



Upgrading Cisco Nexus Dashboard Fabric Controller

This chapter provides information about upgrading Cisco Nexus Dashboard Fabric Controller, and contains the following sections:

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Upgrade Paths to Release 12.1.1e

The following table summarizes the type of upgrade that you must follow to upgrade to Release 12.1.1e. Go to [Software Download](#) to download the Upgrade Tool scripts.

Current Release Number	Deployment Type	Compatible Nexus Dashboard Version in Current Release	Upgrade type when upgrade to Release 12.1.1e
12.0.2f	All	2.1.2d	<ol style="list-style-type: none"> 1. Backup on Web UI > Operations > Backup & Restore 2. Disable Nexus Dashboard Fabric Controller service on Nexus Dashboard 3. Upgrade Nexus Dashboard version to 2.2.1h 4. Enable Nexus Dashboard Fabric Controller service on Nexus Dashboard 5. Upgrade NDFC application to 12.1.1e
12.0.1a	All	2.1.1e	<ol style="list-style-type: none"> 1. Backup on Web UI > Operations > Backup & Restore 2. Disable Nexus Dashboard Fabric Controller service on Nexus Dashboard 3. Upgrade Nexus Dashboard version to 2.2.1h 4. Enable Nexus Dashboard Fabric Controller service on Nexus Dashboard 5. Upgrade NDFC application to 12.1.1e.
11.5(4)	All	Not Applicable	Not Supported
11.5(3)	LAN Fabric Deployment Note Media Controller and all SAN deployments are not supported in Release 11.5(3).	Not Applicable	<ol style="list-style-type: none"> 1. Backup using DCNM_To_NDFC_Upgrade_Tool_OVA_ISO.zip 2. Install Nexus Dashboard version 2.2.1h 3. Install NDFC Release 12.1.1e 4. Restore on Web UI > Operations > Backup & Restore

Current Release Number	Deployment Type	Compatible Nexus Dashboard Version in Current Release	Upgrade type when upgrade to Release 12.1.1e
11.5(2)	SAN Deployment on Windows and Linux	Not Applicable	<ol style="list-style-type: none"> 1. Backup using DCNM_To_NDFC_Upgrade_Tool_LIN_WINzip 2. Install Nexus Dashboard version 2.2.1h 3. Install NDFC Release 12.1.1e 4. Restore on Web UI > Operations > Backup & Restore
	SAN Deployment on OVA/ISO/SE	Not Applicable	<ol style="list-style-type: none"> 1. Backup using DCNM_To_NDFC_Upgrade_Tool_OVA_ISOzip 2. Install Nexus Dashboard version 2.2.1h 3. Install NDFC Release 12.1.1e 4. Restore on Web UI > Operations > Backup & Restore
	LAN Fabric Deployment on OVA/ISO/SE	Not Applicable	<ol style="list-style-type: none"> 1. Backup using DCNM_To_NDFC_Upgrade_Tool_OVA_ISOzip 2. Install Nexus Dashboard version 2.2.1h 3. Install NDFC Release 12.1.1e 4. Restore on Web UI > Operations > Backup & Restore

Current Release Number	Deployment Type	Compatible Nexus Dashboard Version in Current Release	Upgrade type when upgrade to Release 12.1.1e
11.5(1)	SAN Deployment on Windows and Linux	Not Applicable	<ol style="list-style-type: none"> 1. Backup using DCNM_To_NDFC_Upgrade_Tool_LIN_WINzip 2. Install Nexus Dashboard version 2.2.1h 3. Install NDFC Release 12.1.1e 4. Restore on Web UI > Operations > Backup & Restore
	SAN Deployment on OVA/ISO/SE	Not Applicable	<ol style="list-style-type: none"> 1. Backup using DCNM_To_NDFC_Upgrade_Tool_OVA_ISOzip 2. Install Nexus Dashboard version 2.2.1h 3. Install NDFC Release 12.1.1e 4. Restore on Web UI > Operations > Backup & Restore
	LAN Fabric Deployment on OVA/ISO/SE	Not Applicable	<ol style="list-style-type: none"> 1. Backup using DCNM_To_NDFC_Upgrade_Tool_OVA_ISOzip 2. Install Nexus Dashboard version 2.2.1h 3. Install NDFC Release 12.1.1e 4. Restore on Web UI > Operations > Backup & Restore
	Media Controller Deployment on OVA/ISO	Not Applicable	<ol style="list-style-type: none"> 1. Backup using DCNM_To_NDFC_Upgrade_Tool_OVA_ISOzip 2. Install Nexus Dashboard version 2.2.1h 3. Install NDFC Release 12.1.1e 4. Restore on Web UI > Operations > Backup & Restore

Persona Compatibility for Upgrade

By using the appropriate Upgrade Tool, you can restore data that is backed up from DCNM Release 11.5(1) or 11.5(2) or 11.5(3) on a newly deployed Cisco Nexus Dashboard Fabric Controller for the personas as mentioned in the following table:

Backup from DCNM 11.5(x) ^{1 23}	Persona Enabled in NDFC 12.1.1e after Upgrade
DCNM 11.5(x) LAN Fabric Deployment on OVA/ISO/SE	Fabric Controller + Fabric Builder
DCNM 11.5(x) PMN Deployment on OVA/ISO/SE	Fabric Controller + IP Fabric for Media (IPFM)
DCNM 11.5(x) SAN Deployment on OVA/ISO/SE	SAN Controller
DCNM 11.5(x) SAN Deployment on Linux	SAN Controller
DCNM 11.5(x) SAN Deployment on Windows	SAN Controller

¹ All references to 11.5(x) are for 11.5(1), 11.5(2) or 11.5(3).

