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Introduction

This document describes how to upload an IP phone firmware on multiple nodes of Cisco Unified Communications Manager (CUCM) cluster through Prime Collaboration Deployment (PCD).

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on these software versions:

- CUCM Release 10.5.2.11900-3
- PCD Release 11.0.1.20000-2
- IP Phone Firmware 78xx.11-5-1-18

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Background Information

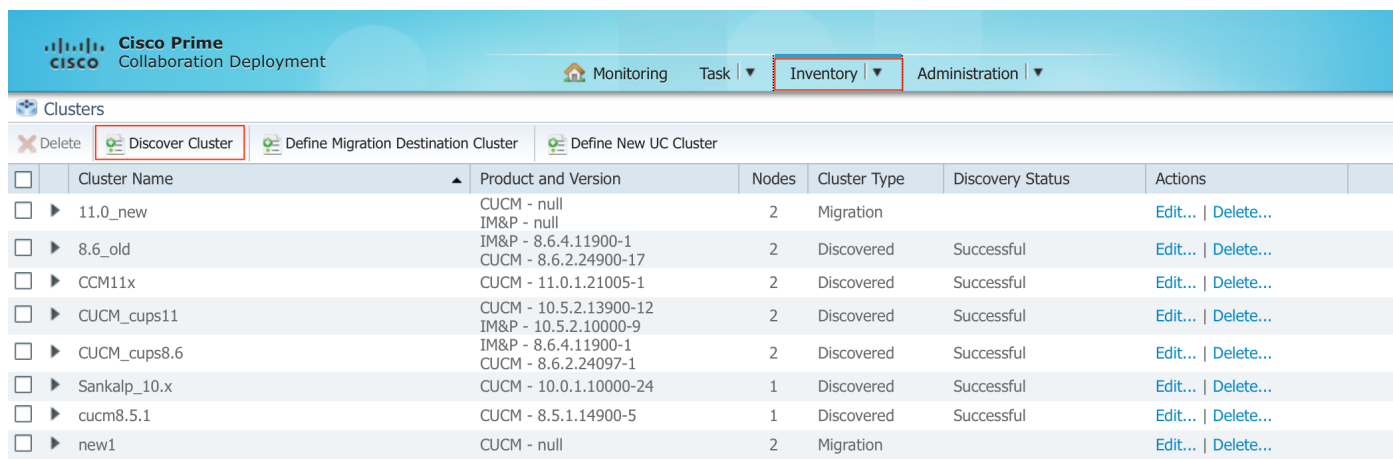
Cisco PCD is a migration/upgrade application for Unified Communications applications. Through PCD you can upgrade the version of Unified Communications applications which exists or you can also migrate the complete cluster to a new cluster of same or different version. Apart from this, you can also install device pack, Cisco Options Package (COP) files, phone firmware file to the call manager.

Cisco PCD is quite useful if you upload IP phone Firmware on callmanager, especially in a multi-node cluster, as it reduces the number of steps required to be performed and also removes the dependencies on third party Simple File Transfer Protocol (SFTP) servers . It also allows the users to schedule the firmware file upload as per their maintenance window.

Configure

Discover Cluster

In order to discover the cluster to which the Phone Firmware File has to be uploaded, navigate to **Inventory > Clusters > Discover Cluster**, as shown in the image:



The screenshot shows the Cisco Prime Collaboration Deployment interface. The 'Inventory' menu is highlighted. Below it, the 'Clusters' section is visible, with the 'Discover Cluster' option selected. A table lists several clusters with their details.

