

Managing and Monitoring Multi-Cluster Fabrics Using One Manage, Release 12.2.2/12.2.3

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New and Changed Information

The following table provides an overview of the significant changes up to this current release. The table does not provide an exhaustive list of all changes or of the new features up to this release.

Release Version	Feature	Description
NDFC release 12.2.2	One Manage feature is now available	Beginning with NDFC release 12.2.2, the One Manage feature is available to provide the following functionality: • Create and manage multi-cluster fabrics (new to NDFC release 12.2.2) • Monitor multi-cluster fabrics (previously introduced in NDFC release 12.1.3 as One View Dashboard for LAN deployments)
NDFC release 12.2.2	Support for IPFM fabrics in One Manage Dashboard	With this release, IPFM fabrics are supported for One Manage Dashboard. For more information, see Viewing the Details.

Creating and Managing Multi-Cluster Fabrics Using One Manage

- Multi-Site Domains and Multi-Cluster Fabrics
- How One Manage Allows You to Create and Manage Multi-Cluster Fabrics
- Guidelines and Limitations for One Manage
- Prerequisites Before Using One Manage
- Navigate to the One Manage Page
- Create and Manage Multi-Cluster Fabrics Using One Manage
- Add Additional Child Fabrics
- Additional Multi-Cluster Fabric Configurations
- Backing Up and Restoring Multi-Cluster Fabric Configurations

Multi-Site Domains and Multi-Cluster Fabrics

The following terms are used throughout this article and are defined as follows:

- **Multi-site domain**: Refers to a multi-site fabric that is created in a local NDFC cluster. Fabrics are added to a multi-site domain at the local NDFC cluster level. This term was in use prior to the One Manage feature that is introduced in NDFC release 12.2.2.
- **Multi-cluster fabric**: Refers to a multi-site fabric that is created at the One Manage level. Fabrics, including multi-site domains, are added to a multi-cluster fabric at the local One Manage cluster level. This term is new as part of the One Manage feature that is introduced in NDFC release 12.2.2.

How One Manage Allows You to Create and Manage Multi-Cluster Fabrics

One Manage provides a single point to manage fabric groups and multi-site groups spanning across multiple NDFC clusters in a multi-cluster environment.

The One Manage feature introduced in NDFC 12.2.2 builds on existing multi-cluster functionality that has been available in Nexus Dashboard beginning with ND release 2.1, where Nexus Dashboard allows you to establish connectivity between multiple Nexus Dashboard clusters for a single pane of glass cluster administration, as well as access to any of the sites and services running on any of the connected clusters. For more information, see Multi-Cluster Connectivity in the Nexus Dashboard User Guide.

The following functionality is supported with the One Manage feature:

- Aggregated Topology View of NDFC Multi-Cluster Fabrics
- Creation of VXLAN EVPN Multi-Site Domains for Fabrics Belonging to Different NDFC Clusters

Aggregated Topology View of NDFC Multi-Cluster Fabrics

The One Manage topology view allows you to see inter-fabric connections within an NDFC controller as well as across NDFC clusters. You can also drill down to an individual fabric within a controller instance from this topology view, displaying behavior that is identical to a topology view for a single fabric as it currently exists. Note that you cannot make configuration changes in the topology view. For more information, see Monitoring Multi-Cluster Fabrics Using One Manage Dashboard.

Creation of VXLAN EVPN Multi-Site Domains for Fabrics Belonging to Different NDFC Clusters

You can create multi-cluster fabrics using One Manage, where you can add member fabrics from any NDFC that is part of a multi-cluster fabric and perform the multi-site operations that you would normally perform from a regular LAN fabric MSD. With this functionality, you can also import an existing MSD from any NDFC and then connect it to other VXLAN EVPN fabrics from the multi-cluster fabric.

When you click **Recalculate & Deploy** after creating a multi-site fabric using One Manage, if the auto-deployment settings are selected, the multi-site underlay connectivity is configured automatically between the border gateways and the core routers based on the CDP neighborships of the devices, and the multi-site overlay EVPN peering is configured between the border gateways, or between the border gateways and the route server, based on the type of overlay connectivity selected.

Guidelines and Limitations for One Manage

- Interface, Policy, Policy History and Events that are available in a regular LAN fabric MSD are not available when you configure a multi-cluster MSD through One Manage. You must go to the individual fabric to perform operations related to Interface and Policy related operations in this case.
- Change control is not supported with One Manage.
- IPv6 underlay is not supported with One Manage.
- Security groups are not supported with One Manage.
- MSD operations are not permitted if the primary cluster is down.
- If you use One Manage to manage Multi-Site fabrics, the following items will be disabled at the LAN fabric MSD level:
  - Adding and removing member fabrics
  - Adding and removing link operations
  - Creating and deleting VRFs and networks
- Two NDFC controller instances can have fabrics with the same fabric name because the identity of each fabric is shown as *controller-name* + *fabric-name*. However, you cannot use the same name for different clusters within a multi-cluster fabric.
- If you attempt to form a multi-cluster fabric using One Manage but one or more of the clusters is running on a release prior to NDFC release 12.2.2, you will see a message saying that those clusters should be upgraded to the latest release before you can use using One Manage to form a multi-cluster fabric.
- Managing the same physical switch from more than one cluster is not supported with One

Manage. This unsupported configuration can affect One Manage topology views and deployment of multi-site inter-fabric connections.

- With regards to NDFC API calls, you can reach the primary cluster by prefixing any API path with *onemanage/{existing-api-path}*.

Prerequisites Before Using One Manage

If you have upgraded from a previous release to ND release 3.2.1/NDFC release 12.2.2 and the corresponding ND clusters were already federated, prior to using One Manage, you must perform the following steps on the primary cluster:

1. Disconnect all the secondary clusters from multi-cluster connectivity.
2. Delete the federation, which also disconnects the primary cluster from multi-cluster connectivity.
3. Connect all the secondary clusters back to the primary cluster to form multi-cluster connectivity.

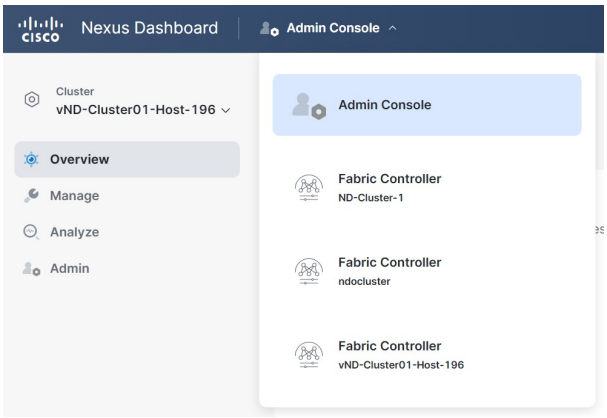
For those procedures, see the "Multi-Cluster Connectivity" section in Nexus Dashboard Infrastructure Management.

Navigate to the One Manage Page

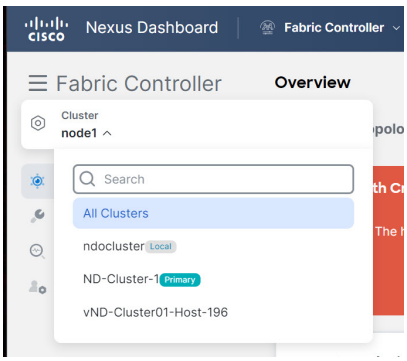
1. Log in to Nexus Dashboard as a remote user.

   The Nexus Dashboard **Admin Console** opens.

