Upgrading Cisco Nexus Dashboard Fabric Controller

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

Upgrade Paths to Release 12.1.2e

The following sections provide information for upgrade paths to Release 12.1.2e.

Even though Nexus Dashboard versions 2.3.1c or 2.3.2b are supported with Cisco NDFC Release 12.1.2e, we recommend upgrading to Nexus Dashboard version 2.3.2d with Cisco NDFC Release 12.1.2e.

- If you are upgrading from Cisco NDFC Release 12.1.1e to NDFC Release 12.1.2e, we recommend upgrading to Nexus Dashboard version 2.3.2d with Cisco NDFC Release 12.1.2e. See Upgrade Paths to Release 12.1.2e, on page 2 for more information.

- If you already upgraded to Nexus Dashboard version 2.3.1c or 2.3.2b as part of your upgrade or fresh installation to NDFC Release 12.1.2e, and you want to upgrade to Nexus Dashboard version 2.3.2d, you will have to do that separately. See Nexus Dashboard 2.3.1c or 2.3.2b to 2.3.2d Upgrade Information, on page 2 for more information.

Nexus Dashboard 2.3.1c Information

If you upgraded to to Nexus Dashboard version **2.3.1c**, a restriction applies where you should not delete NDFC Release 12.0.2f or 12.1.1e post upgrade. Deleting NDFC 12.0.2f or 12.1.1e will cause issues when the Nexus Dashboard cluster is rebooted if you upgraded to to Nexus Dashboard version 2.3.1c. Please contact TAC for assistance if issue is encountered.

Note that this restriction does not apply if you upgrade to Nexus Dashboard version **2.3.2b or 2.3.2d**. See Nexus Dashboard 2.3.1c or 2.3.2b to 2.3.2d Upgrade Information, on page 2 for instructions on upgrading to the recommended Nexus Dashboard version 2.3.2d.

Nexus Dashboard 2.3.1c or 2.3.2b to 2.3.2d Upgrade Information

These steps apply specifically for the situation where you have already upgraded to Nexus Dashboard Fabric Controller release 12.1.2e, but you upgraded to Nexus Dashboard release 2.3.1c or 2.3.2b and you want to upgrade to the recommended Nexus Dashboard release 2.3.2d.

1. Back up the Nexus Dashboard Fabric Controller:

    Operations > Backup & Restore

2. Disable the Nexus Dashboard Fabric Controller service on Nexus Dashboard.

3. Upgrade Nexus Dashboard version from 2.3.1c or 2.3.2b to 2.3.2d.

    For instructions, see Upgrading Nexus Dashboard.

4. Enable Nexus Dashboard Fabric Controller service on Nexus Dashboard.

Upgrade Paths to Release 12.1.2e

The following table summarizes the type of upgrade that you must follow to upgrade to Release 12.1.2e.

Go to Software Download to download the Upgrade Tool scripts.

Note   Prior to upgrade, we recommend that you take a backup of the current NDFC configuration and store it at a secure remote location to safeguard data and minimize any potential risk.

Current Release Number	Deployment Type	Compatible Nexus Dashboard Version in Current Release	Upgrade type when upgrade to Release 12.1.2e

12.1.1e	All	2.2.1h	1. Backup on **Web UI > Operations > Backup & Restore**
			
			2. Disable **Nexus Dashboard Fabric Controller** service on **Nexus Dashboard**
			
			3. Upgrade **Nexus Dashboard** version to 2.3.2d.
			
			  Note Even though 2.3.1c or 2.3.2b are also supported upgrades, we recommend upgrading Nexus Dashboard version to 2.3.2d in this step.
			
			    • If you upgraded to 2.3.1c instead of 2.3.2d, see Nexus Dashboard 2.3.1c Information, on page 1 for important information before proceeding.
			
			    • If you want to upgrade from 2.3.1c or 2.3.2b to the recommended 2.3.2d release, see Nexus Dashboard 2.3.1c or 2.3.2b to 2.3.2d Upgrade Information, on page 2.
			