Cluster Name	Product and Version	Nodes	Cluster Type	Discovery Status	Actions
11.0_new	CUCM - null IM&P - null	2	Migration		Edit... Delete...
8.6_old	IM&P - 8.6.4.11900-1 CUCM - 8.6.2.24900-17	2	Discovered	Successful	Edit... Delete...
CCM11x	CUCM - 11.0.1.21005-1	2	Discovered	Successful	Edit... Delete...
CUCM_cups11	CUCM - 10.5.2.13900-12 IM&P - 10.5.2.10000-9	2	Discovered	Successful	Edit... Delete...
CUCM_cups8.6	IM&P - 8.6.4.11900-1 CUCM - 8.6.2.24097-1	2	Discovered	Successful	Edit... Delete...
Sankalp_10.x	CUCM - 10.0.1.10000-24	1	Discovered	Successful	Edit... Delete...
cucm8.5.1	CUCM - 8.5.1.14900-5	1	Discovered	Successful	Edit... Delete...
new1	CUCM - null	2	Migration		Edit... Delete...

Specify the Hostname/IP address and OS admin credentials for the cluster to be discovered.

Nickname for this cluster need not be same as the hostname.

Once done, click on **Next**, as shown in the image:

Discover Cluster

Step 1 of 3

Cluster Access

Provide a unique cluster nickname and the network information for the cluster publisher. If a CUCM/IM&P cluster, use the CUCM Publisher. The node will be contacted to identify the other nodes in the cluster.

Choose a Nickname for this Cluster

Hostname/IP Address of Cluster Publisher

OS Admin Username

OS Admin Password

Enable NAT

Cluster Discovery Progress


Cluster Settings

Cluster discovery could take several minutes. It depends upon the size and the location of the cluster .

Once the Cluster is successfully discovered, click on **Next**, as shown in the image:

Discover Cluster


Step 2 of 3

Cluster Access 

Cluster Discovery Progress


During discovery, the list of cluster nodes will be retrieved, and each of the nodes contacted.

Cluster Name **Megacluster**

Contacting cluster nodes and updating cluster data. The process could take several minutes to complete. 

Cluster Nodes


Hostname	Contact Status	Product	Active Version	Inactive Version	Hardware
labsetup	Contacting...				
labsetup10	Contacting...				
labsetup2	Contacting...				
labsetup3	Contacting...				
labsetup4	Contacting...				
labsetup5	Contacting...				
labsetup6	Contacting...				
labsetup7	Contacting...				
labsetup8	Contacting...				
labsetup9	Contacting...				

Cluster Settings 

Assign server roles here if required as you click on **Edit Settings**. Once done click on **Finish**, as shown in the image:

Discover Cluster

Step 3 of 3

Cluster Access 


Cluster Discovery Progress 

Cluster Settings

Optional - Assign the server role(s) to each cluster node to identify its functional role(s) in the cluster and to help determine the proper sequence of a task performed on the cluster.

Total 10

 Edit Settings

Show 

Hostname	Product	Functions	SFTP Server	Notes
labsetup4	CUCM		localhost	
labsetup2	CUCM		localhost	
labsetup3			localhost	
labsetup5	CUCM		localhost	
labsetup7	CUCM		localhost	
labsetup6			localhost	
labsetup10	CUCM		localhost	
labsetup9	CUCM		localhost	
labsetup8	CUCM		localhost	
labsetup	CUCM	Publisher	localhost	

Upload Firmware File to PCD

Before the upgrade file is specified, upload the Phone firmware file to the PCD.

The file should be a Cisco Options Package (COP) file .