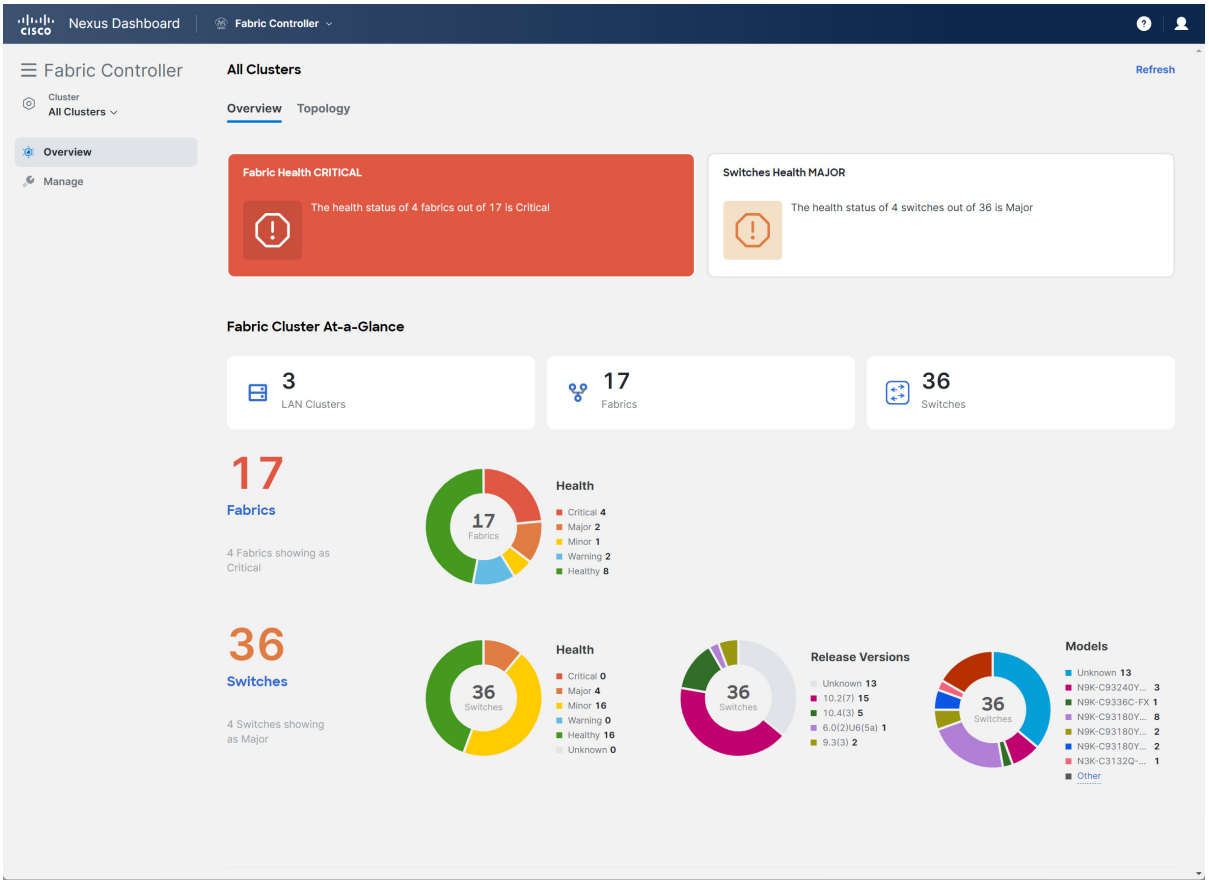
2. In the Admin Console GUI, click the top banner dropdown list and choose the appropriate **Fabric Controller** cluster.



3. In the NDFC GUI, click the cluster dropdown list and choose **All Clusters**.



The One Manage page appears.



If the **All Clusters** selection or the One Manage do not appear, check that you have met the Prerequisites.

From the **Cluster View** dropdown list, you can also open an overview dashboard for any member of the federated clusters by selecting that cluster. See Viewing a Specific Cluster.

Create and Manage Multi-Cluster Fabrics Using One Manage

1. Navigate to the One Manage page.

   See Navigate to the One Manage Page for those instructions.

2. Click **Manage > Fabrics**.

   The Fabrics page appears, listing all of the multi-cluster fabrics that have been configured through One Manage.

3. Click **Actions > Create Fabric Group**.

   The **Create Fabric Group** configuration wizard appears.

   Navigate through the following steps to create a multi-cluster fabric:

- 1. Select Fabric Group Type
- 2. Select Child Fabric
- 3. Settings
- 4. Summary
- 5. Result

1. Select Fabric Group Type

1. Select the type of multi-cluster fabric that you want to create.

   For release 12.2.2, the **VXLAN** multi-cluster fabric type is the only available choice.

2. Click **Next**.

2. Select Child Fabric

1. Review the available child fabrics that are listed in the **Select Child Fabric** page.

   The **Select Child Fabric** page lists any child fabrics that are part of an NDFC cluster that is available to have as part of your new multi-cluster fabric.

2. Click the circle next to a child fabric that you want to add to the new multi-cluster fabric that you're creating.

   You can select only one child fabric from the list to add to the multi-cluster fabric at this point in the process. However, you will be able to add additional child fabrics to the multi-cluster fabric at the end of these procedures, after you have completed the configuration process for the multi-cluster fabric.

   You can also create a multi-cluster fabric without a child fabric in this step if necessary, and then add a child fabric later on.

3. Click **Next**.

3. Settings

1. Enter a name for your new multi-cluster fabric.

   The entry in the Fabric Type field is based on the entry that you provided in [1. Select Fabric Type].

2. Enter the necessary field values to create a multi-cluster fabric.

   The tabs and their fields in the screen are explained in the subsequent sections. The overlay and underlay network parameters are included in these tabs.

   - General Parameters
   - DCI
   - Security

- Resources
- Configuration Backup

General Parameters

All mandatory fields in the **General Parameters** tab are prefilled. Update the relevant fields as needed.

Field	Description
Layer 2 VXLAN VNI Range	Specifies the Layer 2 VXLAN segment identifier range.
Layer 3 VXLAN VNI Range	Specifies the Layer 3 VXLAN segment identifier range.
Enable IPv6 Underlay for VXLAN Fabric	IPv6 underlay is not supported with One Manage. Check the box to enable IPv6 underlay for the child VXLAN fabric. If you leave the box checked, then IPv4 underlay is used in the child VXLAN fabric.
VRF Template	Specifies the default VRF template for leaf devices.
Network Template	Specifies the default network template for leaf devices.
VRF Extension Template	Specifies the default VRF extension template for border devices.
Network Extension Template	Specifies the default network extension template for border devices.
Enable Private VLAN (PVLAN)	Check the box to enable private VLAN on VXLAN Multi-Site and its child fabrics.
PVLAN Secondary Network Template	This option is available if you enabled the **Enable Private VLAN (PVLAN)** option above. Specifies the default secondary PVLAN network template.
Anycast-Gateway-MAC	Specifies the anycast gateway MAC address.
Multi-Site VTEP VIP Loopback Id	Specifies the multisite routing loopback ID.
Border Gateway IP TAG	Routing tag associated with IP address of loopback and DCI interfaces
ToR Auto-deploy Flag	Enables automatic deployment of the networks and VRFs in VXLAN EVPN fabric connected to ToR switches in an External Fabric. The system enables this configuration on performing **Recalculate and Deploy** in the VXLAN EVPN Multi-Site fabric.

What's next: Complete the configurations in another tab, if required, or click **Next** when you have completed the necessary configurations for this fabric.

