

Upgrade Evolved Programmable Network Manager from Version 5.X to 6.1.1

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Introduction

This document describes the instructions to upgrade Evolved Programmable Network Manager (EPNM) from 5.x to 6.1.1 version.

Chapter 1: Overview

This document does not replace the official [EPNM installation guides](#) and it must only be used as a reference. Adjustments must be made to this procedure in order to match your specific deployment setup. All upgrade steps must be verified in a lab before they are executed in a production environment.

The upgrade from EPNM 5.x to version 6.1.1 requires multiple intermediate steps as list.

1. Backup EPNM 5.x data offline.
2. Install EPNM 6.0 from scratch.
3. Restore your EPNM 5.x backup into the new version 6.0.
4. Upgrade your EPNM 6.0 server(s) to EPNM 6.1.1.

Upgrade Pre-checks

Please perform these pre-checks before you start the upgrade process:

- Please go through the [EPNM installation guide](#) to make sure you meet all the requirements
- Bare metal is not supported in Cisco EPN Manager 6.1. Migrate to ESXi based host before the upgrade, if EPNM is not already on virtual machine
- It is highly recommended to use Smart Licenses as traditional licenses are not supported post 6.1 release. To convert your license, use the EPNM Installation Guide Section [View and Manage Licenses](#)
- Make sure your Virtual Machine meets the minimum requirements referred in the [EPNM installation guide](#)
- EPNM .iso file downloaded to local machine
- EPNM patch files downloaded to local machine
- Server authentication keys, shell user, and root user passwords are available
- Names, quantities, and other information of the installed EPNM licenses
- A repository to store EPNM backup
- If you use Smart Licensing, save your Smart License Token and the Registration method URL. To do this, go to **Administration > System Settings > General > Account Settings > Smart Licensing Transport**. Save a copy of the Transport Mode and the URL configured here.

Chapter 2: Backup EPNM 5.x data offline

Since Cisco EPN Manager version 6.0 does not support an inline migration, we must transfer the latest backup(s) offline during the process. Cisco EPN Manager performs automatic application backups; more information is available in the Official Admin Guide [Backup Scheduling](#) section.

If needed, you can manually trigger an immediate application backup both from the [Web GUI](#) or the [CLI](#) as shown:

Tip: Backup duration is associated with the machine resources and amount of data stored in your DB. You can check the timestamps on your last automatic backup file and calculate the time based on the Server Backup job schedule.

2.1 - Perform Pre-Upgrade System Health Check

Please perform the system health checks before the start of the upgrade and record all the states for future references. Health checks are available in the [appendix section](#).

2.2 - Perform an immediate Application Backup through the Web GUI

- Step 1** Choose Administration > Dashboards > Job Dashboard.
- Step 2** Choose System Jobs > Infrastructure.
- Step 3** In the Jobs list, check the Server Backup check box, then click Run.
- Step 4** To view the backup status, scroll to the top of the table to locate the new job, then check its status and results.

Here is a screenshot that exhibits the provided steps:

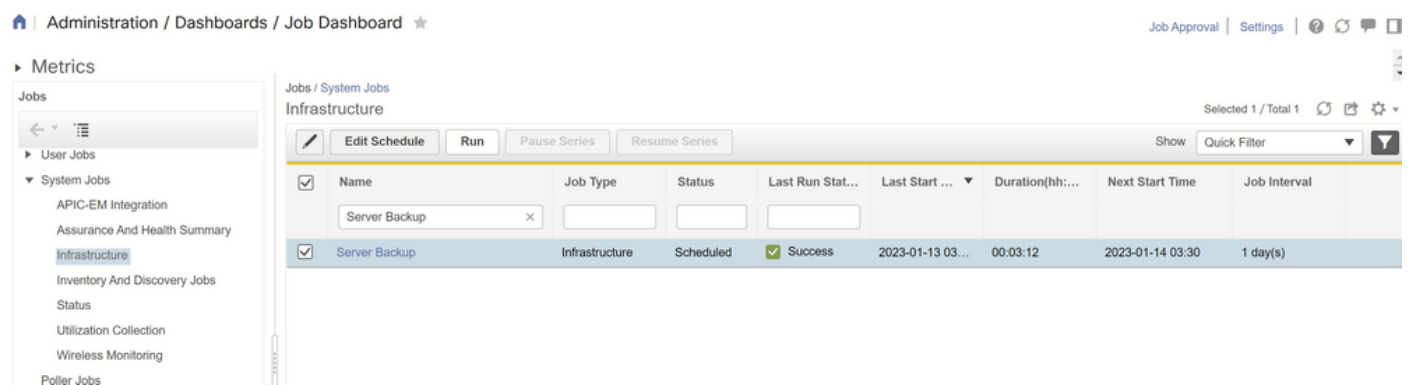


Fig 2.1 - Server Backup System job details

2.3 - Perform an immediate Application Backup through the CLI

If you prefer to use CLI to perform application backup, please use the these steps:

- Step 1** Log into your Standalone/Primary server as the CLI admin user (see [Establish an SSH Session With the Cisco EPN Manager Server](#)).
- Step 2** Display the list of backups, where *repositoryName* is the backup repository:
- Step 3** Start the remote backup.

```
epnm50-pri/admin# show repository repositoryName
```

```
epnm50-pri/admin# backup filename repository repositoryName application NCS
```

where, *filename* is the name that you want to give the application backup file (for example, myBackup). The character length of the file name is 26

Here is a sample output of the provided commands for reference:

```
epnm50-pri/admin# show repository defaultRepo
epnm50-pri-230111-0330__VER6.0_BKSZ18G_CPU16_MEM6G_RAM31G_SWAP15G_APP_CK3279447439.tar.gpg
epnm50-pri/admin#
```

```
epnm50pri/admin# backup epnm50 repository defaultRepo application NCS
DO NOT press ^C while the backup is in progress
Aborting backup with a ^C may terminate the backup operation or the backup file may be corrupted
To restore this backup you will have to enter this password
Password :
```

```

Password Again :
Backup Started at : 01/13/23 18:19:28
Stage 1 of 7: Database backup ...
Database size: 26G
-- completed at 01/13/23 18:21:35
Stage 2 of 7: Database copy ...
-- completed at 01/13/23 18:21:35
Stage 3 of 7: Backing up support files ...
-- completed at 01/13/23 18:21:36
Stage 4 of 7: Compressing Backup ...
-- completed at 01/13/23 18:21:54
Stage 5 of 7: Building backup file ...
-- completed at 01/13/23 18:23:07
Stage 6 of 7: Encrypting backup file ...
-- completed at 01/13/23 18:23:18
Stage 7 of 7: Transferring backup file ...
-- completed at 01/13/23 18:23:18
% Backup file created is: epm50-pri-230112-
0330__VER5.0_BKSZ21G_CPU16_MEM6G_RAM31G_SWAP15G_APP_CK4068034237.tar.gpg
Total Backup duration is: 0h:3m:53s
epm50-pri/admin#

epm50-pri/admin# show repository defaultRepo
epm50-pri-230111-0330__VER6.0_BKSZ18G_CPU16_MEM6G_RAM31G_SWAP15G_APP_CK3279447439.tar.gpg
epm50-pri-230112-0330__VER5.0_BKSZ21G_CPU16_MEM6G_RAM31G_SWAP15G_APP_CK4068034237.tar.gpg
epm50-pri/admin#

```

2.4 - Transfer the EPNM 5.x backup to your offline server

- Step 1** Log into your Standalone/Primary server as the CLI admin user (see [Establish an SSH Session](#))
- Step 2** Access the system shell and become root user:

```

epm50-primary/admin# shell
ade # sudo su

```

- Step 3** Execute the script to get the SCP server credentials:

```

ade # /opt/CSColumos/bin/getSCPCredentials.sh

```

- Step 4** Connect to EPNM with your preferred SCP client application (use the credentials obtained from Step 3)
- Navigate in EPNM server to /localdisk/defaultRepo/ to find the latest backup file and save it to your local disk.

Here is a sample output of the mentioned commands for reference:

```

epm50pri/admin# shell
Enter shell access password :
ade # whoami
admin
ade # sudo su
ade # whoami
root
ade # /opt/CSColumos/bin/getSCPCredentials.sh
user is scpuser
password is XXXXX
Connect to your Primary/Standalone EPNM 5.x server via SCP with your preferred application and
transfer the backup file from the /localdisk/defaultRepo/ directory.

# scp scpuser@epm50-pri:/localdisk/defaultRepo/epm50-pri-230112-
0330__VER5.0_BKSZ21G_CPU16_MEM6G_RAM31G_SWAP15G_APP_CK4068034237.tar.gpg /home/user/Download
scpuser@epm50-pri's password:

```

Step For High Availability Deployments only

If you do not have High Availability deployment, you can proceed to the next chapter. For High Availability (HA) deployments, once the backup is fully completed, the High Availability (HA) configuration needs to be removed before we move to the next step.

This can be achieved via the [Web GUI](#) or the [CLI](#).