² Upgrade to NDFC 12 from DCNM 11.5(3) is supported for LAN Fabric Deployments only. DCNM Release 11.5(3) does not support Media Controller and SAN deployments.

³ Upgrade from 11.5(4) is not supported.

Feature Compatibility Post Upgrade

The following table lists caveats associated with features that are restored from DCNM 11.5(x) backup after upgrade to NDFC, Release 12.1.1e.



Note 11.5(x) includes Releases 11.5(1), 11.5(2), and 11.5(3) only. Upgrade from 11.5(4) to 12.1.1e is not supported.

Feature in DCNM 11.5(x)	Upgrade Support
Nexus Dashboard Insights configured Refer to Cisco Nexus Dashboard User Guide for more information.	Supported
Container Orchestrator (K8s) Visualizer	Supported
VMM Visibility with vCenter	Supported
Nexus Dashboard Orchestrator configured	Not Supported
Preview features configured	Not supported
LAN switches in SAN installations	Not supported
Switches discovered over IPv6	Not supported
DCNM Tracker	Not supported
Fabric Backups	Not supported
Report Definitions and Reports	Not supported
Switch images and Image Management policies	Not supported
SAN CLI templates	Not carried over from 11.5(x) to 12.1.1e

Feature in DCNM 11.5(x)	Upgrade Support
Switch images/Image Management data	Not carried over from 11.5(x) to 12.1.1e
Slow drain data	Not carried over from 11.5(x) to 12.1.1e
Infoblox configuration	Not carried over from 11.5(x) to 12.1.1e
Endpoint Locator configuration	You must reconfigure Endpoint Locator (EPL) post upgrade to Release 12.1.1e. However, historical data is retained up to a maximum size of 500 MB.
Alarm Policy configuration	Not carried over from 11.5(x) to 12.1.1e
Performance Management data	CPU/Memory/Interface statistics up to 90 days is restored post upgrade.



Note SAN Insights and VMM Visualizer features are not enabled after restore. You must choose check boxes on **Settings > Feature Management** and click **Save** to enable these features after restore.

Downloading the Nexus Dashboard Fabric Controller Upgrade Tool

To download Upgrade tool to upgrade from Cisco DCNM to Nexus Dashboard Fabric Controller, perform the following steps:

Before you begin

- Identify the deployment type of Cisco DCNM Release 11.5(x) setup.

Procedure

Step 1 Go to the following site: <http://software.cisco.com/download/>.

A list of the latest release software for Cisco Nexus Dashboard Fabric Controller available for download is displayed.

Step 2 In the Latest Releases list, choose Release 12.1.1e.

Step 3 Based on your Cisco DCNM 11.5(x) deployment type, locate the **DCNM_To_NDFC_Upgrade_Tool** and click the **Download** icon.

The following table displays the DCNM 11.5(x) deployment type, and the corresponding Nexus Dashboard Fabric Controller upgrade tool that you must download.

Table 1: DCNM 11.5(x) Deployment type and Upgrade Tool Compatibility Matrix

DCNM 11.5(x) deployment type	UpgradeTool Name
ISO/OVA	DCNM_To_NDFC_Upgrade_Tool_OVA_ISO
Linux	DCNM_To_NDFC_Upgrade_Tool_LIN_WIN.zip
Windows	DCNM_To_NDFC_Upgrade_Tool_LIN_WIN.zip

Step 4 Save the appropriate **Upgrade Tool** to the 11.5(x) server using **sysadmin** credentials.

Backup Using the Upgrade Tool

Stop Performance Management collection before running backup script for large scaled DCNM. To stop the Performance Management collection, perform the following steps:

- Navigate to **Administration > DCNM Server > Server Status**.
- Click on **Stop Service** of **Performance Collector** and wait a few seconds.
- Click on the **refresh** icon on the top right to check the status. Make sure it shows **Stopped**.

The backup tool collects last 90 days Performance Management data.

To run the **DCNM_To_NDFC_Upgrade_Tool** to take a backup of all the applications and data on DCNM 11.5, perform the following steps:

Before you begin

- On Cisco DCNM Release 11.5(1), ensure that you validate each fabric before proceeding to take backup. Choose Cisco DCNM **Web UI > Administration > Credentials Management > SAN Credentials**. Select each fabric and click **Validate** to validate credentials before taking backup.
- Ensure that you've copied the appropriate Upgrade Tool to the server of your DCNM 11.5(x) setup.

Procedure

Step 1 Log on to the Cisco DCNM Release 11.5(x) appliance console.

Step 2 Run the following command to create a screen session.

```
dcnm# screen
```

This creates a session which allows you to execute the commands. The commands continue to run even when the window is not visible or if you get disconnected.

Step 3 Log on to the /root/ directory, by using the su command.

```
dcnm# su
Enter password: <<enter-password>>
[root@dcnm] #
```

Step 4 Execute the upgrade tool, by using the `./DCNM_To_NDFC_Upgrade_Tool` command.

Ensure that you have enabled execution permissions to the Upgrade tool. Use `chmod +x .` to enable executable permissions.