DCI

Field	Description
Multi-Site Overlay IFC Deployment Method	Defines how the data centers connect through the border gateways: - **Manual**: Select this option to manually configure how the data centers connect through the border gateways. - **Centralized_to_Route_Server**: Select this option to configure the data centers connection to the border gateways through a route server. - **Direct_to_BGWS**: Select this option to configure the data centers connection directly to the border gateways. The Multisite IFCs can be created between the border gateways in the VXLAN EVPN fabrics and router server in external fabric, or back-to-back between border gateways in two VXLAN EVPN fabrics.
Multi-Site Route Server List	Specifies the IP addresses of the route server. If you specify more than one, separate the IP addresses using a comma.
Multi-Site Route Server BGP ASN List	Specifies the BGP AS Number of the router server. If you specify more than one route server, separate the AS Numbers using a comma.
Enable 'redistribute direct' on Route Servers	Enables auto-creation of multi-site overlay IFCs on route servers. This field is applicable only when you have configured the deployment method for Multi-Site Overlay as **Centralized_To_Route_Server**.
Route Server IP TAG	Specifies the routing tag associated with route server IP for redistribute direct. This is the IP used in eBGP EVPN peering.
Multi-Site Underlay IFC Auto Deployment Flag	Enables auto configuration. Uncheck the check box for manual configuration. When this option is enabled, NDFC determines the physical connections between the border gateways if the **Direct_to_BGWS** option is selected in the **Multi-Site Overlay IFC Deployment Method** field, or between the core router and the border gateways if the **Centralized_to_Route_Server** option is selected in the **Multi-Site Overlay IFC Deployment Method** field. When enabling this option for multi-cluster deployments, NDFC also determines the interconnections between devices that are managed in each cluster.
BGP Send-community on Multi-Site Underlay IFC	Enables the **Enable BGP Send-Community both** setting in auto-created multi-site underlay IFC, which will generate the **send-community both** in the eBGP session for multi-site underlay.
BGP log neighbor change on Multi-Site Underlay IFC	Configures the **Enable BGP log neighbor change** setting in auto created multi-site underlay IFC.
BGP BFD on Multi-Site Underlay IFC	Configures the **Enable BGP BFD** setting in auto created multi-site underlay IFC.

Field	Description
Delay Restore Time	Specifies the Multi-Site underlay and overlay control planes convergence time. The minimum value is 30 seconds and the maximum value is 1000 seconds.
Enable Multi-Site eBGP Password	Check the box to enable eBGP password for Multi-Site underlay/overlay IFCs.
eBGP Password	Specifies the encrypted eBGP Password Hex String.
eBGP Authentication Key Encryption Type	Specifies the BGP key encryption type. It is **3** for 3DES and **7** for Cisco.

What's next: Complete the configurations in another tab, if required, or click **Next** when you have completed the necessary configurations for this fabric.

Security

The fields in the **Security** tab are described in the following table.

Field	Description
Enable Security Groups	Security groups are not supported with One Manage, as described in Guidelines and Limitations for One Manage. Leave this field in the default off setting, which disables the following three security group options.
Security Group Name Prefix	Specify the prefix to use when creating a new security group.
Security Group Tag (SGT) ID Range (Optional)	Specify a tag ID for the security group if necessary.
Security Groups Pre-Provision	Check this check box to generate a security groups configuration for non-enforced VRFs.
Multi-Site CloudSec	Check the box to enable CloudSec configurations on border gateways. If you enable this field, the remaining three fields for CloudSec are editable. For more information, see the section "Support for CloudSec in Multi-Site Deployment" in VXLAN EVPN Multi-Site.
CloudSec Key String	Specifies the Cisco Type 7 encrypted octet key string.
CloudSec Cryptographic Algorithm	Choose AES_128_CMAC or AES_256_CMAC for the encryption type.

Field	Description
CloudSec Enforcement	Specifies whether the CloudSec enforcement should be **strict** or **loose**. - **strict** - Deploys the CloudSec configuration to all the border gateways in fabrics in VXLAN Multi-Site. If there are any border gateways that don't support CloudSec, then an error message is generated, and the configuration isn't pushed to any switch. If you select **strict**, the **tunnel-encryption must-secure** CLI is pushed to the CloudSec enabled gateways within VXLAN Multi-Site. - **loose** - Deploys the CloudSec configuration to all the border gateways in fabrics in VXLAN Multi-Site. If there are any border gateways that do not support CloudSec, then a warning message is generated. In this case, the CloudSec config is only deployed to the switches that support CloudSec. If you select **loose**, the **tunnel-encryption must-secure** CLI is removed, if available.  There should be at least two fabrics in VXLAN Multi-Site with border gateways that support CloudSec. If there is only one fabric with a CloudSec capable device, then the following error message is generated: *CloudSec needs to have at least 2 sites that can support CloudSec*. To remove the error, make sure you have at least two sites that can support CloudSec or disable CloudSec.
CloudSec Status Report Timer	Specifies the CloudSec Operational Status periodic report timer in minutes. This value specifies how often the NDFC polls the CloudSec status data from the switch. The default value is 5 minutes and the range is from 5 to 60 minutes.

What's next: Complete the configurations in another tab, if required, or click **Next** when you have completed the necessary configurations for this fabric.

Resources

Field	Description
Multi-Site VTEP VIP Loopback IP Range	Specifies the Multi-Site loopback IP address range used for the EVPN Multi-Site function. A unique loopback IP address is assigned from this range to each member fabric because each member site must have a Multi-site Routing Loopback IP address assigned for overlay network reachability. The per-fabric loopback IP address is assigned on all the BGWs in a specific member fabric.
DCI Subnet IP Range	Specifies the Data Center Interconnect (DCI) subnet IP address.
Subnet Target Mask	Specifies the DCI subnet mask (range is 8-31).
Multi-Site VTEP VIP Loopback IPv6 Range	Specifies the Multi-Site loopback IPv6 address range used for the EVPN Multi-Site function. A unique loopback IPv6 address is assigned from this range to each member fabric because each member site must have a Multi-site Routing Loopback IPv6 address assigned for overlay network reachability. The per-fabric loopback IPv6 address is assigned on all the BGWs in a specific member fabric.
DCI Subnet IPv6 Range	Specifies the Data Center Interconnect (DCI) subnet IPv6 address.
Subnet Target IPv6 Mask	Specifies the DCI subnet IPv6 mask (range is 120-127).

What's next: Complete the configurations in another tab, if required, or click **Next** when you have completed the necessary configurations for this fabric.

Configuration Backup

Field	Description
Scheduled Fabric Backup	Check the box to enable a daily backup of the multi-cluster fabric. This backup tracks changes in the running configuration of the fabric devices that are not tracked by configuration compliance.
Scheduled Time	Specifies the scheduled backup time in 24-hour format. This field is enabled if you check the **Scheduled Fabric Backup** check box. Select both the check boxes to enable both back up processes.

What's next: Complete the configurations in another tab, if required, or click **Next** when you have completed the necessary configurations for this fabric.

4. Summary

1. Review the information provided in the **Summary** page.
2. Click **Create** to create the multi-cluster fabric.

5. Result

The new multi-cluster fabric now appears in the **Fabrics** table in the **All Clusters Fabrics** page.

Double-click on the new multi-cluster fabric to display the overview information for this new fabric and to make modifications to the fabric configuration, if necessary, such as:

- Adding additional child fabrics to the multi-cluster fabric, as described in Add Additional Child Fabrics.
- Using Multi-Attach to attach multiple switches and interfaces to the network at the same time, as described in the Networks section in the About Fabric Overview for LAN Operational Mode Setups article.

In addition, if you were to navigate back to the individual fabrics within the diffferent NDFC instances by clicking **One Manage > *individual-NDFC-instance***, the information displayed for components that are part of the multi-cluster fabric is different. For example:

- When navigating to the main **Fabrics** page for an NDFC instance (**Manage > Fabrics**), each fabric that is part of the multi-cluster fabric now has **(Remote Fabric)** shown in the **Fabric Technology** column, and also has the multi-fabric cluster name prepended to the **Fabric Name**.
- Within each of these fabrics, switches are given a role of **Meta**.