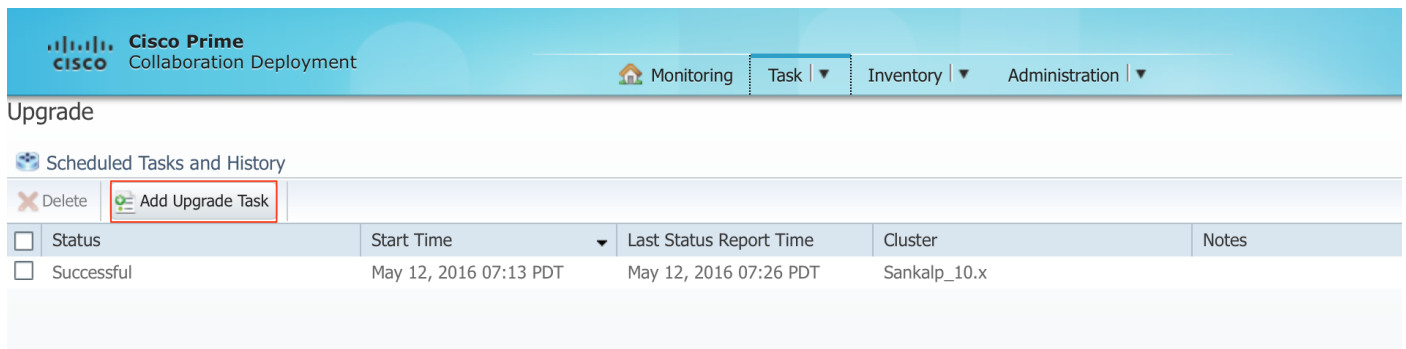
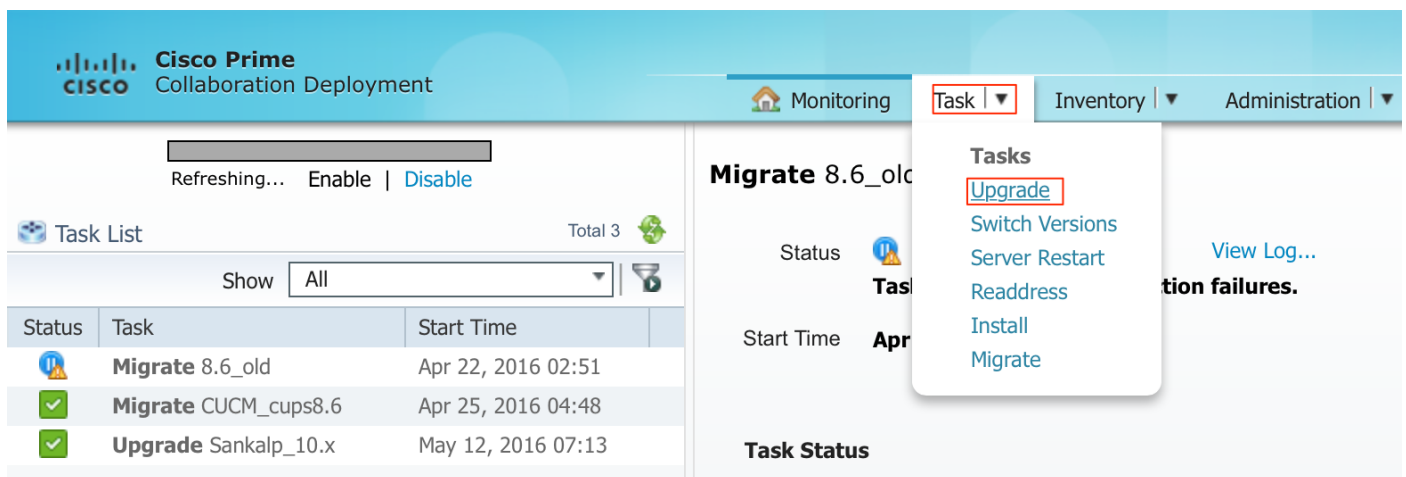
In order to upload, SFTP to the IP address of the PCD server with username **adminsftp** and PCD login password. Change the directory to upgrade and upload the file there.

This is the sample file upload:

Add Upgrade Task

After the Cluster is discovered successfully and the Phone firmware file is uploaded to the upgrade directory of PCD, add the upgrade task.

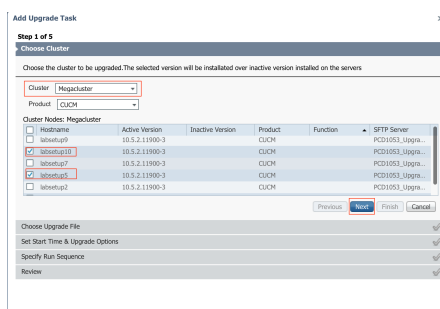
Navigate to **Task > Upgrade > Add Upgrade Task** as shown in the image:



Choose the Destination cluster, where the Phone firmware file needs to be uploaded .