			4. Upgrade **NDFC** application to 12.1.2e
			
			For detailed instructions, see Upgrading from Cisco NDFC Release 12.1.1e to NDFC Release 12.1.2e, on page 10.

Current Release Number	Deployment Type	Compatible Nexus Dashboard Version in Current Release	Upgrade type when upgrade to Release 12.1.2e
12.0.2f	All	2.1.2d	1. Backup on **Web UI > Operations > Backup & Restore** 2. Disable **Nexus Dashboard Fabric Controller** service on **Nexus Dashboard** 3. Upgrade **Nexus Dashboard** version to 2.3.2d. **Note** Even though 2.3.1c or 2.3.2b are also supported upgrades, we recommend upgrading Nexus Dashboard version to 2.3.2d in this step. • If you upgraded to 2.3.1c instead of 2.3.2d, see Nexus Dashboard 2.3.1c Information, on page 1 for important information before proceeding. • If you want to upgrade from 2.3.1c or 2.3.2b to the recommended 2.3.2d release, see Nexus Dashboard 2.3.1c or 2.3.2b to 2.3.2d Upgrade Information, on page 2. 4. Upgrade **NDFC** application to 12.1.2e For detailed instructions, see Upgrading from Cisco NDFC Release 12.0.2f to NDFC Release 12.1.2e, on page 14.
12.0.1a	Any	2.1.1e	Direct upgrade is not supported.

Current Release Number	Deployment Type	Compatible Nexus Dashboard Version in Current Release	Upgrade type when upgrade to Release 12.1.2e
11.5(4)	All	Not Applicable	1. Backup using **DCNM_To_NDFC_Upgrade_Tool_OVA_ISO** 2. Install **Nexus Dashboard** version 2.3.2d 3. Install **NDFC** Release 12.1.2e 4. Restore on **Web UI > Operations > Backup & Restore** For detailed instructions, see Upgrading from Cisco DCNM Release 11.5(4) to Cisco NDFC Release 12.1.2e, on page 19.

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: https://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 12.1.2e.

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

DCNM 11.5(x) deployment type	UpgradeTool Name
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 12.1.2e or not.

Note   The backup that is generated by using this tool can be used to restore data on NDFC 12.1.2e 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 12.1.2e or
not.
If upgrade to NDFC 12.1.2e 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 12.1.2e
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 loose 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 12.1.2e or not.

If upgrade to NDFC 12.1.2e 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 12.1.2e

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/DCNMBackup.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/DCNMBackup.sh
  inflating: DCNM_To_NDFC_Upgrade_Tool_LIN_WIN/DCNMBackup.bat

[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 */

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

Initializing, please wait...

Note: ./jar/DCNMBackup.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 12.1.2e
or not.

If upgrade to NDFC 12.1.2e 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  DCNMBackup:223 - Inside init() method
2021-09-13 14:36:31 INFO  DCNMBackup:245 - Loading properties....
2021-09-13 14:36:31 INFO  DCNMBackup:301 - Inside checkLANSwitches...
2021-09-13 14:36:32 INFO  DCNMBackup:315 - LAN Switch count: 0
2021-09-13 14:36:32 INFO  DCNMBackup:342 - Inside exportDBTables...
2021-09-13 14:36:32 INFO  DCNMBackup:358 - Exporting ---------> statistics
2021-09-13 14:36:32 INFO  DCNMBackup:358 - Exporting ---------> sequence
...
...
...
2021-09-13 14:49:48 INFO  DCNMBackup:1760 - ###### Total time to export Hourly data:
42 seconds.