Add Additional Child Fabrics

When you first configure a multi-cluster fabric, you are able to add only one child fabric as part of that configuration process. To add additional child fabrics to a multi-cluster fabric:

1. Navigate to the **Multi Cluster Fabric Group Overview** page for the multi-cluster fabric, if you are not there already.
   a. Navigate to the One Manage page.

      See Navigate to the One Manage Page for those instructions.

   b. Click **Manage > Fabrics**.
   c. Double-click on the appropriate multi-cluster fabric to display the overview information for that fabric.
2. In the **Overview** page for this multi-cluster fabric, click the **Child Fabrics** tab, then click **Actions > Add Child Fabric**.

   A list of the remaining available child fabrics appears.
3. Click the circle next to a child fabric that you want to add to the new multi-cluster fabric, then click **Select**.
4. Repeat this step to add additional child fabrics to the multi-cluster fabric.
5. When you have finished adding additional child fabrics to the multi-cluster fabric, click **Actions > Recalculate and Deploy**.

   This action generates the multi-site configurations on the border gateways in each of the VXLAN EVPN fabrics and configures the inter-fabric links between the child fabrics in the multi-cluster fabric.
6. In the **Config Preview** window, click the link in the **Pending Config** column to verify that all the planned configuration changes are correct for that child fabric.

7. Click **Deploy All** when you are ready to deploy the multi-cluster fabric with the newly added child fabrics.

   The **Deploy Progress** window appears, displaying the progress of the multi-cluster fabric deployment.

Additional Multi-Cluster Fabric Configurations

Navigate to **Manage > Fabrics**, then double-click on the appropriate multi-cluster fabric to display the overview information for that fabric, where you can perform additional configurations on that multi-cluster fabric.

For the most part, the configuration options and procedures for a multi-cluster fabric are no different than the configuration options and procedures for a VXLAN EVPN Multi-Site fabric, as described in VXLAN EVPN Multi-Site and About Fabric Overview for LAN Operational Mode Setups. However, because the overview page for a multi-cluster fabric allows you to view configurations across clusters, you can also make configuration changes to components that may be associated with fabrics in different clusters.

For example, the procedures for creating a VRF in a multi-cluster fabric are identical to those procedures documented in the section "VRFs" in About Fabric Overview for LAN Operational Mode Setups, except that the switches listed in the **VRF Attachments** tab for a multi-cluster fabric might be associated with fabrics in different clusters. Similarly, when creating a network, the procedures provided in the section "Networks" in About Fabric Overview for LAN Operational Mode Setups apply as-is for multi-cluster fabrics; however, you can also use the **Multi-Attach** option for switches that might be associated with fabrics in different clusters.

The following sections describe areas that have configuration procedures that are specific to multi-cluster fabrics.

Link Configurations

In the overview page for a multi-cluster fabric, click the **Links** tab to display any configured links for that multi-cluster fabric. Click **Actions > Create** to create a link.

The following areas in the **Create Link** page are specific to a multi-cluster fabric:

- **Link Type**: Because this is a multi-cluster fabric, Inter-Fabric is the only available option in the **Link Type** field.
- **Source Cluster** and **Destination Cluster**: These fields allow you to select the source and destination cluster within the multi-cluster fabric. You can then select the source and destination fabrics within those selected source and destination clusters.

Event Analytics

In the overview page for a multi-cluster fabric, click the **Event Analytics** tab to display any configured alarms for that multi-cluster fabric. Cluster-specific tabs allow you to view event analytics information specific to those clusters.

History

In the overview page for a multi-cluster fabric, click the **History** tab to view the deployment history for that multi-cluster fabric. Cluster-specific tabs allow you to view deployment history information specific to those clusters.

Backing Up and Restoring Multi-Cluster Fabric Configurations

- Back Up Multi-Cluster Fabric Configurations
- Restore Multi-Cluster Fabric Configurations

Back Up Multi-Cluster Fabric Configurations

1. Navigate to the One Manage page.

   See Navigate to the One Manage Page for those instructions.

2. Click **Manage > Fabrics**.

   The **Fabrics** page appears, listing all of the multi-cluster fabrics that have been configured through One Manage.

3. Double-click on the appropriate multi-cluster fabric to display the overview information for that fabric.
4. Click **Actions > More > Backup Fabric**.

   The **Create Fabric Backup** window appears.

5. In the **Backup Tag** area, enter a name for the backup, then click **Create Backup**.

Restore Multi-Cluster Fabric Configurations

1. Navigate to the One Manage page.

   See Navigate to the One Manage Page for those instructions.

2. Click **Manage > Fabrics**.

   The Fabrics page appears, listing all of the multi-cluster fabrics that have been configured through One Manage.

3. Double-click on the appropriate multi-cluster fabric to display the overview information for that fabric.
4. Click **Actions > More > Restore Fabric**.

   The **Restore Multi-Cluster Fabric** window appears.

5. Review the backups shown on this page.

   The following table describes the columns that appear on the **Restore Backup** tab.

Fields	Descriptions
Backup Date	Specifies the backup date.
Backup Version	Specifies the version of backup.
Backup Tag	Specifies the backup name.
Backup Type	Specifies the backup type (for example, a golden backup).

The following table describes the fields that appear on the **Action** tab.

Actions	Descriptions
Mark as golden	To mark an existing backup as a golden backup, choose **Mark as golden**. Click **Confirm** in the confirmation window.
Remove as golden	To remove an existing backup from a golden backup, choose **Remove as golden**. Click **Confirm** in the confirmation window.

6. In the **Select Backup** step, click the radio button for the fabric backup that you want to restore, then click **Next**.
7. In the **Restore Preview** step, verify that the information is correct for the backup that you want to restore.

   You can preview the details about the configuration in the backup file. You can also view the name and serial numbers for the switches in the Fabric backup. Click on **Delta Config** to view the configuration difference on the switches in the fabric.

8. Click **Restore Intent**.
9. In the **Restore Status** step, you can view the status of restoring the intent.
10. Click **Next** to view the preview configuration.
11. In the **Configuration Preview** step, you can resync the configurations on specific switches.

    For the desired switch, check the **Switch Name** check box, and click **ReSync**.

12. Click **Deploy** to complete the **Restore Fabric** operation.

Monitoring Multi-Cluster Fabrics

- Monitoring Multi-Cluster Fabrics Using One Manage Dashboard
- Monitoring Multi-Cluster Fabrics Through One Manage Topology View

Monitoring Multi-Cluster Fabrics Using One Manage Dashboard

You can use the One Manage Dashboard to monitor multi-cluster fabrics. The One Manage Dashboard aggregates status information from multiple NDFC-managed fabric clusters that have been configured in Nexus Dashboard, allowing a remote user to monitor a multi-cluster network from one screen.



The One Manage Dashboard is available only when more than one NDFC fabric cluster has been joined together in the Nexus Dashboard application.