For OVA/ISO-

```
[root@dcnm]# chmod +x ./DCNM_To_NDFC_Upgrade_Tool_OVA_ISO
[root@dcnm]# ./DCNM_To_NDFC_Upgrade_Tool_OVA_ISO /* for OVA/ISO
```

For Windows/Linux-

```
[root@dcnm]# chmod +x ./DCNM_To_NDFC_Upgrade_Tool_LIN_WIN
root@dcnm]# unzip DCNM_To_NDFC_Upgrade_Tool_LIN_WIN.zip
[root@dcnm-rhel]# cd DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/
[root@dcnm-rhel DCNM_To_NDFC_Upgrade_Tool_LIN_WIN]# ls
DCNMBackup.bat DCNMBackup.sh jar
[root@rhel DCNM_To_NDFC_Upgrade_Tool_LIN_WIN]# ./DCNMBackup.sh /* Enter this command
for Linux appliance */
OR
[root@rhel DCNM_To_NDFC_Upgrade_Tool_LIN_WIN]# ./DCNMBackup.bat /* Enter this command
for Windows appliance */
```

The upgrade tool analysis the DCNM appliance data, and determines whether you can upgrade to Cisco Nexus Dashboard Fabric Controller Release 12.1.1e or not.

Note The backup that is generated by using this tool can be used to restore data on NDFC 12.1.1e only.

Step 5 At the prompt to continue with backup, press `y`.

```
*****
Welcome to DCNM-to-NDFC Upgrade Tool for OVA/ISO.
This tool will analyze this system and determine whether you can move to NDFC 12.1.1e or
not.
If upgrade to NDFC 12.1.1e is possible, this tool will create files to be used for performing
the upgrade.
NOTE: only backup files created by this tool can be used for upgrading, older backup files
created with 'appmgr backup'
CAN NOT be used for upgrading to NDFC 12.1.1e
Thank you!
*****

Continue? [y/n]: y

Collect operational data (e.g. PM, EPL)? [y/n]: y

Does this DCNM 11.5(1) have DCNM Tracker feature enabled on any switch on any fabric? [y/n]:
n
```

Step 6 Enter the encryption key to the backup file.

Note You must provide this encryption key when you're restoring the backup file. Ensure that you save the encryption key in a safe location. If you lose the encryption key, you cannot restore the backup.

Sensitive information will be encrypted using an encryption key.
This encryption key will have to be provided when restoring the backup file generated by this tool.

```
Please enter the encryption key: /* enter the encryption key for the backup file */
Enter it again for verification: /* re-enter the encryption key for the backup file
*/
```

```

...
...
Creating backup file
Done.
Backup file: backup11_dcnm-172-23-87-224_20210928-093355.tar.gz      /* backup file name*/
[root@dcnm]#

```

The encrypted backup file is created.

Step 7 Copy the backup file to a safe location and shut down the application 11.5(x) DCNM appliance.

Example

Example for taking backup using the DCNM backup Tool

- Taking backup on DCNM 11.5(x) OVA/ISO appliance

```

[root@dcnm]# chmod +x DCNM_To_NDFC_Upgrade_Tool_OVA_ISO
[root@dcnm]# ./DCNM_To_NDFC_Upgrade_Tool_OVA_ISO
*****

Welcome to DCNM-to-NDFC Upgrade Tool for OVA/ISO.

This tool will analyze this system and determine whether you can move to
NDFC 12.1.1e or not.

If upgrade to NDFC 12.1.1e is possible, this tool will create files
to be used for performing the upgrade.

NOTE:
only backup files created by this tool can be used for upgrading,
older backup files created with 'appmgr backup' CAN NOT be used
for upgrading to NDFC 12.1.1e

Thank you!

*****

Continue? [y/n]: y

Collect operational data (e.g. PM, EPL)? [y/n]: y

Does this DCNM 11.5(1) have DCNM Tracker feature enabled on any switch on any fabric?
[y/n]: n

Sensitive information will be encrypted using an encryption key.
This encryption key will have to be provided when restoring
the backup file generated by this tool.

Please enter the encryption key:      /* enter the encryption key for the backup file
*/
Enter it again for verification:     /* re-enter the encryption key for the backup
file */

Adding backup header
Collecting DB table data
Collecting DB sequence data
Collecting stored credentials
Collecting Custom Templates
Collecting CC files
Collecting L4-7-service data

```

```

Collecting CVisualizer data
Collecting EPL data
Collecting PM data - WARNING: this will take a while!
Collecting AFW app info
Decrypting stored credentials
Creating backup file
Done.
Backup file: backup11_dcnm-172-23-87-224_20210913-012857.tar.gz      /* backup file
name*/
[root@dcnm]#