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


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


2021-09-13 14:50:23 INFO  DCNMBackup:879 - Creating final tar.gz file....
2021-09-13 14:50:30 INFO  DCNMBackup:892 - Final tar.gz elapsed time: 7049 in ms
2021-09-13 14:50:30 INFO  DCNMBackup:893 - Backup done.
2021-09-13 14:50:30 INFO  DCNMBackup:894 - Log file: backup.log
2021-09-13 14:50:30 INFO  DCNMBackup: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 12.1.1e to NDFC Release 12.1.2e

This procedure describes how to upgrade to Cisco NDFC Release 12.1.2e from NDFC Release 12.1.1e.

Before you begin

- When you upgrade Cisco Nexus Dashboard with Release 2.3.1c, 2.3.2b, or 2.3.2d, ensure that you enable NDFC on Nexus Dashboard before you install other applications on it. Else, NDFC fails if external IP addresses are assigned to other applications.

- Cisco NDFC 12.1.2e is compatible with Nexus Dashboard Release 2.3.1c, 2.3.2b, or 2.3.2d; however, we recommend upgrading Nexus Dashboard to Release 2.3.2d.

  For instructions, see Upgrading Nexus Dashboard.

![pencil note icon]

Note Before you begin to upgrade, on Nexus Dashboard, go to **Operations > Firmware Management > Images** tab, and delete the older Nexus Dashboard version.

- 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.

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

- If you've enabled preview features in 12.1.1e, you must disable those features.

  - On the Web UI, choose **Settings > Feature Management**. Ensure that you have unchecked 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 12.1.1e is up and operational when you take the backup.

- If you take a local backup, download the copy and store it for later use if needed.

- If you take a remote backup, save the backup file in a secure remote location.

See *Backup & Restore chapter* in the *Cisco NDFC Configuration Guide* for more information.

Note   Ensure that there is only one version of NDFC present on the 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 12.1.1e service is not disabled before upgrading the Nexus Dashboard cluster.
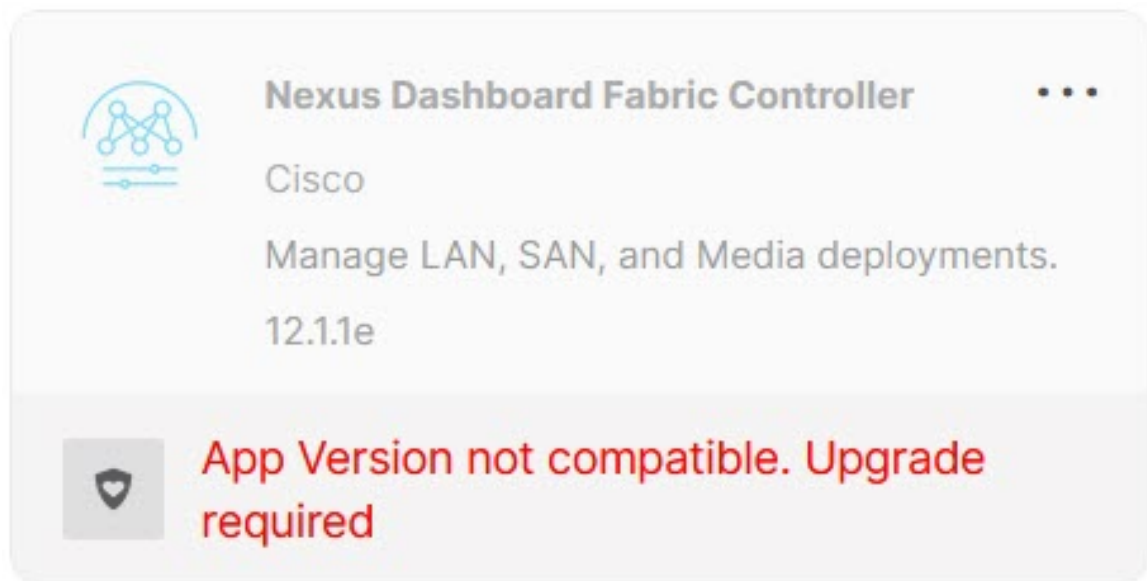
Step 3   Upgrade the Nexus Dashboard to Release 2.3.1c, 2.3.2b, or 2.3.2d.