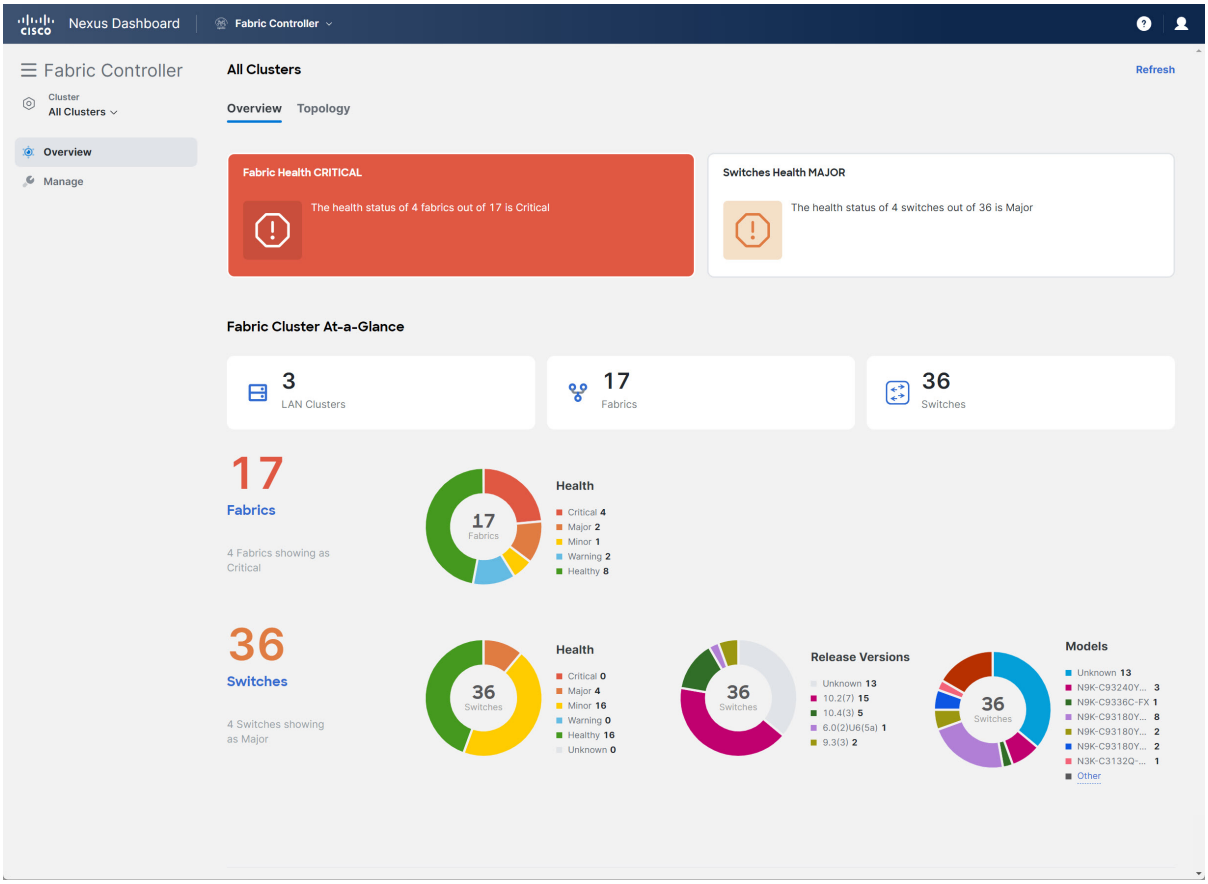
The One Manage Dashboard is visible only to remote users, who must be authenticated by Nexus Dashboard using remote authentication such as RADIUS or TACACS. This view is not visible to a local user.

The One Manage Dashboard displays several dashlets along with summary information for the following:

- Number of LAN clusters
- Number of fabrics
- Number of switches

Additional dashlets summarize fabric and switch health, switch release versions, and switch models. Next to each dashlet is a set of links that open expanded pages for each item in the summary.

The following figure is an example of the One Manage Dashboard.



You can click the **Refresh** link to manually refresh the dashboard.

The following table describes the dashlets that appear in the One Manage Dashboard:

Dashlet	Description
All Clusters	Two horizontal tiles display the highest health condition severity of: • Fabric health • Switches health
Fabric Cluster At-a-Glance	Displays the following as a horizontal set of tiles. • Total number of LAN clusters • Total number of fabrics • Total number of discovered switches
Number of Fabrics	Displays the total number of clustered fabrics in a color representing the highest health severity among the fabrics. This number is a clickable link. See Viewing Fabric Details.
Fabric Health	Displays the health status of the fabrics in the form of a circular chart with colors indicating different health condition severities. The Fabric Health status is based on the severity of the highest outstanding alarm for the fabric or its member switches.
Number of Switches	Displays the total number of switches in a cluster in a color representing the highest health severity among the switches. This number is a clickable link. See Viewing Switch Details.

Dashlet	Description
Switch Health	Displays the health status of the switches in the form of a circular chart with colors indicating different health condition severities. The Switch Health status is based on the severity of the highest outstanding alarm for the switch or its interfaces.
Switch Release Versions	Displays the NX-OS versions in the form of a circular chart with colors indicating different release versions present in the switches in a cluster.
Switch Models	Displays the switch PIDs in the form of a circular chart with colors indicating different switch models in the fabric cluster.

Prerequisites for the One Manage Dashboard

The following conditions must be met before you can view the One Manage Dashboard:

- More than one NDFC fabric cluster has been joined together in the Nexus Dashboard application. Up to four NDFC clusters can be joined together in the Nexus Dashboard application.
- You are logged in to Nexus Dashboard using remote authentication such as RADIUS or TACACS. You are not logged in as a local user.

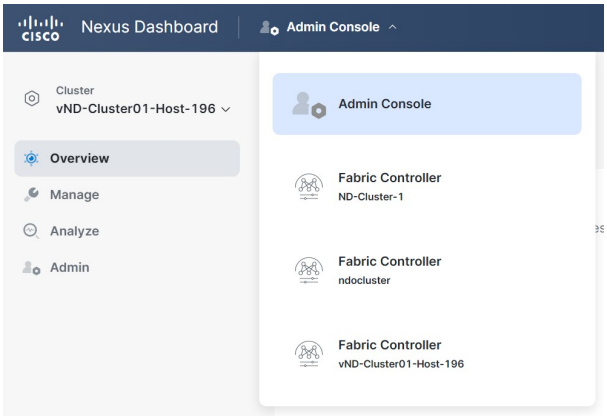
Accessing the One Manage Dashboard

You can view the One Manage Dashboard by logging in as a remote user to a Nexus Dashboard controller that manages more than one fabric cluster.

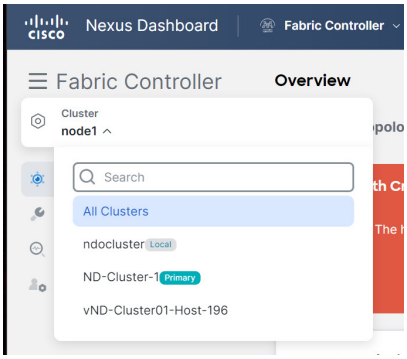
1. Log in to Nexus Dashboard as a remote user.

   The Nexus Dashboard **Admin Console** opens.