Then select the node in which you want to upload the phone firmware file.

After it is completed, click on **Next**, as shown in the image:



Click **Browse** to choose the Phone Firmware file, as shown in the image:

The required file should be present in the upgrade directory of PCD.

Add Upgrade Task



Step 2 of 5

Choose Cluster

Choose Upgrade File

Choose the upgrade file for each product being upgraded.

The .iso and .cop images will need to be uploaded to the SFTP server(s) and related directory being used. To use the Cisco Prime Collaboration Deployment local SFTP server, upload the files to the /upgrade directory using the 'adminsftp' account.

Unified CM Upgrade file

Browse

Previous

Next

Finish

Cancel

Set Start Time & Upgrade Options

Specify Run Sequence

Review

The required file should be present in the upgrade directory of PCD.

Select your required file and click on **Choose File**, as shown in the image:

Choose Upgrade File



By default, only files that are valid for the selected nodes are displayed. To see the complete list of files, choose Show All from the menu.
File locations :

localhost: /upgrade/

Available Files

Files are retrieved from SFTP server

Show

File Name	Kind	Validity
<input checked="" type="radio"/> cmterm-78xx.11-5-1-18.k3.cop.sgn	cop	true
<input type="radio"/> po-locale-ar_AE-k3-11.5.1.1000-1.cop.sgn	cop	true
<input type="radio"/> po-locale-es_ES-k3-11.5.1.1000-1.cop.sgn	cop	true

Choose File

Close

Click **Next**, as shown in the image:

Add Upgrade Task [Close]

Step 2 of 5

Choose Cluster [Checkmark]

Choose Upgrade File

Choose the upgrade file for each product being upgraded.

The .iso and .cop images will need to be uploaded to the SFTP server(s) and related directory being used. To use the Cisco Prime Collaboration Deployment local SFTP server, upload the files to the /upgrade directory using the 'adminsftp' account.

Unified CM Upgrade file:

Set Start Time & Upgrade Options [Checkmark]

Specify Run Sequence [Checkmark]

Review [Checkmark]

Specify the start time as per requirement. You can choose to start the task immediately after completion of wizard or manually or schedule the file installation, for a later time.

Once the **Start Time** is specified, click **Next**, as shown in the image:

Add Upgrade Task [Close]

Step 3 of 5

Choose Cluster [Checkmark]

Choose Upgrade File [Checkmark]

Set Start Time & Upgrade Options

Select a start time for the task and set upgrade options.

The time zone shown here corresponds to the time zone of this Cisco Prime Collaboration Deployment server and not necessarily that of the target servers or cluster.

Start Time

Schedule for a specific time (PDT)

Start task manually

Start task immediately upon completion

Upgrade Options

Automatically switch to new version

Specify Run Sequence [Checkmark]

Review [Checkmark]

Calendar:

S	M	T	W	T	F	S
26	27	28	29	30	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

Specify the sequence in which the upgrade is processed by the server.

Review the upgrade task before it is initiated and after the process is completed click **Finish**, as shown in the image:

Add Upgrade Task [Close]

Step 4 of 5

- Choose Cluster ✓
- Choose Upgrade File ✓
- Set Start Time & Upgrade Options ✓

Specify Run Sequence

Specify the sequence in which upgrade is processed by the servers. If there is an error during the process, the task will be stopped. You can optionally also pause the task when a step completes.