Remove the High Availability configuration through the Web GUI

To remove High Availability configuration through GUI, use these steps:

- Step 1** Log into the Cisco EPN Manager web GUI on the primary server as a user with Administrator
- Step 2** From the left sidebar, choose Administration>Settings>High Availability.
- Step 3** Click HA Configuration on the left.
- Step 4** Click Remove.
- Step 5** When the remove operation completes, confirm that the Configuration Mode field displays HA

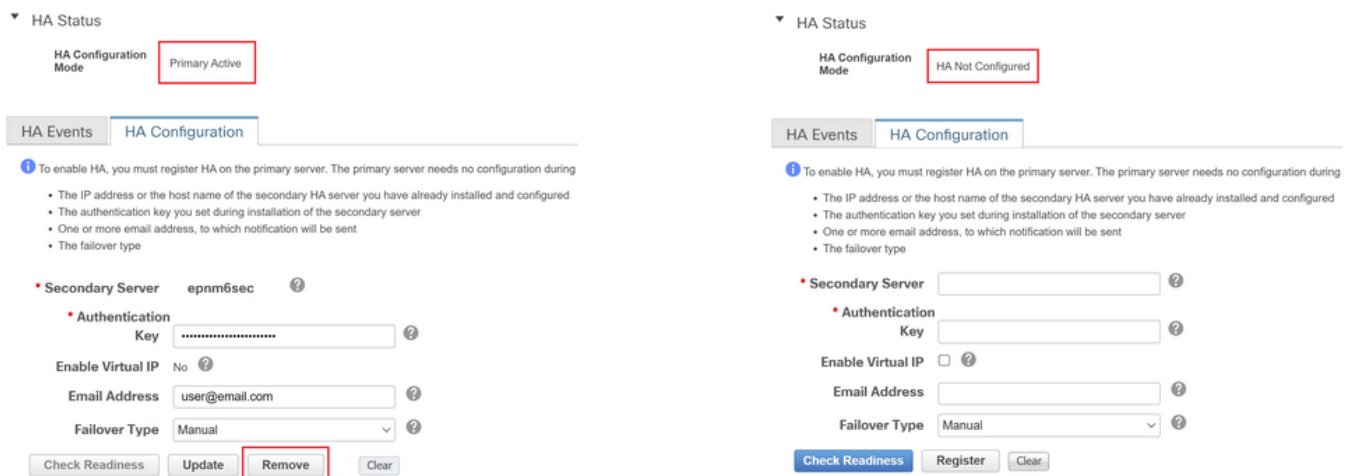


Fig 1 Remove High Availability prior to upgrade

Remove the High Availability configuration through the CLI

If you prefer to remove the High Availability configuration through CLI, use these steps:

- Step 1** Log into the *Primary* server as a Cisco EPN Manager CLI admin user (see [Establish an SSH the Cisco EPN Manager Server](#)).
- Step 2** Execute the command to verify HA configuration is present
- Step 3** Execute the command to remove HA configuration
- Step 4** Answer yes when asked if you want to proceed.
- Step 5** Execute the command to verify HA configuration is removed

```
epnm50-primary/admin# ncs ha status
```

Here is a sample output of the mentioned commands for reference:

```
epnm50-primary/admin# ncs hastatus
[Role] Primary [Secondary Server] epnm50-sec(*.*.*.*) [State] Primary Active [Failover Type]
Manual
epnm50-primary/admin# ncs haremove
High availability configuration will be removed
Do you wish to continue? (y/N) y
Removing primary configuration will remove all database information
Primary is attempting to remove high availability configuration from both primary and secondary
Successfully removed high availability configuration
epnm50-primary/admin# ncs hastatus
[Role] Primary [State] HA not Configured
epnm50-primary/admin#
```

Chapter 3: Install EPN Manager 6.0 from scratch

The Cisco EPN Manager version 6.0 application needs to be deployed before your 5.x data can be restored over it.

This installation must be done on a VM via OVA file. Bare-Metal servers are not supported post 6.0 version.

The steps involved in this Chapter include:

- Installation media download
- Verify the installation media
- Deploy the installation media based on the chosen platform
- Start the installation process.

Tip: The installation time is linked to your system resources. A typical installation time with the required restart at the end, usually takes around 3 hours.

Warning: If you have an HA setup, you must complete these steps on both Primary and Secondary servers.

3.1 - Download EPNM 6.0 installation media

Although EPNM 6.0 can be installed on a virtual machine (VM) or a Bare Metal server, for the upgrade to 6.1.1 and higher release, we do not support Bare Metal. For that reason, we recommend that you install OVA images available on the [Official EPNM 6.0 Download](#) page.

Please download the OVA file to use for new servers.