Even though you can upgrade the Nexus Dashboard to Release 2.3.1c, 2.3.2b, or 2.3.2d, we recommend upgrading Nexus Dashboard to Release 2.3.2d. 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**.

Nexus Dashboard Fabric Controller card displays the following error. Ignore and proceed to next step.

Step 5   Install NDFC Release 12.1.2e service on the Nexus Dashboard.

To install NDFC 12.1.2e 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 12.1.2e service is downloaded and installed on Nexus Dashboard.

c)   After the **Nexus Dashboard Fabric Controller** service card shows **Installed**, click on **Installed Services** tab.

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:** 12.1.2e.

c) Click on the download icon to download NDFC service.

d) Click **Agree and download** to accept the **License Agreement**.

Save the `Cisco-ndfc-`12.1.2e.`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 display as 2 on the Nexus Dashboard Fabric Controller card.

Step 6   On the **Nexus Dashboard Fabric Controller** card, click on ellipsis (…) icon.

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

Step 7   Click **Enable** on Nexus Dashboard Fabric Controller 12.1.2e version to initiate upgrade activation.

      Note   Do not delete NDFC 12.1.1e in the **Available Versions**. Deleting 12.1.1e results in loosing NDFC application data.

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 8   Click **Open** to launch Cisco Nexus Dashboard Fabric Controller Release 12.1.2e 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.

      Caution Do not delete NDFC Release 12.1.1e post upgrade.

      Note   Deleting NDFC 12.1.1e causes issues when the Nexus Dashboard cluster is rebooted. Please contact TAC for assistance if issue is encountered.

Upgrading from Cisco NDFC Release 12.0.2f to NDFC Release 12.1.2e

These procedures describe how to upgrade from NDFC Release 12.0.2f to Cisco NDFC Release 12.1.2e.

Before you begin

Note   Direct upgrade from NDFC Release 12.0.1a to Release 12.1.2e is not supported.

- Ensure that NDFC Release 12.0.2f is up and operational while taking backup.

- Cisco NDFC 12.1.2e is compatible with Nexus Dashboard Release 2.3.1c, 2.3.2b, or 2.3.2d; however, we recommend upgrading Nexus Dashboard to Release 2.3.2d.

  For instructions, refer to Upgrading Nexus Dashboard.

Note	Before you begin to upgrade, on Nexus Dashboard, go to **Operations > Firmware Management > Images** tab, and delete the older Nexus Dashboard version.

- In most situations, you cannot have multiple versions of NDFC service on Nexus Dashboard, and you must retain the current operational version and delete the other NDFC versions on Nexus Dashboard before proceeding to upgrade.

  However, this is not the case in the situation where you have ND and NDFC running on either of these releases:

    - NDFC version 12.0.2f and ND 2.1x

    - NDFC version 12.1.1e and ND 2.2.x

  There is a known issue where, after upgrading, if you have deleted the older versions of NDFC and then try to reboot two or more nodes, NDFC may fail. For this reason, you should keep the old NDFC images (12.0.2f and 12.1.1e) until you have completed the upgrade to ND 3.0.1, where this problem is resolved.

  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.

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

- If you've enabled preview features in 12.0.2f, you must disable those features.