Step	Description	Upon Completion	Actions
▶ 1	Upgrade the following node(s): labsetup10, labsetup5, labsetup4	Continue	

Sequence

Previous **Next** Finish Cancel

Review [Close]

Review the upgrade task before it is initiated and after the process is completed click **Finish**, as shown in the image:

Add Upgrade Task [Close]

Step 5 of 5

- Choose Cluster ✓
- Choose Upgrade File ✓
- Set Start Time & Upgrade Options ✓
- Specify Run Sequence ✓

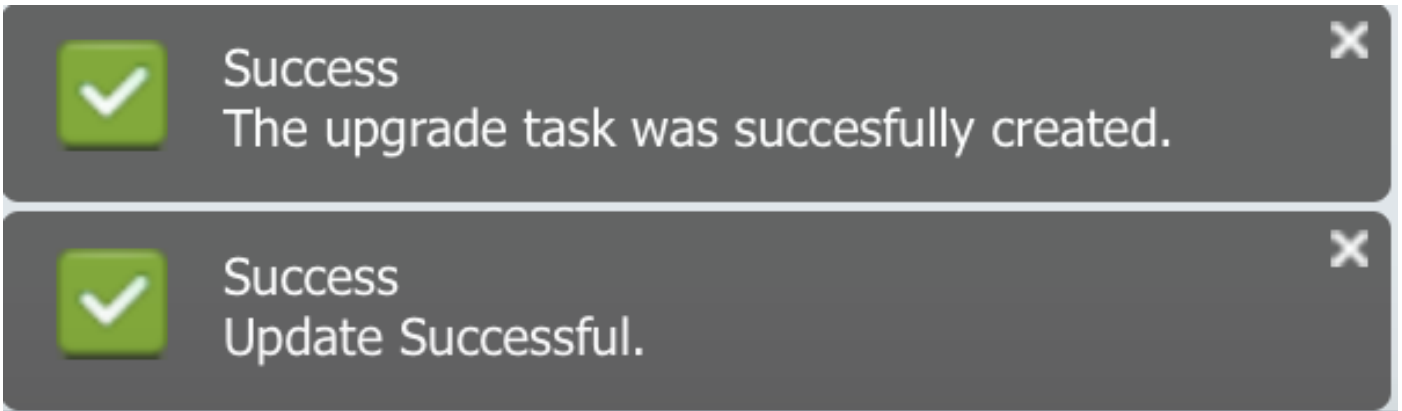
Review

Review the settings summarized below and press Finish to create the task

Task type **Upgrade**
Cluster **Megacluster**
Unified CM upgrade file **cmterm-78xx.11-5-1-18.k3.cop.sgn**
Nodes **labsetup10 (Step 1)
labsetup5 (Step 1)
labsetup4 (Step 1)**
Start Time **7/13/2016 14:50 (PDT)**
Switch Versions **False**
Notes

Previous Next **Finish** Cancel

These notifications appear at the right hand bottom of the screen .

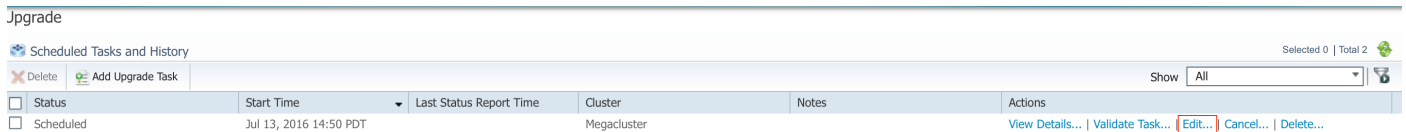


Verify

Use this section in order to confirm that your configuration works properly.

In order to Verify the status of the Firmware file Installation, navigate to **Task > Upgrade > Scheduled Tasks and History > View Details.**