```

• Taking backup on DCNM 11.5(x) Windows/Linux appliance

```

[root@dcnm]# chmod +x DCNM_To_NDFC_Upgrade_Tool_LIN_WIN
[root@dcnm]# unzip DCNM_To_NDFC_Upgrade_Tool_LIN_WIN.zip
Archive:  DCNM_To_NDFC_Upgrade_Tool_LIN_WIN.zip
  creating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/
  creating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/jar/
  inflating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/jar/bcprov-jdk15on-1.68.jar
  inflating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/jar/DCNMBBackup.java
  inflating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/jar/sequences.info.oracle
  inflating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/jar/slf4j-simple-1.7.21.jar
  inflating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/jar/jnm.jar
  inflating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/jar/not-going-to-be-commons-ssl-0.3.20.jar

  inflating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/jar/tables.info.postgres
  inflating:
DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/jar/jarchivelib-0.7.1-jar-with-dependencies.jar
  inflating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/jar/tables.info.oracle
  inflating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/jar/sequences.info.postgres
  inflating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/jar/log4j.properties
  inflating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/DCNMBBackup.sh
  inflating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/DCNMBBackup.bat

[root@dcnm-rhel]# cd DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/
[root@dcnm-rhel DCNM_To_NDFC_Upgrade_Tool_LIN_WIN]# ls
DCNMBBackup.bat  DCNMBBackup.sh  jar
[root@rhel DCNM_To_NDFC_Upgrade_Tool_LIN_WIN]# ./DCNMBBackup.sh      /* Enter this
command for Linux appliance */
OR
[root@rhel DCNM_To_NDFC_Upgrade_Tool_LIN_WIN]# ./DCNMBBackup.bat    /* Enter this
command for Windows appliance */

Enter DCNM root directory [/usr/local/cisco/dcm]:

Initializing, please wait...

Note: ./jar/DCNMBBackup.java uses unchecked or unsafe operations.
Note: Recompile with -Xlint:unchecked for details.
*****

Welcome to DCNM-to-NDFC Upgrade Tool for Linux/Windows.

This tool will analyze this system and determine whether you can move to NDFC 12.1.1e
or not.

If upgrade to NDFC 12.1.1e is possible, this tool will create files to be used for
performing the upgrade.

Thank you!

*****

This tool will backup config data. Exporting Operational data like Performance(PM) might

```

take some time.

Do you want to export operational data also? [y/N]: **y**

Sensitive information will be encrypted using an encryption key.

This encryption key will have to be provided when restoring the backup file generated by this tool.

Please enter the encryption key: **/* enter the encryption key for the backup file */**

Enter it again for verification: **/* re-enter the encryption key for the backup file */**

```

2021-09-13 14:36:31 INFO DCNMBBackup:223 - Inside init() method
2021-09-13 14:36:31 INFO DCNMBBackup:245 - Loading properties...
2021-09-13 14:36:31 INFO DCNMBBackup:301 - Inside checkLANSwitches...
2021-09-13 14:36:32 INFO DCNMBBackup:315 - LAN Switch count: 0
2021-09-13 14:36:32 INFO DCNMBBackup:342 - Inside exportDBTables...
2021-09-13 14:36:32 INFO DCNMBBackup:358 - Exporting -----> statistics
2021-09-13 14:36:32 INFO DCNMBBackup:358 - Exporting -----> sequence
...
...
...
2021-09-13 14:49:48 INFO DCNMBBackup:1760 - ##### Total time to export Hourly data:
42 seconds.

2021-09-13 14:49:48 INFO DCNMBBackup:1767 - Exporting SanPort Daily entries.
2021-09-13 14:49:48 INFO DCNMBBackup:1768 - Total number of ports: 455
2021-09-13 14:49:48 INFO DCNMBBackup:1769 - This might take a while, please wait...
2021-09-13 14:50:23 INFO DCNMBBackup:1791 - Total number of Json data entries in
backup/es/pmdb_sanportratedata_daily.data ==> 13751
2021-09-13 14:50:23 INFO DCNMBBackup:1795 - ##### Total time to export Daily data: 34
seconds.

2021-09-13 14:50:23 INFO DCNMBBackup:1535 - ##### Total time to export PM data: 81
seconds.

2021-09-13 14:50:23 INFO DCNMBBackup:879 - Creating final tar.gz file....
2021-09-13 14:50:30 INFO DCNMBBackup:892 - Final tar.gz elapsed time: 7049 in ms
2021-09-13 14:50:30 INFO DCNMBBackup:893 - Backup done.
2021-09-13 14:50:30 INFO DCNMBBackup:894 - Log file: backup.log
2021-09-13 14:50:30 INFO DCNMBBackup:895 - Backup file:
backup11_rhel77-160_20210913-149215.tar.gz /* backup file name*/
[root@rhel DCNM_To_NDFC_Upgrade_Tool_LIN_WIN]#

```

Upgrading from Cisco NDFC Release 12.0.x to NDFC Release 12.1.1e

To upgrade to Cisco NDFC Release 12.1.1e from NDFC Release 12.0.1a or 12.0.2f, perform the following steps:

Before you begin

Note Release 12.0.x includes 12.0.1a and 12.0.2f releases.

- Ensure that NDFC Release 12.0.x is up and operational before you begin this procedure.
- Cisco NDFC 12.1.1e is compatible with Nexus Dashboard Release 2.2.1h or later. Upgrade the Nexus Dashboard to Release 2.2.1h. For instructions, refer to [Upgrading Nexus Dashboard](#).
- You cannot have multiple versions of NDFC service on Nexus Dashboard. Retain the current operational version, and delete the other NDFC versions on Nexus Dashboard before proceeding to upgrade.

To check the number of NDFC versions, choose **Nexus Dashboard > Services > Installed Services**. The number of versions is displayed on the NDFC service under **Versions**.

Click on ellipsis (...) icon and choose **Available Versions**. NDFC versions are displayed. Note that if there is one version, **Available Versions** option is not seen in the drop-down list.