    - On the Web UI, choose **Settings > Feature Management**. Ensure that you the uncheck the BETA features.
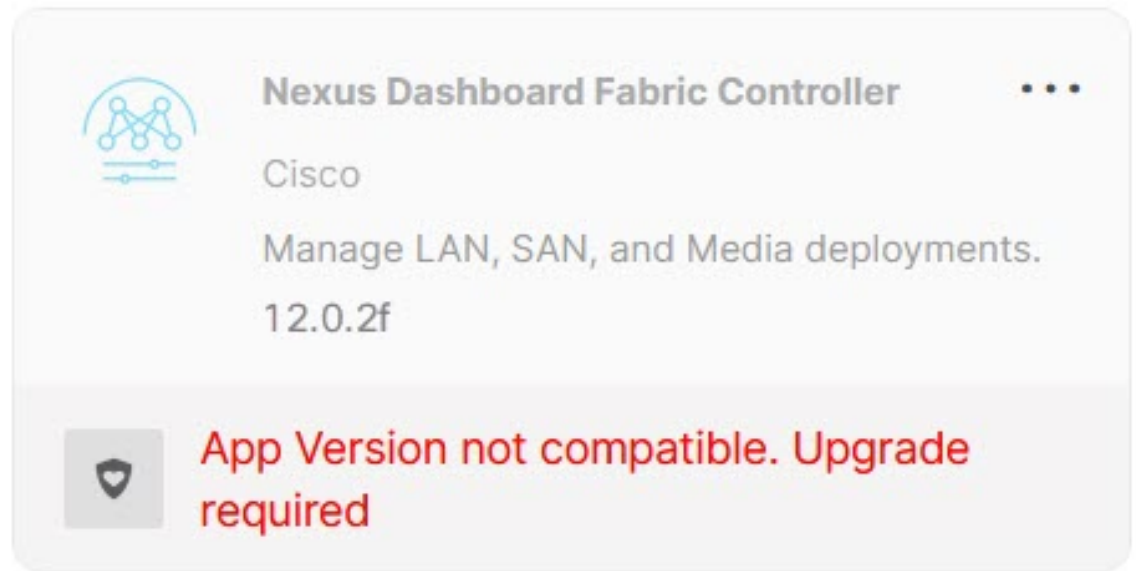
• For Fabric Controller, on the Web UI, choose **Settings > Server Settings > LAN Fabric** tab. Ensure that the **Enable Preview Features** check box is unchecked.

Procedure

Step 1   Take a backup of NDFC data on **Web UI > Operations > Backup & Restore**.

Ensure that NDFC Release 12.1.2e is up and operational when you take the backup.

• If you take a local backup, download the copy and store it for later use if needed.

• If you take a remote backup, save the backup file in a secure remote location.

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 12.0.2f service is not disabled before upgrading the Nexus Dashboard.

Step 3   Upgrade the Nexus Dashboard to Release 2.3.1c, 2.3.2b, or 2.3.2d.

Even though you can upgrade the Nexus Dashboard to Release 2.3.1c, 2.3.2b, or 2.3.2d, we recommend upgrading Nexus Dashboard to Release 2.3.2d. 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**.

Nexus Dashboard Fabric Controller card displays the following error. Ignore and proceed to next step.

Nexus Dashboard Fabric Controller   • • •

Cisco

Manage LAN, SAN, and Media deployments.

12.0.2f

App Version not compatible. Upgrade required

Step 5 Install NDFC Release 12.1.2e service on the Nexus Dashboard.

To install NDFC 12.1.2e 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 12.1.2e 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 12.1.2e.

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:** 12.1.2e.

c) Click on the download icon to download NDFC service.

d) Click **Agree and download** to accept the **License Agreement**.

Save the `Cisco-ndfc-12.1.2e.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 6 On the **Nexus Dashboard Fabric Controller** card, click on ellipsis (…) icon.

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

Step 7 Click **Enable** on Nexus Dashboard Fabric Controller 12.1.2e version to initiate upgrade activation.

Note Do not delete NDFC 12.0.2f in the **Available Versions**. Deleting 12.0.2f results in loosing NDFC application data.

Nexus Dashboard Fabric Controller

Available Versions			
Version	**Installation Date**	**Activation State**	
12.0.2f	2022-12-15, 14:08:41	App Version not compatible. Upgrade required	🗑
12.1.2e	2022-12-15, 16:01:38	Enable	🗑

Cancel

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 8   Click **Open** to launch Cisco Nexus Dashboard Fabric Controller Release 12.1.2e 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.