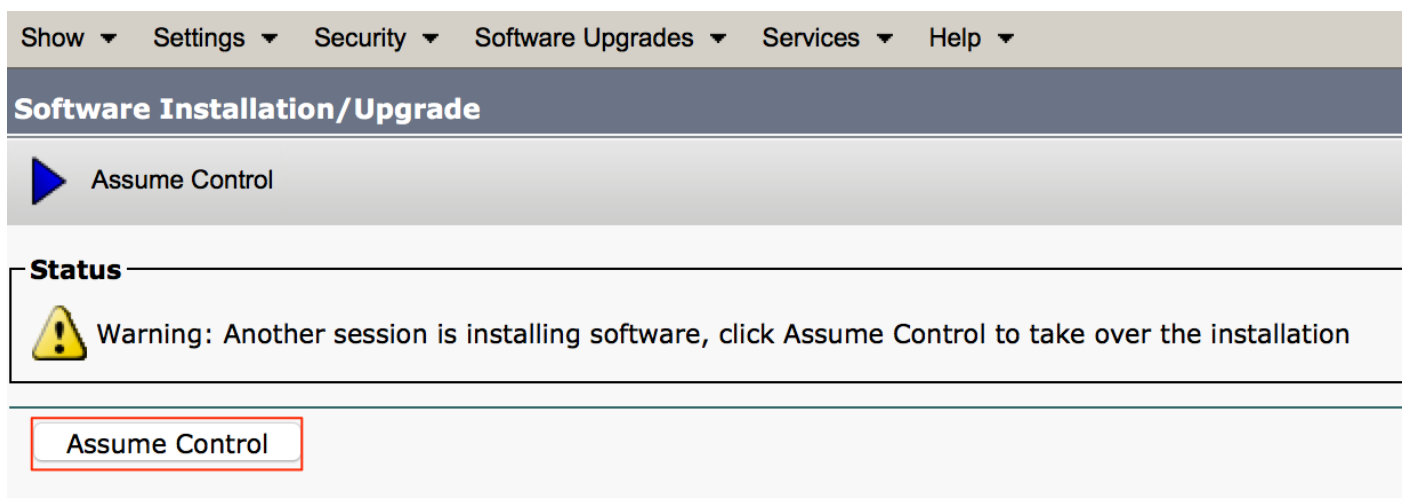
In case it is requied to Edit the setting, click **Edit** to make the necessary changes, as shown in the image:



Based on above configuration the Firmware file installation begins as per the scheduled time .

When the firmware installation starts you can see it as below on the call manager .

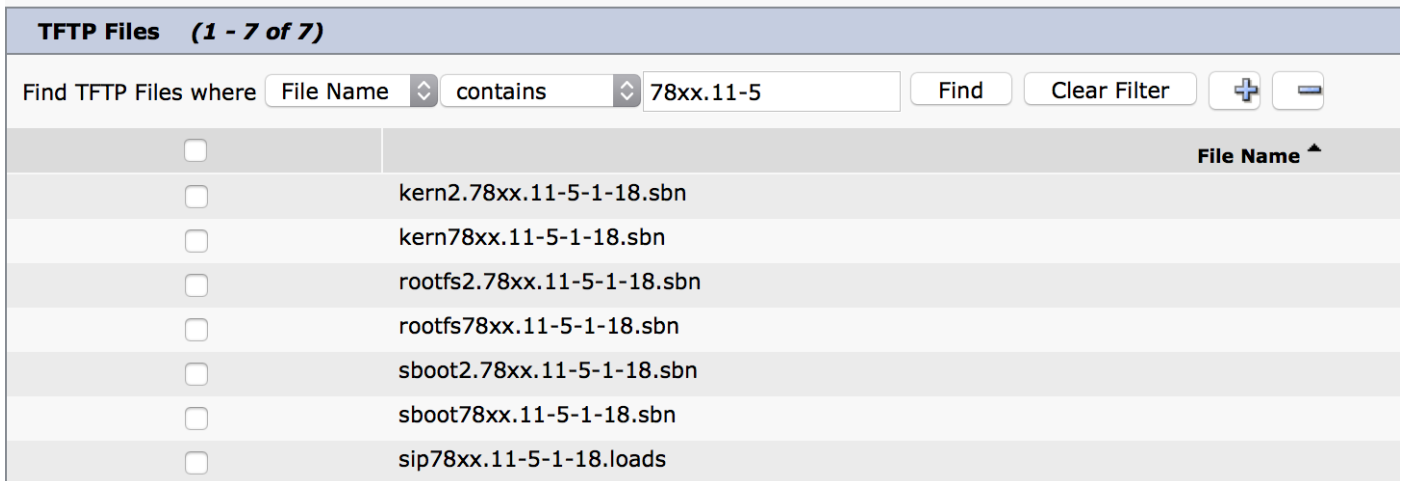
Navigate to **OS Administration > Software Upgrade > Software Installation / Upgrade > Assume Control**, as shown in the image:



As shown in the image, the status is reflected as **Complete** on call manager, after the installation is complete.