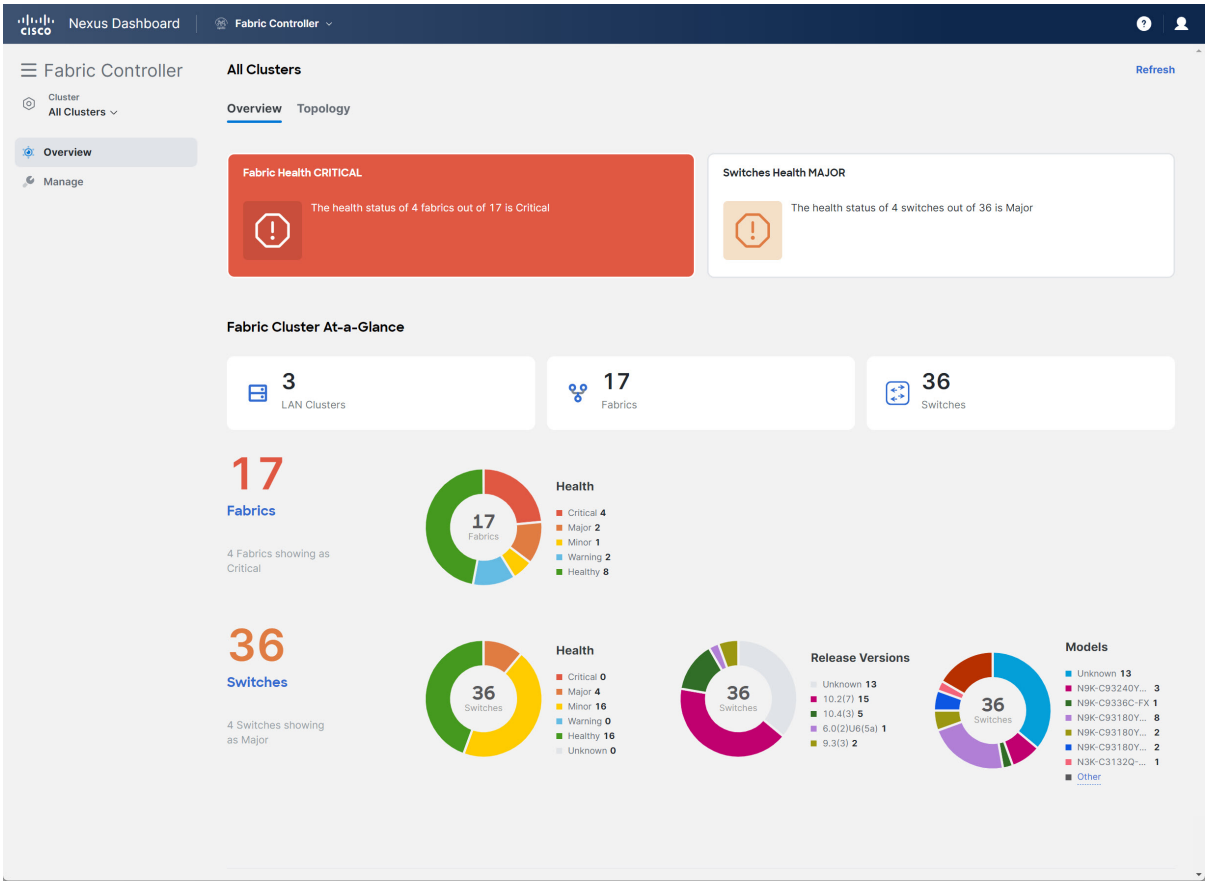
2. In the Admin Console GUI, click the top banner drop-down list and choose the appropriate **Fabric Controller** cluster.



3. In the NDFC GUI, click the **One Manage** drop-down list and choose **All Clusters**.



The One Manage Dashboard appears.





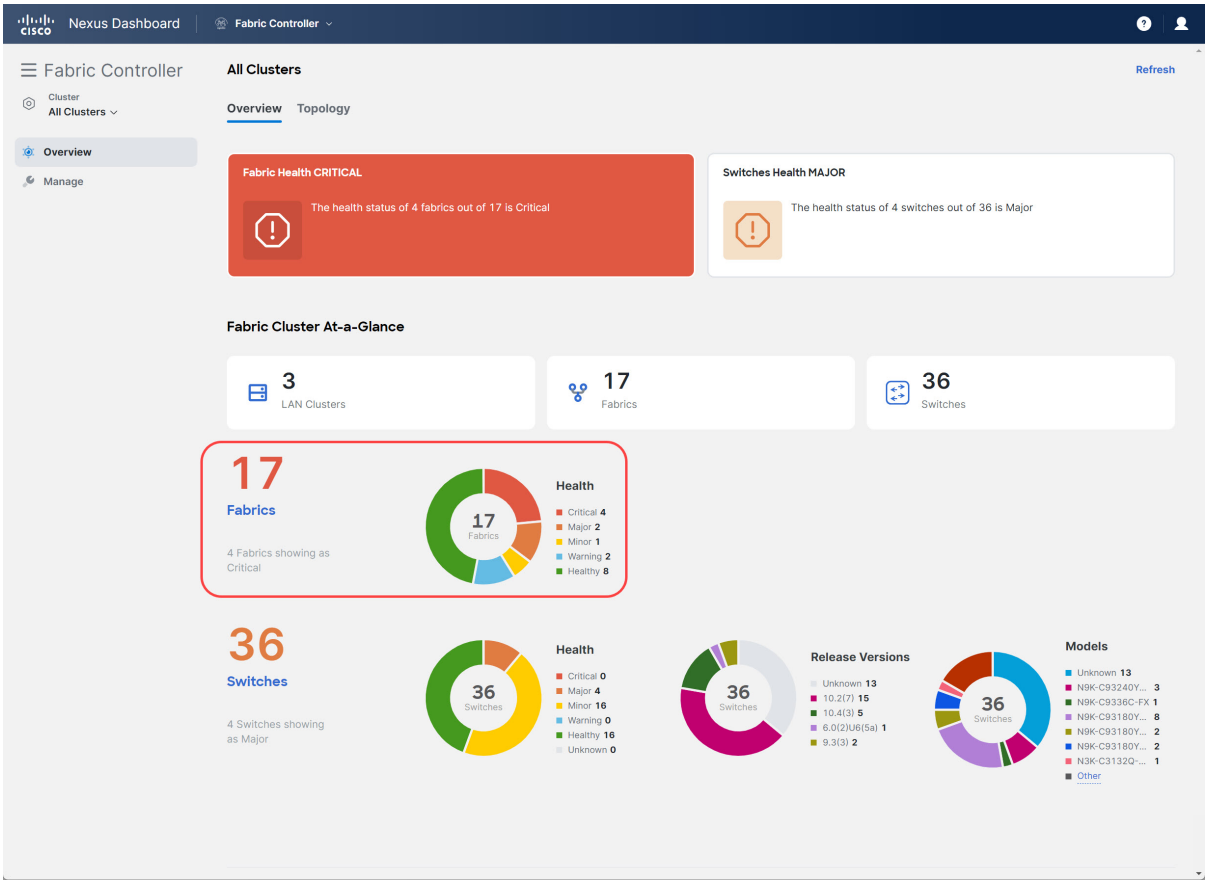
If the **All Clusters** selection or the One Manage Dashboard do not appear, check that you have met the Prerequisites.



From the **Cluster View** drop-down list, you can also open an overview dashboard for any member of the clusters by selecting that cluster. See Viewing a Specific Cluster.

Viewing the Details

By clicking certain objects in the One Manage Dashboard, you can open subpages containing detailed attributes of the selected object.



Viewing Fabric Details

The **Fabrics** area in the One Manage Dashboard provides the following information:

- The total number of fabrics in the cluster
- Health status information for the fabrics in the cluster

Click the number shown in the total number of fabrics area to display a sidebar with a table of the fabrics in the cluster.