Note   Do not delete NDFC Release 12.0.2f post upgrade. Deleting NDFC 12.0.2f will cause issues when the Nexus Dashboard cluster is rebooted. Contact Cisco TAC for assistance if you encounter this issue. See the information provided in "Before you begin" for more details.

Upgrading from Cisco DCNM Release 11.5(4) to Cisco NDFC Release 12.1.2e

To upgrade to Cisco Nexus Dashboard Fabric Controller Release 12.1.2e from DCNM Release 11.5(4), perform the following steps:

context here

Before you begin

- Ensure that you've access to the Backup file created from 11.5(4) appliance. For instructions to take backup of all the applications and data on DCNM 11.5(4), see Backup Using the Upgrade Tool, on page 6.

  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.

• Ensure that you've installed a fresh installation of Cisco NDFC. For instructions to install Cisco NDFC, refer to:

  • Installing Nexus Dashboard Fabric Controller Service Manually.

  • Installing Nexus Dashboard Fabric Controller Service Using App Store

Procedure

Step 1   Log on to Cisco **Nexus Dashboard Web UI** using correct credentials.

Step 2   From the One View drop-down list, select Nexus Dashboard Fabric Controller.

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 3   Click **Restore**.

The **Operations > Backup & Restore** window opens.

Step 4   Click **Restore**.

The **Restore now** window appears.

Step 5   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(4).

• 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 6   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 7 (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(4) to Cisco NDFC.

Step 8 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.

Cisco DCNM 11.5(4) Compatibility with NDFC 12.1.2e during upgrade

Persona Compatibility for Upgrade

By using the appropriate Upgrade Tool, you can restore data that is backed up from DCNM Release 11.5(4) on a newly deployed Cisco Nexus Dashboard Fabric Controller for the personas as mentioned in the following table:

Backup from DCNM 11.5(4)	Persona Enabled in NDFC 12.1.2e after Upgrade
DCNM 11.5(4) LAN Fabric Deployment on OVA/ISO/SE	Fabric Controller + Fabric Builder
DCNM 11.5(4) PMN Deployment on OVA/ISO/SE	Fabric Controller + IP Fabric for Media (IPFM)
DCNM 11.5(4) SAN Deployment on OVA/ISO/SE	SAN Controller
DCNM 11.5(4) SAN Deployment on Linux	SAN Controller
DCNM 11.5(4) SAN Deployment on Windows	SAN Controller

Feature Compatibility Post Upgrade

The following table lists caveats associated with features that are restored from DCNM 11.5(4) backup after upgrade to NDFC, Release 12.1.2e.

Feature in DCNM 11.5(4)	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(4) to 12.1.2e
Switch images/Image Management data	Not carried over from 11.5(4) to 12.1.2e
Slow drain data	Not carried over from 11.5(4) to 12.1.2e
Infoblox configuration	Not carried over from 11.5(4) to 12.1.2e
Endpoint Locator configuration	You must reconfigure Endpoint Locator (EPL) post upgrade to Release 12.1.2e. However, historical data is retained up to a maximum size of 500 MB.
Alarm Policy configuration	Not carried over from 11.5(4) to 12.1.2e
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.

Feature Management

After restoring the backup, based on the type of deployment, Nexus Dashboard Fabric Controller Release 12.1.2e 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 12.1.2e. For more information, see .

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
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 exiting 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 12.1.2e.

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 12.1.2e:

- 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 12.1.2e, 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 12.1.2e, 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 12.1.2e, trap IP address belongs to	Result
SAN Management	OVA/ISO – • trap.registaddress (if set) • eth0 (if trap.registaddress is not set) Windows/Linux – • trap.registaddress (if set) • Interface based on event-manager algorithm (if trap.registaddress is not set	Not applicable	Belongs to Data subnet	Honored There is no configuration difference. No further action required.
		Not applicable	Does not belong to Data subnet	Ignored, another IP from the Data pool will be used as trap IP.