Version	Installation Date	Activation State	
12.0.1a	2022-02-09, 02:31:15	Activate	
12.0.2f	2022-06-14, 02:10:54	Active	Disable

Click delete icon to remove the NDFC service. Click **Delete** on the confirmation message.



Delete Nexus Dashboard Fabric Controller 12.0.1a

Are you sure you want to continue?

[Cancel](#)

Delete

- If you've enabled preview features in 12.0.x, you must disable those features.
 - On the Web UI, choose **Settings > Feature Management**. Ensure that you uncheck the BETA features.
 - For Fabric Controller, on the Web UI, choose **Settings > Server Settings > LAN Fabric** tab. Ensure that the **Enable Preview Features** check box is unchecked.

Procedure

-
- Step 1** Take a backup of NDFC data on **Web UI > Operations > Backup & Restore**.
Ensure that NDFC Release 12.0.x is up and operational when you take the backup. Save the backup file in a secured directory. See *Backup & Restore chapter* in the *Cisco NDFC Configuration Guide* for more information.
- Note** Ensure that there is only one version on NDFC enabled on Nexus Dashboard.
- Step 2** On the **Nexus Dashboard Fabric Controller** card, click on ellipsis (...) icon. From the drop-down list, select **Disable**.
- Caution** Upgrade fails if the NDFC 12.0.x service is not disabled before upgrading the Nexus Dashboard.
- Step 3** Upgrade the Nexus Dashboard to Release 2.2.1h.
For instructions, see [Upgrading Nexus Dashboard](#).
- Note** Do not perform any operations on Nexus Dashboard or on any other services while the Nexus Dashboard upgrade is in progress.
- Step 4** After the upgrade is completed, launch **Nexus Dashboard**.
- Step 5** On the **Nexus Dashboard Fabric Controller Version: 12.0.x** card, click on ellipsis (...) icon. From the drop-down list, select **Enable**.
- Note** Ensure that you enable NDFC service only after the Nexus Dashboard upgrade process is completed.

Wait until all the pods and containers are up and running.

Step 6 Install NDFC Release 12.1.1e service on the Nexus Dashboard.

To install NDFC 12.1.1e from **Cisco App Store**, perform the following steps:

- a) On the **Nexus Dashboard > Services > App Store** tab, locate **Nexus Dashboard Fabric Controller** service.
Click **Update**.
- b) On the **License Agreement** screen, click **Agree and Download** to begin download.
NDFC 12.1.1e service is downloaded and installed on Nexus Dashboard.
- c) After the **Nexus Dashboard Fabric Controller** service card shows **Installed**, click on **Installed Services** tab.
- d) On NDFC card, click on the ellipsis (...) icon and choose **Disable**.
Click **Disable** on the confirmation screen to disable the previous version.
The **Nexus Dashboard Fabric Controller** service card now displays the version as 12.1.1e.

To install NDFC from **Nexus Dashboard > Services > Actions > Upload Service**, perform the following steps:

- a) On the **Nexus Dashboard > Services** tab, from the **Actions** drop-down list, choose **Upload Service**.
- b) Go to [Cisco DC App Center](#) to view and download NDFC service.
On the Cisco DC App Center, identify the Nexus Dashboard Fabric Controller card with **Version:** 12.1.1e.
- c) Click on the download icon to download NDFC service.
- d) Click **Agree and download** to accept the **License Agreement**.
Save the `Cisco-ndfc-12.1.1e.nap` file to a local or remote directory.
- e) Choose the **Location** toggle button and select either **Remote** or **Local**.
You can choose to either upload the service from a remote or local directory.
 - If you select **Remote**, in the **URL** field, provide an absolute path to the directory where the NDFC application is saved.
 - If you select **Local**, click **Browse** and navigate to the location where the NDFC application is saved. Select the application and click **Open**.
- f) Click **Upload**.
Another Nexus Dashboard Fabric Controller application appears in the Services Catalog. The progress bar indicates the upload status. Wait for the application to be downloaded to the Nexus Dashboard and deployed.

It may take up to 30 minutes for the application to replicate to all nodes and all services to fully deploy.

After installation, Nexus Dashboard Fabric Controller service appears in the **Services Catalog**. Note that Versions displays as 2 on the Nexus Dashboard Fabric Controller card.

Step 7 On the **Nexus Dashboard Fabric Controller** card, click on ellipsis (...) icon.

From the drop-down list, choose **Available Versions**.

- Step 8** Click **Activate** on Nexus Dashboard Fabric Controller 12.1.1e version to initiate upgrade activation. After the services are enabled, the button on the Nexus Dashboard Fabric Controller card shows **Open**. Wait until all the pods and containers are up and running.
- Step 9** Click **Open** to launch Cisco Nexus Dashboard Fabric Controller Release 12.1.1e Web UI.
- Note** The single sign-on (SSO) feature allows you to log in to the application using the same credentials that you used for Nexus Dashboard.
-