Post installation, in order to find files, navigate to **OS Administration > Software Upgrade > TFTP File Management**.

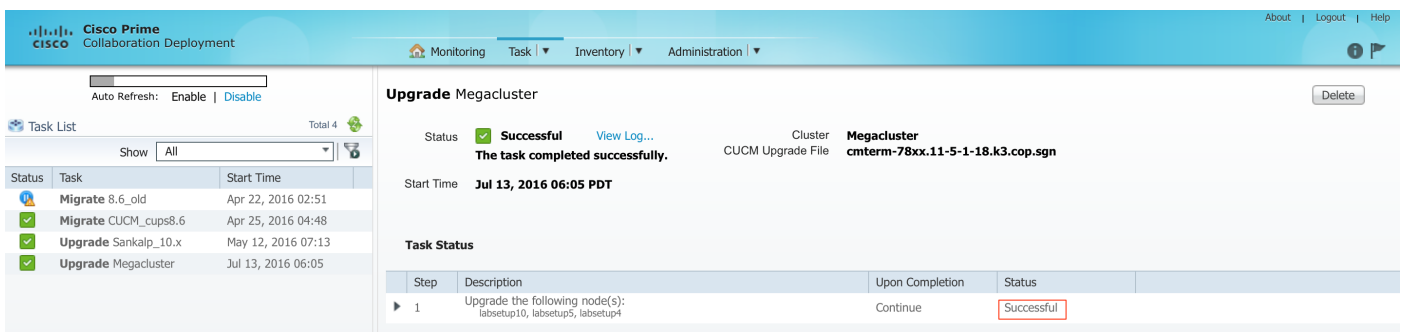


TFTP Files (1 - 7 of 7)

Find TFTP Files where contains

<input type="checkbox"/>	File Name ^
<input type="checkbox"/>	kern2.78xx.11-5-1-18.sbn
<input type="checkbox"/>	kern78xx.11-5-1-18.sbn
<input type="checkbox"/>	rootfs2.78xx.11-5-1-18.sbn
<input type="checkbox"/>	rootfs78xx.11-5-1-18.sbn
<input type="checkbox"/>	sboot2.78xx.11-5-1-18.sbn
<input type="checkbox"/>	sboot78xx.11-5-1-18.sbn
<input type="checkbox"/>	sip78xx.11-5-1-18.loads

As shown in the image, on PCD after the installation is complete, the status is reflect as **Successful**, as shown in the image:



Cisco Prime Collaboration Deployment

Monitoring Task Inventory Administration

Auto Refresh: Enable Disable

Task List Total 4

Status	Task	Start Time
	Migrate 8.6_old	Apr 22, 2016 02:51
	Migrate CUJM_cups8.6	Apr 25, 2016 04:48
	Upgrade Sankalp_10.x	May 12, 2016 07:13
	Upgrade Megacluster	Jul 13, 2016 06:05

Upgrade Megacluster

Status **Successful** [View Log...](#)
The task completed successfully.

Cluster **Megacluster**
CUCM Upgrade File **cmterm-78xx.11-5-1-18.k3.cop.sgn**

Start Time **Jul 13, 2016 06:05 PDT**

Task Status

Step	Description	Upon Completion	Status
▶ 1	Upgrade the following node(s): labsetup10, labsetup5, labsetup4	Continue	Successful

After the Firmware files are uploaded to call manager, the **TFTP service** should be restarted on the respective servers for the new firmware to reflect under **CM Administration > Device > Device Settings > Device Defaults** .

The phones need to be **Reset**, for them to download the firmware file.

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.