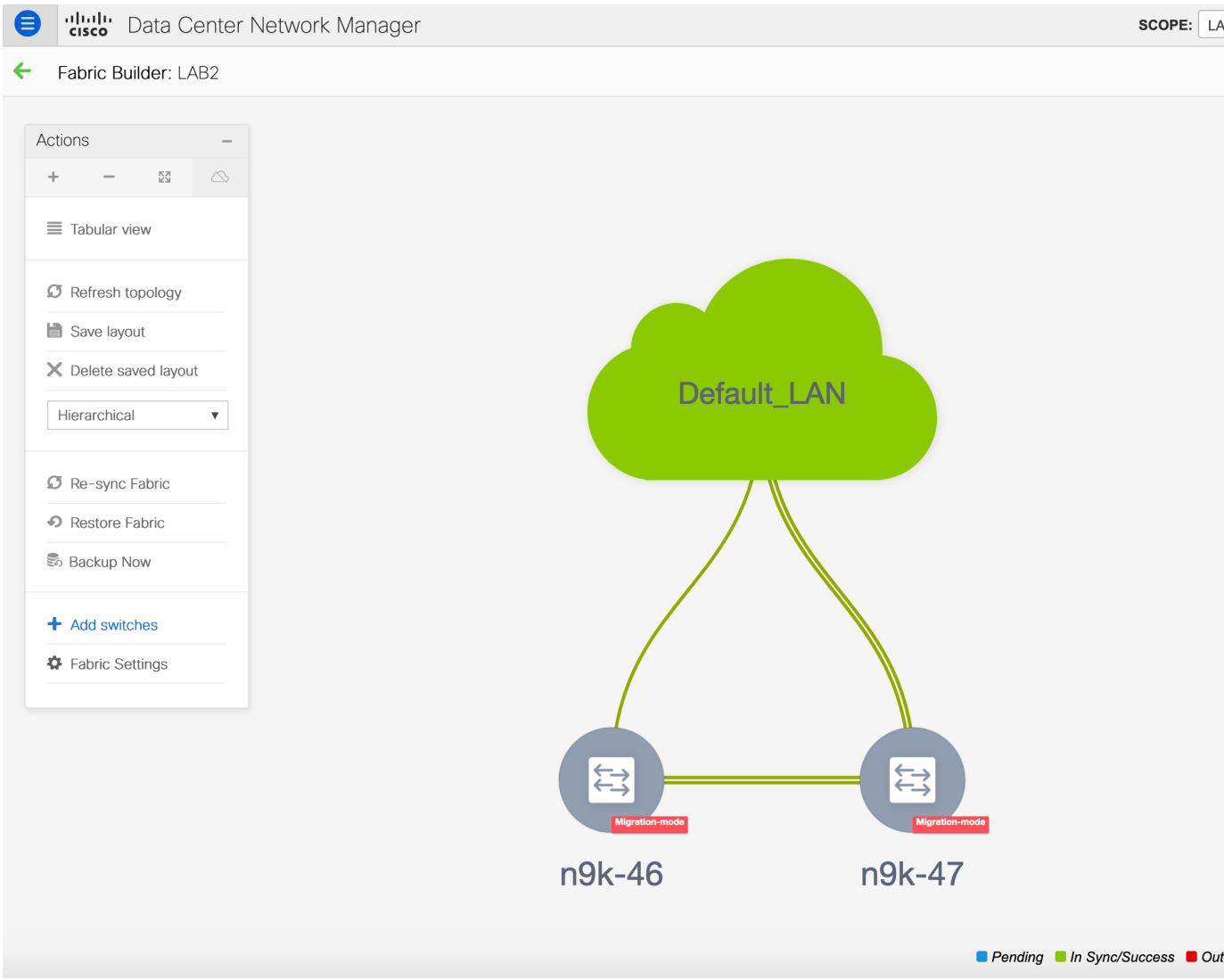
For information, see Upgrading ISO or OVA through Inline Upgrade.