Upgrading from Cisco DCNM Release 11.5(x) to Cisco NDFC Release 12.1.1e

To upgrade to Cisco Nexus Dashboard Fabric Controller Release 12.1.1e from DCNM Release 11.5(x), perform the following steps:

context here

Before you begin

- Ensure that you've access to the Backup file created from 11.5(x) appliance.
If you do not have the encryption key, you cannot restore from the backup file.
- Ensure that you've installed the required form factor of Cisco Nexus Dashboard. For instructions, refer to [Cisco Nexus Dashboard Deployment Guide](#).
- Both Nexus Dashboard Release 2.2.1h is supported. To upgrade with Nexus Dashboard Release 2.2.1e, ensure that you **Disable** NDFC before upgrading Nexus Dashboard.
Refer to [Upgrading Nexus Dashboard](#) for instructions to upgrade Nexus Dashboard.
- Ensure that you've installed a fresh installation of Cisco Nexus Dashboard Fabric Controller. For instructions to install Cisco Nexus Dashboard Fabric Controller, refer to:
 - [Installing Nexus Dashboard Fabric Controller Service Manually](#).
 - [Installing Nexus Dashboard Fabric Controller Service Using App Store](#)

Procedure

- Step 1** On **Nexus Dashboard > Services**, identify Cisco Nexus Dashboard Fabric Controller card and click **Open**. On the Nexus Dashboard Fabric Controller Web UI, **Feature Management** screen is displayed. Note that none of the personas are selected on the freshly installed Nexus Dashboard Fabric Controller.
- Step 2** Click **Restore**.
The **Operations > Backup & Restore** window opens.

Step 3 Click **Restore**.

The **Restore now** window appears.

Step 4 Under **Type**, select your desired format to restore.

Note Select **Config only** or **Full** based on the backup that was created on DCNM Release 11.5(x).

- Choose **Config only** to restore only configuration data.
You can choose either **Config only** or **Full** backup files.
- Choose **Full** to restore all previous version data to this application.
You must choose **Full** backup files.

Step 5 Choose the appropriate destination where you have stored the backup file.

- Choose **Upload File** if the file is stored in a local directory.
 - a. Open the directory where you've saved the backup file.
 - b. Drag and drop the backup file to the **Restore now** window
or
Click **Browse**. Navigate to the directory where you've saved the backup file. Select the backup file and click **Open**.
 - c. Enter the **Encryption Key** to the backup file.
- Choose **Import from SCP server** or **Import from SFTP server** if the backup file is stored in a remote directory.
 - a. In the **Server** field, provide the server IP Address.
 - b. In the **File Path** field, provide the relative file path to the backup file.
 - c. In the **Username** and **Password** fields, enter appropriate details.
 - d. In the **Encryption Key** field, enter the Encryption Key to the backup file.

Step 6 (Optional) Check the **Ignore External Service IP Configuration** check box.

If the Ignore External Service IP Configuration check box is selected, then the external service IP configuration is ignored. This selection allows you to take a backup on a system and restore it on a different system, with different management and/or data subnets.

This option does not have any impact during an upgrade from Cisco DCNM 11.5(x) to Cisco NDFC.

Step 7 Click **Restore**.

A progress bar appears showing the completed percentage and the description of the operation. The Web UI is locked while the upgrade is in progress. After the restore is complete, the backup file appears in the table on **Backup & Restore** screen. The time required to restore depends on the data in the backup file.

Note An error appears if you've not allocated with IP pool addresses on the Cisco Nexus Dashboard. For more information, refer to *Cluster Configuration* section in [Cisco Nexus Dashboard User Guide](#).

After successful restoration, a notification banner appears as below:

`Reload the page` to see latest changes.

Click **Reload the page**, or refresh the browser page to complete restore and begin using you Cisco Nexus Dashboard Fabric Controller Web UI.

Feature Management

After restoring the backup, based on the type of deployment, Nexus Dashboard Fabric Controller Release 12.1.1e is deployed with one of the following personalities:

- Fabric Controller
- SAN Controller

The status on the Feature Management changes to **Starting**. Additionally, you can select the features that you want to enable. Check the **Feature** check box and click **Save & Continue**.



Note There are caveats associated with features enabled on DCNM 11.5(x) with respect to upgrade to NDFC, Release 12.1.1e. For more information, see [Feature Compatibility Post Upgrade, on page 5](#).

Changing across Feature-Set

Nexus Dashboard Fabric Controller 12 allows you to switch from one feature set to another. Choose **Settings > Feature Management**. Select the desired feature set and applications in the table below. Click **Save & Continue**. Refresh the browser to begin using Cisco Nexus Dashboard Fabric Controller with the new feature set and applications.

There are a few features/applications supported with specific deployments. When you change the feature set, some of these features are not supported in the new deployment. The following table provides details about the pre-requisites and criteria based on which you can change the feature set.

Table 2: Supported Switching between deployments

From/To	Fabric Discovery	Fabric Controller	SAN Controller
Fabric Discovery	-	Only monitor mode fabric is supported in Fabric Discovery deployment. When you change the feature set, the fabric can be used in the Fabric Controller deployment.	Not supported

From/To	Fabric Discovery	Fabric Controller	SAN Controller
Fabric Controller	You must delete the existing fabrics before changing the fabric set.	If you're changing from Easy Fabric to IPFM fabric application, you must delete the existing fabrics.	Not supported
SAN Controller	Not supported	Not supported	-

Post Upgrade Tasks

The following sections describe the tasks that must be performed post upgrading to Cisco NDFC, Release 12.1.1e.

Post Upgrade tasks for SAN Controller

After restoring the data from backup, all the server-smart licenses are **OutofCompliance**.