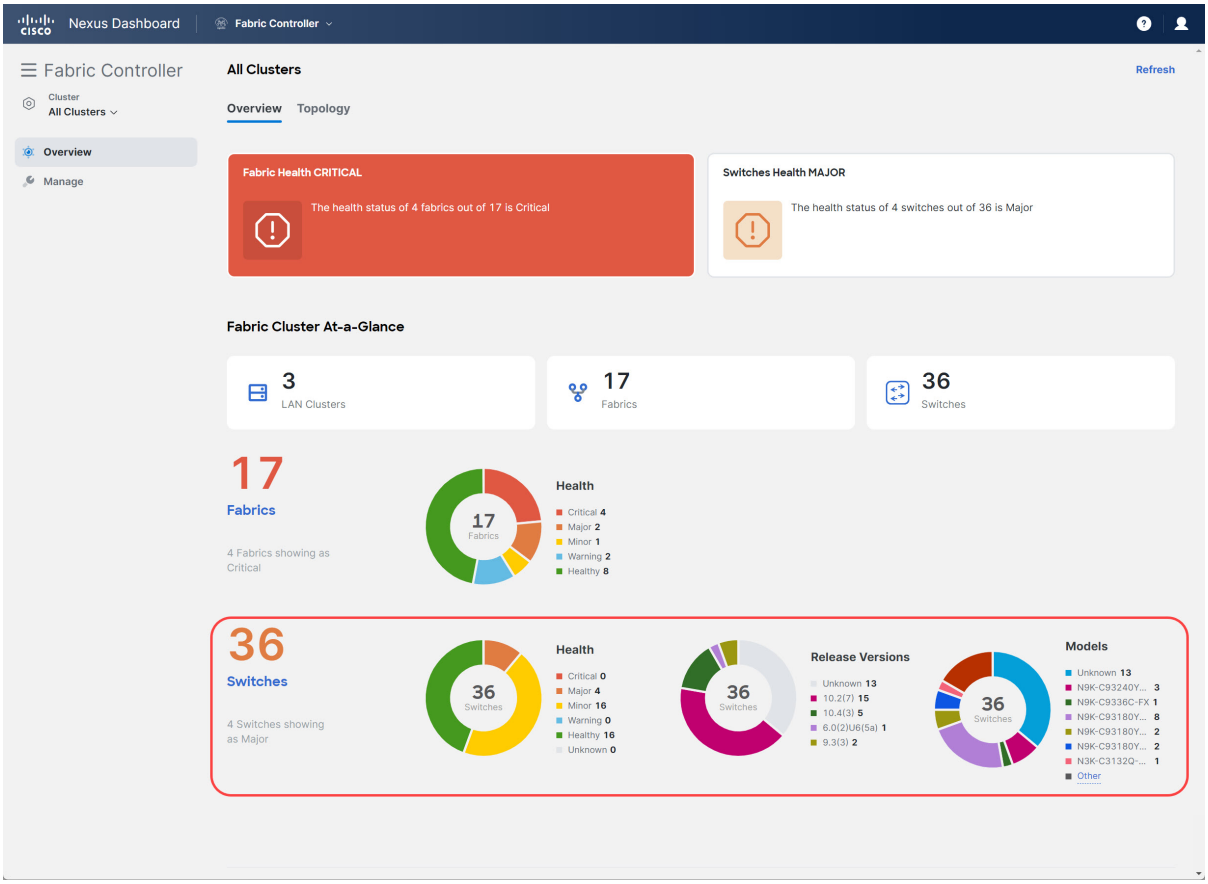
For each fabric, the table of clustered fabrics lists the following properties:

Attributes	Description
Controller Name	The name of the fabric controller that manages this fabric.
Fabric Name	The name of the fabric.
Fabric Technology	• VXLAN EVPN • eBGP VXLAN EVPN • Classic LAN • Custom • IPFM • Classic IPFM

Attributes	Description
Fabric Type	Beginning with the NDFC 12.2.2 release, IPFM fabrics are supported for One Manage Dashboard. • Data Center VXLAN EVPN • Campus VXLAN EVPN • IPFM • Classic IPFM • Enhanced Classic LAN • Classic LAN • BGP Fabric • Custom Network • VXLAN EVPN Multi-Site • Multi-Site External Network • External Connectivity Network
ASN	The Autonomous System Number (ASN) associated with this fabric.
Fabric Health	The current health severity of this fabric as reported by the fabric controller.



VXLAN EVPN Multi-Site fabrics might appear in the One Manage Dashboard even though a filter might be set that should exclude them; this is because a true condition for a child fabric in the VXLAN EVPN Multi-Site fabric will cause that parent VXLAN EVPN Multi-Site fabric to also appear, even if that condition is false for the parent fabric. For example, if all of the child fabrics have an ASN value but the parent fabric does not (has NA as the ASN entry), a filter entry of ASN != NA will correctly show all of the child fabrics, but will also incorrectly show the parent VXLAN EVPN Multi-Site fabric because the parent fabric will appear along with the child fabrics.



Viewing Switch Details

The **Switches** area in the One Manage Dashboard provides the following information:

- The total number of switches in the cluster
- Health status information for the switches in the cluster
- The release versions for the switches in the cluster
- The models for the switches in the cluster

Click the number shown in the total number of switches area to display a sidebar with a table of the switches in the cluster.

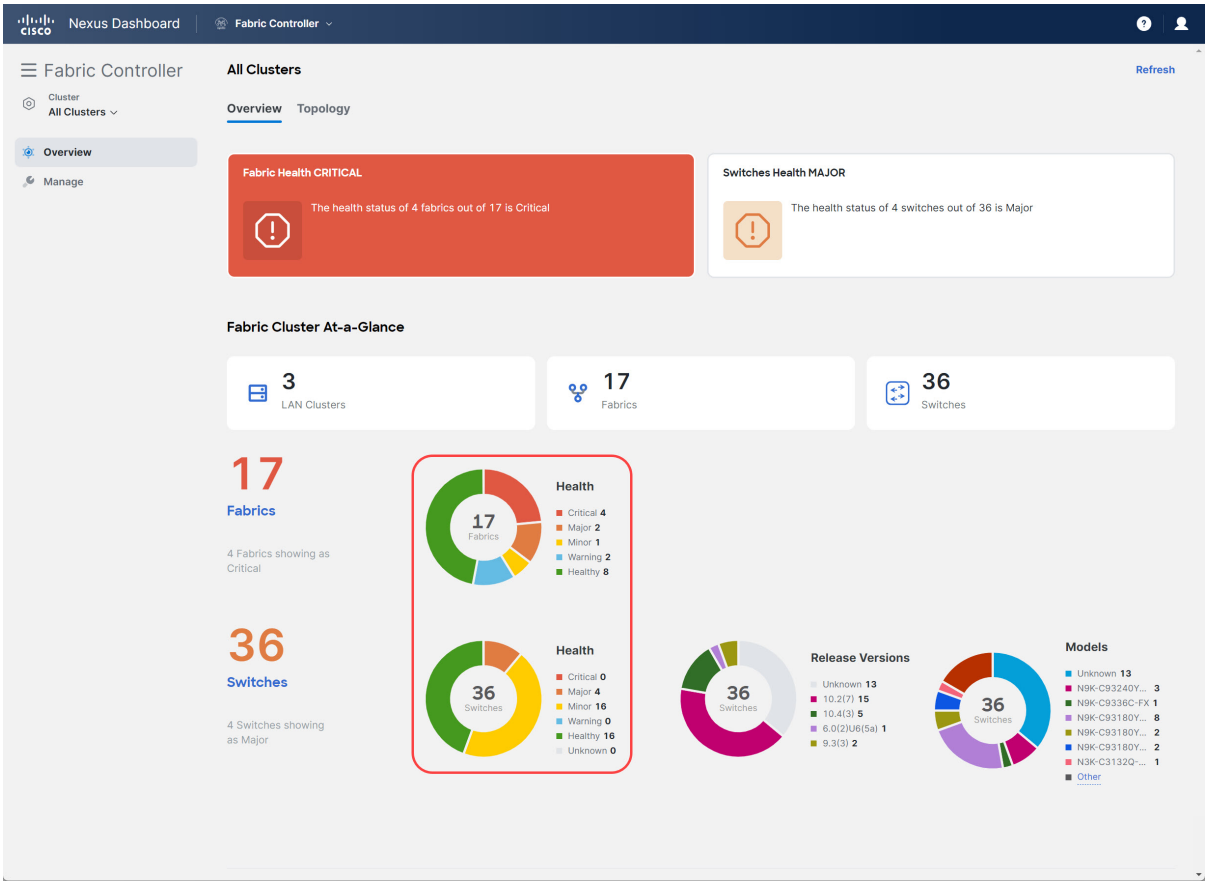
For each switch, the table of switches in a cluster lists the following properties:

Attributes	Description
Controller Name	The name of the fabric controller for the fabric that includes the switch.
Switch	The name of the switch.
IP Address	The IP address of the switch (IPv4 or IPv6).