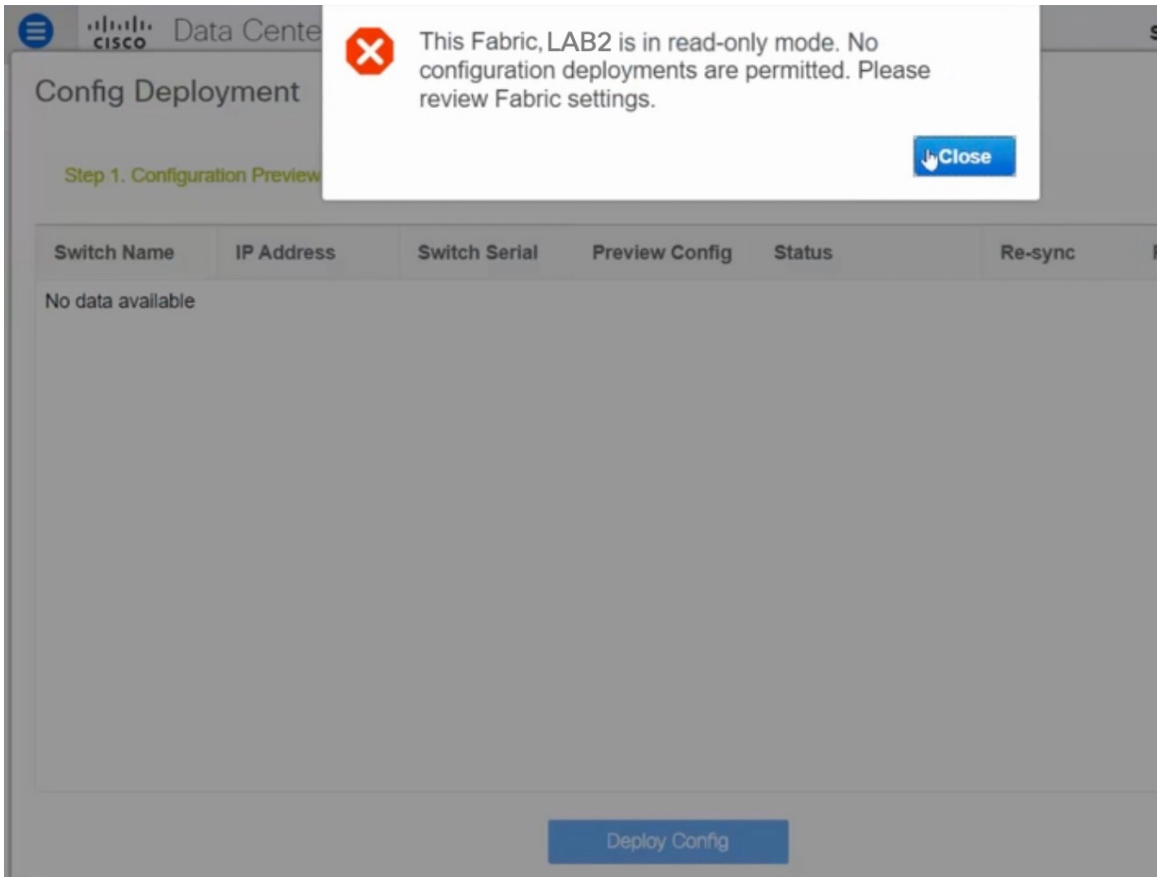
Step 3 Post upgrade, the DCNM installation type will be automatically changed to LAN Fabric and appropriate fabric instances are created. For information about the fabric, see Migration of Fabrics, on page 3.