To migrate to Smart Licensing using Policy, launch Nexus Dashboard Fabric Controller. On the Web UI, choose **Operations > License Management > Smart** tab. Establish trust with CCSM using SLP. For instructions, refer to *License Management* chapter in *Cisco Nexus Dashboard Fabric Controller Configuration Guides*.

Post Upgrade tasks for Fabric Controller

The following features are not carried over when you upgrade from DCNM 11.5(x) to Cisco NDFC 12.1.1e:

- Endpoint Locator must be reconfigured
- IPAM Integration must be reconfigured
- Alarm Policies must be reconfigured
- Custom topologies must be recreated and saved
- PM collection must be re-enabled on fabrics
- Switch images must be uploaded

Managing Trap IP on Nexus Dashboard and Nexus Dashboard Fabric Controller

Deployment Type in Release 11.5(x)	In 11.5(x), trap IP address is collected from	LAN Device Management Connectivity	In 12.1.1e, trap IP address belongs to	Result
LAN Fabric Media Controller	eth1 (or vip1 for HA systems)	Management	Belongs to Management subnet	Honored There is no configuration difference. No further action required.

Deployment Type in Release 11.5(x)	In 11.5(x), trap IP address is collected from	LAN Device Management Connectivity	In 12.1.1e, trap IP address belongs to	Result
LAN Fabric Media Controller	eth0 (or vip0 for HA systems)	Management	Does not belong to Management subnet	Ignored, another IP from the Management pool will be used as trap IP. Configuration difference is created. On the Web UI > LAN > Fabrics > Fabrics , double click on the Fabric to view Fabric Overview . From Fabrics Actions drop-down list, select Recalculate Config . Click Deploy Config .
LAN Fabric Media Controller	eth0 (or vip0 for HA systems)	Data	Belongs to Data subnet	Honored There is no configuration difference. No further action required.
LAN Fabric Media Controller	eth0 (or vip0 for HA systems)	Data	Does not belong to Data subnet	Ignored, another IP from the Data pool will be used as trap IP. Configuration difference is created. On the Web UI > LAN > Fabrics > Fabrics , double click on the Fabric to view Fabric Overview . From Fabrics Actions drop-down list, select Recalculate Config . Click Deploy Config .

Deployment Type in Release 11.5(x)	In 11.5(x), trap IP address is collected from	LAN Device Management Connectivity	In 12.1.1e, trap IP address belongs to	Result
SAN Management	OVA/ISO – <ul style="list-style-type: none"> • trap.registaddress (if set) • eth0 (if trap.registaddress is not set) 	Not applicable	Belongs to Data subnet	Honored There is no configuration difference. No further action required.
	Windows/Linux – <ul style="list-style-type: none"> • trap.registaddress (if set) • Interface based on event-manager algorithm (if trap.registaddress is not set) 	Not applicable	Does not belong to Data subnet	Ignored, another IP from the Data pool will be used as trap IP.

Configuration Compliance changes

The Configuration Compliance (CC) related files are also changed as follows:

- Configuration Compliance is now **INTERNAL** NDFC templates.
- Path n file system for DCNM 11.5 (x)

```
/usr/local/cisco/dcm/dcnm/model-config
```

Table 3: DCNM 11.5 to NDFC Template Name Mapping

Template name in DCNM 11.5(x)	Template name in NDFC 12.1.1e ⁴
compliance_case_insensitive_clis	compliance_case_insensitive_clis
ipv6_clis	compliance_ipv6_clis
strict_cc_exclude_clis	compliance_strict_cc_exclude_clis

⁴ Refer to Cisco NDFC Fabric Controller Configuration Guide for more information.

Default Templates available with Cisco NDFC

The following table provides the details of default templates available with Cisco Nexus Dashboard Fabric Controller.



Note A change in the template is defined as changes to the template variables and body contents. Changes to comment strings are ignored.

Category (Fabric/Link/Interface)	Template Name	Is changed from Cisco NDFC Release 12.0.1a to 12.1.1e		Is changed from Cisco NDFC Release 12.0.2f to 12.1.1e	
		Yes/No	Change Description	Yes/No	Change Description
Fabric	Easy_Fabric	Yes	New features/bug fix	Yes	New features/bug fix
	Easy_Fabric_eBGP	Yes	New features/bug fix	Yes	New features/bug fix
	Easy_Fabric_IOS_XE	Yes	New features/bug fix	Yes	New features/bug fix
	Easy_Fabric_IPFM	Yes	New features/bug fix	Yes	New features/bug fix
	LAN_Classic	Yes	New features/bug fix	Yes	New features/bug fix
	Fabric_Group	No	No Change	No	No Change
	IPFM_Classic	Yes	New features/bug fix	Yes	New features/bug fix
	LAN_Monitor	Yes	New features/bug fix	No	No Change
	External_Fabric	Yes	New features/bug fix	Yes	New features/bug fix
	MSD_Fabric	Yes	New features/bug fix	Yes	New features/bug fix