Attributes	Description
Role	Whether the switch is acting as a: • Spine • Leaf (current) • Border • Border Spine • Border Gateway • Border Gateway Spine • Super Spine • Border Super Spine • Border Gateway Super Spine • ToR • Edge Router • Core Router • Access • Aggregation
Serial Number	The serial number of the switch.
Fabric Name	The name of the fabric that includes the switch.
Mode	• Normal • Maintenance
Config Status	• In-Sync • Out-of-Sync • Pending • Discovery Status: • NA • Ok
Oper Status	The current health severity of the switch.
Discovery Status	• NA • OK
Model	The Cisco model number of the switch.
VPC Role	If the switch is part of a VPC pair, whether it is the Primary or Secondary link. If applicable, whether it is Operational Primary or Secondary.
VPC Peer	If the switch is part of a VPC pair, the name of the peer switch.
Software Version	The NX-OS release running on the switch.
Up Time	The time elapsed since the last startup or reboot of the switch.

Viewing Fabric and Switch Health

To view a table of fabrics or switches with a specific health severity, click the corresponding color of the circular chart, or click the severity from the list next to the chart:



Viewing Fabric and Switch Health

- For fabrics, the resulting table shows the list of fabrics filtered by the selected **Fabric Health** property.
- For switches, the resulting table shows the list of switches filtered by the selected **Oper Status** property.

Viewing Release Versions

To view a table of the switches running a specific NX-OS release, click the corresponding color of the **Release Versions** circular chart, or click the release from the list next to the chart.

The resulting table shows a list of switches filtered by the selected **Software Version** property.

Viewing Models

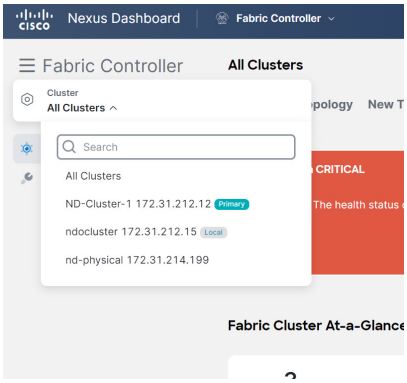
To view a table of a specific model of switches present in the cluster, click the corresponding color of the **Models** circular chart, or click the model number from the list next to the chart.

The resulting table shows a list of switches filtered by the selected **Model** property.

Viewing a Specific Cluster

In the One Manage Dashboard, you can open an overview dashboard for any member of the clusters.

From the **Cluster View** drop-down list, choose one of the member clusters.



A view of the selected cluster appears.

Monitoring Multi-Cluster Fabrics Through One Manage Topology View

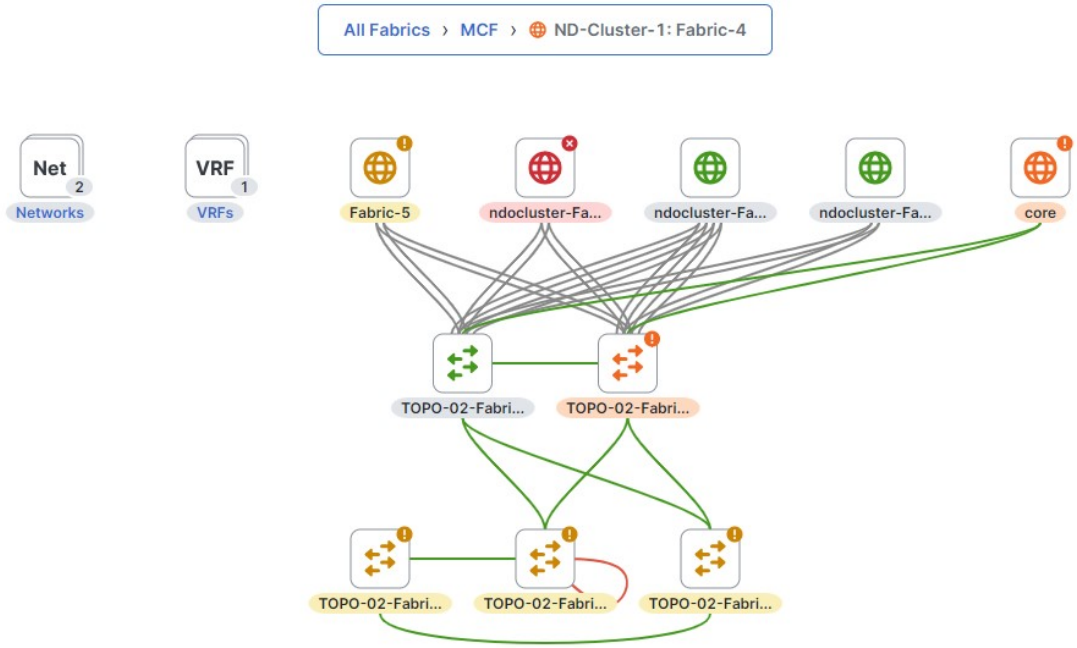
The One Manage topology view provides a combined topology of all the fabrics across all the clusters in a multi-cluster.

In the NDFC GUI, click **Overview > Topology** to navigate to the One Manage topology view.

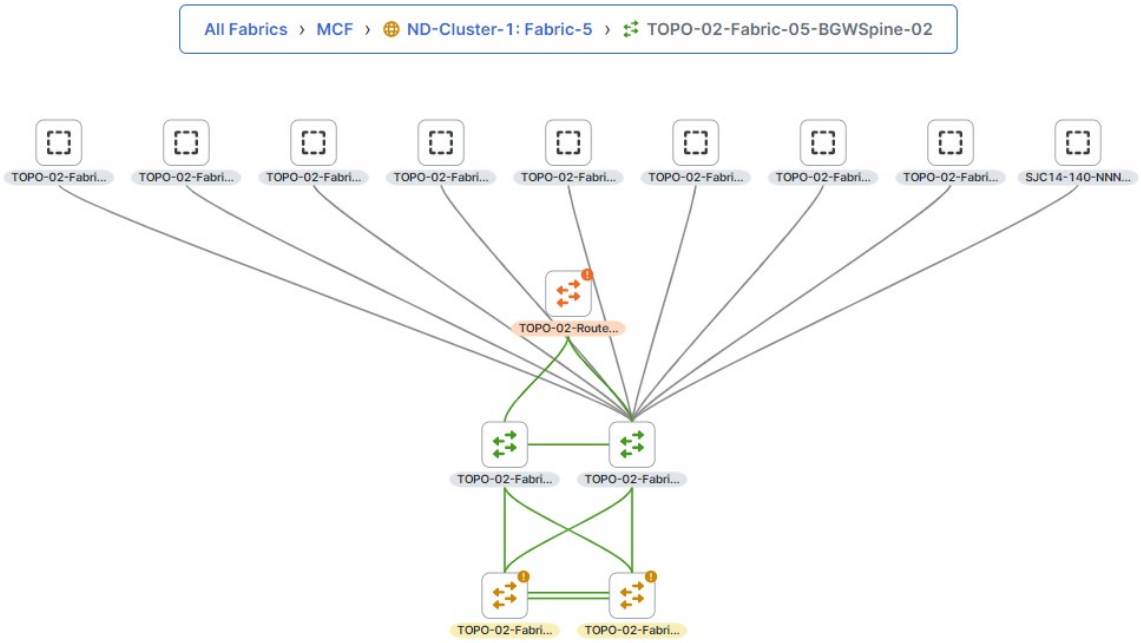
- The top level of this topology view displays all the fabrics from across all clusters, where the fabric names are qualified by cluster names. Inter-fabric discovered links and user-created inter-fabric links are also displayed at this level.



- Double-click on an MSD to show all the member fabrics with their switches and their interconnections.



- Double-click on a single fabric to show additional information at the individual fabric level.



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