Evolved Programmable Network Manager 6.0

Release 6.0.0

[My Notifications](#)

[Related Links and Documentation](#)

[Release Notes for 6.0.0](#)

File Information	Release Date	Size	
Cisco EPNM 6.0 iso CEPNM-APL-FED-6.0.0.0-113-1-K9.iso Advisories	31-Jan-2022	6866.54 MB	↓ 🛒 📄
Cisco EPNM 6.0 ova CEPNM-VA-FED-6.0-113.ova Advisories	31-Jan-2022	6559.22 MB	↓ 🛒 📄

Fig 3.1 - EPN Manager 6.0 OVA and ISO installation files

Warning: Bare Metal: Although still available in the 6.0 current release, Bare Metal installation has been deprecated and is removed from release 6.1 onwards. For this upgrade, use OVA file on VMWare.

Please confirm your server(s) meet the minimum requirements in the Official EPNM 6.0 Installation Guide [Hardware and Software Requirements](#) section.

3.2 - Verify the OVA package

- Step 1** If you do not have openssl installed, download and install it (see more info [here](#)).
- Step 2** Download these files from the [Software Download site on Cisco.com](#), and place them in a temporary directory.
- The Cisco EPN Manager 6.0 product OVA package to be verified (*.ova)
 - The Cisco EPN Manager 6.0 OVA signature file (*.signature)
 - The Cisco EPN Manager 6.0 certificate file (*.pem)
- Step 3** Move the OVA files, the certificate file, and the signature file to an alternate RHEL machine with openssl capability with a transfer method such as scp.
- Step 4** Run this command:
- ```
openssl dgst -sha512 -verify cert-file -signature sig-file product-file
```
- Where:
- *cert-file* is the certificate file (\*.pem)
  - *sig-file* is the signature file (\*.signature)
  - *product-file* is the file to be verified
- Step 5** If the result is **Verified OK**

Here is a sample output of the provided commands for reference:

```
ls -l
-rw-r--r--. 1 root root 6877839360 Jan 13 17:02 CEPNM-VA-FED-6.0-113.ova
-rw-r--r--. 1 root root 256 Jan 22 20:12 CEPNM-APL-FED-6.x.x.x-113-1-K9.iso.signature
-rw-r--r--. 1 root root 451 Jan 22 20:12 CiscoEPNM6.0.pem
openssl dgst -sha512 -verify CiscoEPNM6.0.pem -signature CEPNM-APL-FED-6.x.x.x-113-1-K9.iso.signature CEPNM-VA-FED-6.0-113.ova
```

### 3.3 - Deploy the Cisco EPN Manager 6.0 Installer with an OVA/VM

- Step 1** Launch the VMware vSphere client.
- Step 2** Choose File > Deploy OVF Template.
- Step 3** In the Deploy OVF Template window, click Browse.
- Step 4** Navigate to the OVA file, select it, then click Next.
- Step 5** Accept the End User License Agreement, and in the OVF Template Details window, verify the file details like the product name, version, and size, then click Accept.
- Step 6** In the Name and Location window:
1. Specify a name and location for the template that you deploy. The name must be unique within the inventory folder and can contain up to 80 characters.
  2. Select the configuration type as Professional, Extended or Very-Large based on your needs and size (see [System Requirements](#)).
  3. Click Next.
- Step 7** Select the cluster or host on which to install the OVA, then click Next.
- Step 8** Select the destination storage for the OVA to be deployed, then click Next.
- Step 9** Select the disk format as **Thick Provision Lazy Zeroed**, then click Next.
- Step 10** Select the appropriate network based on the configured IP address, then click Next.
- Step 11** In the Ready to Complete window:
1. Verify your selections.
  2. (Optional) If you want the virtual machine to automatically start after the OVA deployment is finished, check the Power on after deployment check box.
  3. Click Finish.
- This process can take a few minutes to complete. Check the progress bar in the "Deploying Virtual Machine" window to monitor the task status. When the deployment task has successfully completed, a confirmation window appears.
- Step 12** Click Close. The virtual appliance that you deployed is listed under the host, in the left pane of the VMware vSphere client.

### 3.5 - Start EPN Manager 6.0 installation process

**Note:** The first startup takes approximately 30 minutes and is followed by a system reboot.

- Step 1** In the VMware vSphere Console tab or in the UCS KVM Console at the localhost login prompt, enter `setup`.
- Step 2** Enter these parameters as you are prompted for them:
- Step 3** You are prompted to choose whether you want the newly-installed server to act as a secondary server in an HA implementation.
- Enter `yes` if you have HA and you want this server to be the secondary server.
  - Enter `no` if you do not have HA. You have HA but you want this server to be the primary server.
- Step 4** Enter a password for the Cisco EPN Manager **web GUI root user** (you have to enter it twice). You will use this password to log into the web GUI for the first time and create other user accounts. (The root account must be disabled after you create a new user account with the same level of privilege.)
- Step 5** Review your settings and:
- If the settings are correct, select `Y` to apply them.
  - If any settings are incorrect, select `N`, edit them, and then apply them.

#### Example Install EPNM 6.0 on Standalone/Primary server