Category (Fabric/Link/Interface)	Template Name	Is changed from Cisco NDFC Release 12.0.1a to 12.1.1e		Is changed from Cisco NDFC Release 12.0.2f to 12.1.1e	
		Yes/No	Change Description	Yes/No	Change Description
Interface	int_access_host	Yes	New features/bug fix	Yes	New features/bug fix
	int_dot1q_tunnel_host	Yes	New features/bug fix	Yes	New features/bug fix
	int_freeform	No	No change	No	No change
	int_l3_port_channel	Yes	New features/bug fix	Yes	New features/bug fix
	int_loopback	No	No change	No	No change
	int_mgmt	Yes	New features/bug fix	Yes	New features/bug fix
	int_monitor_ethernet	Yes	New features/bug fix	Yes	New features/bug fix
	int_monitor_port_channel	No	No change	No	No change
	int_monitor_subif	No	No change	No	No change
	int_monitor_vpc	Not applicable	Not applicable	No	No Change
	int_mpls_loopback	No	No change	No	No change
	int_multisite_loopback	No	No change	No	No change
	int_nve	No	No change	No	No change
	int_port_channel_aa_fex	Yes	New features/bug fix	Yes	New features/bug fix
	int_port_channel_access_host	Yes	New features/bug fix	No	No change
	int_port_channel_dot1q_tunnel_host	Yes	New features/bug fix	No	No change
	int_port_channel_fex	Yes	New features/bug fix	Yes	New features/bug fix
	int_port_channel_plain_host	Yes	New features/bug fix	No	No change
	int_port_channel_turk_host	Yes	New features/bug fix	No	No change

Category (Fabric/Link/Interface)	Template Name	Is changed from Cisco NDFC Release 12.0.1a to 12.1.1e		Is changed from Cisco NDFC Release 12.0.2f to 12.1.1e	
		Yes/No	Change Description	Yes/No	Change Description
	int_pvlan_host	Yes	New features/bug fix	No	No change
	int_routed_host	Yes	New features/bug fix	No	No change
	int_subif	Yes	New features/bug fix	No	No change
	int_vlan	Yes	New features/bug fix	No	No change
	int_vlan_admin_state	No	No change	No	No change
	int_trunk_host	Yes	New features/bug fix	No	No change
	int_vpc_access_host	Yes	New features/bug fix	No	No change
	int_vpc_dot1q_tunnel	Yes	New features/bug fix	No	No change
	int_vpc_peer_link_po	No	No Change	No	No Change
	int_vpc_peer_link_po	Yes	New features/bug fix	No	No change
	int_vpc_pvlan_host	Yes	New features/bug fix	No	No change
	int_vpc_trunk_host	Yes	New features/bug fix	No	No change
	int_ipfm_access_host	Yes	New features/bug fix	No	No change
	int_ipfm_l3_port	Yes	New features/bug fix	No	No change
	int_ipfm_standard_access_host	Yes	New features/bug fix	No	No change
	int_ipfm_standard_trunk_host	Yes	New features/bug fix	No	No change
	int_ipfm_trunk_host	Yes	New features/bug fix	No	No change

Category (Fabric/Link/Interface)	Template Name	Is changed from Cisco NDFC Release 12.0.1a to 12.1.1e		Is changed from Cisco NDFC Release 12.0.2f to 12.1.1e	
		Yes/No	Change Description	Yes/No	Change Description
	int_ipfm_vlan	No	No change	No	No change
Link	int_ina_fabric_pk_bal	Yes	New features/bug fix	Yes	New features/bug fix
	int_ina_fabric_num_link	Yes	New features/bug fix	Yes	New features/bug fix
	int_ina_fabric_unum_link	Yes	New features/bug fix	Yes	New features/bug fix
	int_ina_fabric_perlep_dek	No	No Change	No	No Change
	int_ina_fabric_posm_ina_fabric_k	No	No Change	No	No Change
	int_ipfm_ina_fabric_nm_k	Yes	New features/bug fix	Yes	New features/bug fix
	int_ext_ina_fabric_nm_k	No	No Change	No	No Change
	ext_fabric_setup	Yes	New features/bug fix	No	No Change
	create_mlic_unclby_stp	No	No Change	No	No Change
	ext_mlic_unclby_stp	Yes	New features/bug fix	No	No Change
	create_topmlic_ochy_stp	No	No Change	No	No Change
	csr_link_template	No	No Change	No	No Change
	ext_routed_fabric	Yes	New features/bug fix	Yes	New features/bug fix
	ext_mlic_unclby_stp	Yes	New features/bug fix	No	No Change
	ext_wanmps_ochy_stp	Yes	New features/bug fix	No	No Change
	ext_wanmps_unclby_stp	No	No Change	No	No Change

Category (Fabric/Link/Interface)	Template Name	Is changed from Cisco NDFC Release 12.0.1a to 12.1.1e		Is changed from Cisco NDFC Release 12.0.2f to 12.1.1e	
		Yes/No	Change Description	Yes/No	Change Description
Profile	Def_Netw_Etrn_Univsl	Yes	New features/bug fix	No	No Change
	Def_Netw_Univsl	Yes	New features/bug fix	No	No Change
	Def_VRF_Etrn_Univsl	Yes	New features/bug fix	Yes	New features/bug fix
	Def_VRF_Univsl	Yes	New features/bug fix	Yes	New features/bug fix
	Srvce_Netw_Univsl	Yes	New features/bug fix	Yes	New features/bug fix
	IOS_XE_Network	Yes	New features/bug fix	Yes	New features/bug fix
	IOS_XE_VRF	Yes	New features/bug fix	Yes	New features/bug fix
	Rout_Netw_Univsl	Yes	New features/bug fix	Yes	New features/bug fix