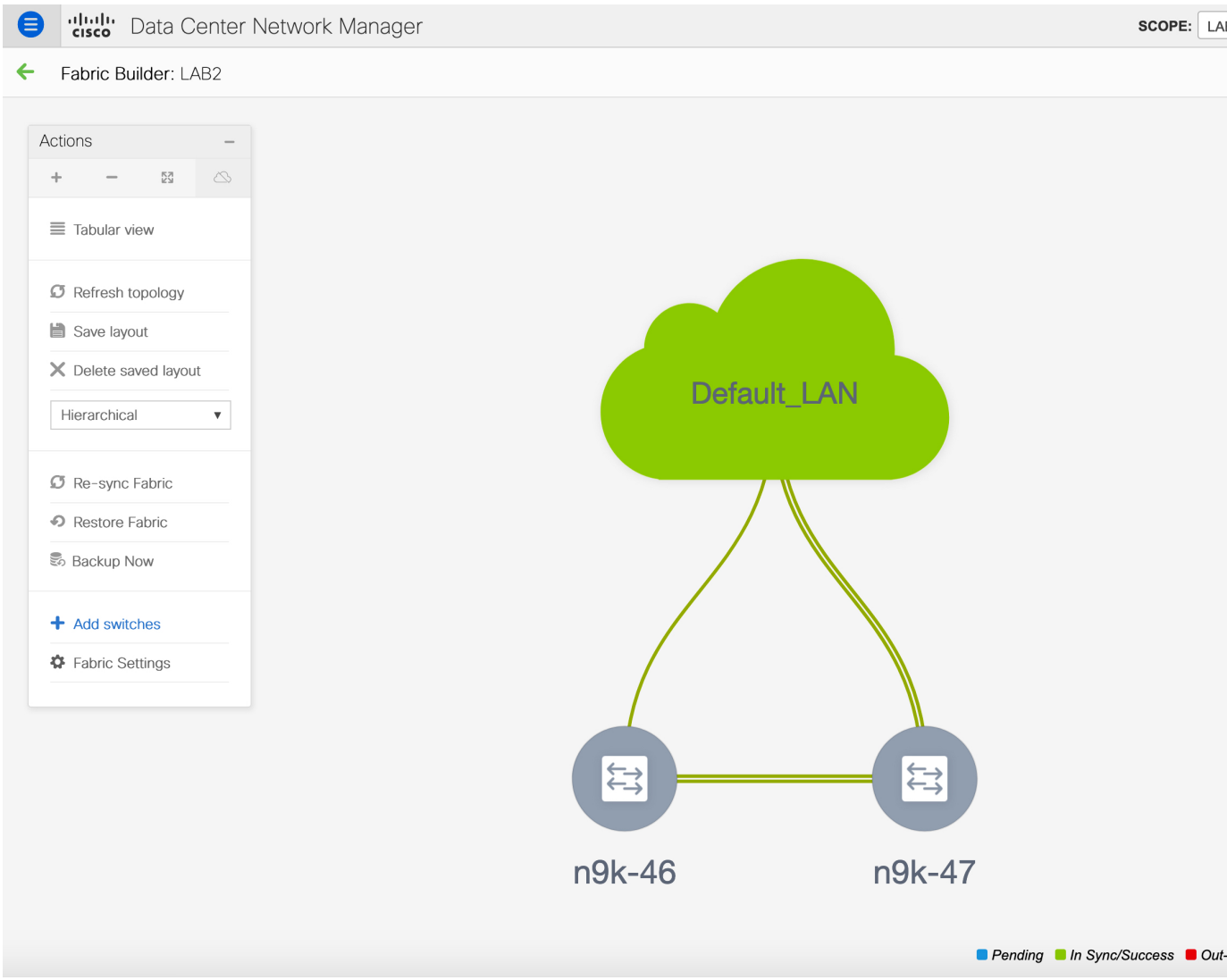


Step 4 The switches are placed in the **Migration Mode**. Navigate to each **LAN_Classic** fabric and click **Save & Deploy**.

Note The fabrics are in the **Monitor Mode** by default. An error message is seen because of this mode, and it can be ignored.


Data Center Network Manager
SCOPE:
Fabric Builder: LAB2
Actions
Tabular view
Refresh topology
Save layout
Delete saved layout
Hierarchical
Re-sync Fabric
Restore Fabric
Backup Now
Add switches
Fabric Settings
Default_LAN
Migration-mode
Migration-mode
n9k-46
n9k-47
Pending
In Sync/Success


Data Cente
Config Deployment
This Fabric, LAB2 is in read-only mode. No configuration deployments are permitted. Please review Fabric settings.
Close
Step 1. Configuration Preview
Switch Name
IP Address
Switch Serial
Preview Config
Status
Re-sync
No data available
Deploy Config



This step ensures that the minimum configuration intent is captured for the switches. The switches continue to remain in the **Migration Mode** till any connectivity issue and errors are resolved. To move the switches out of this mode, subsequent **Save & Deploy** operations are needed.

LAN Classic Fabric Template Functionalities

The following features in the LAN_Classic template provide the same support as they do for the External_Fabric_11_1 template:

The following features are supported:

- Configuration compliance
- Backup or restore of fabric/switch
- Network Insights

- Performance monitoring
- VMM
- Topology view
- Kubernetes visualization
- RBAC

For more information, refer to the feature specific sections.

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