CHAPTER 2

Setting Up the Server

You can view licensing information, manage log files, and change the IP address on Provisioning server. You can also purge data at a scheduled interval.

Note In a distributed installation, the application server expects the database server to be running when it starts. If you restart both systems at the same time, the application server may start before the database server, and all your orders may go into the Initial state. This is a timing issue between the two systems. If this occurs, restart the application server.

Managing Licenses

To use Provisioning, you must have the Provisioning Image license and one or more scale licenses. The image license must be present or the product will remain in the evaluation mode. Scale licenses add to the number of phones you can provision.

To use the Provisioning Northbound Interface (Provisioning NBI) feature you must have the Provisioning API license.

Note

- In the converged mode, choose **Administration > License Management** to see the License Status Information page.
- In the standalone Prime Collaboration Provisioning application, choose **Administration > System Configuration > License Management** to see the License Status Information page.

The License Status Information page displays the following information:

- Unavailable features—Any features in Provisioning that you do not have access to, because you have reached the limit for the use of the feature or the feature expiration date has been reached.
- Valid features—List of features and their corresponding use limit (Available), current use (Used), and date of expiration (Expiry).

  The ipt_phones_max feature displays your phone license limit and the number of phone licenses you are currently using. CTI ports do not count toward the number of phones.

  The nb_api feature displays whether you are licensed to use the Provisioning NBI.

  The ipt_ccm_max feature checks if the number of Call Processors is over the allowed limit.

  The upp_max feature checks if the number of Unified Presence Processors is over the allowed limit.

  The ipt_ump_max feature checks if the number of Unified Message Processors is over the allowed limit.
- Unlicensed Features—Any features for which you do not have a license to use.

Note If you have a distributed installation, when the network connection between the two servers is lost and then reestablished or when only the Provisioning database (the PostgreSQL database) server is restarted, you will not be able to log into the Provisioning server, and sometimes a license error appears on the Licensing Status Information page. The error message states that all features are unavailable.

When this occurs, restart the Provisioning services.

Licensing Process

New Purchase

New purchases require the purchase of the Provisioning image license and one or more scale licenses to cover the number of phone MAC addresses to be managed. Scale licenses are additive, up to 60,000 per one Provisioning instance. The image license must be present or the product will remain in evaluation mode.

Provisioning NBI License

The optional Provisioning NBI requires the purchase of a separate license (Provisioning API license). Provisioning checks for the presence of the license before enabling the Provisioning NBI.

The following process applies to new installations (and upgrades), scale licenses, and the Provisioning API license.

1. Obtain a Product Authorization Key (PAK)—The PAK is used to register Provisioning on Cisco.com, and it contains resource limitations. See Obtaining a PAK, page 2-3.

   For each incremental license that you purchase, you will receive a PAK, and you must use that PAK to obtain a license file.

2. Obtain a license file—A license file is sent to you after you register the PAK on Cisco.com. See Obtaining a License File, page 2-3.

3. Copy the license file to the server where Provisioning is to be installed. If Provisioning is already installed and you are upgrading your license file, you must register the license file with Provisioning. See Registering a License File with Provisioning, page 2-3.

Obtaining a PAK

The PAK is located on the software claim certificate. You can obtain the claim certificate through the eDelivery system (for information on eDelivery, see http://www.cisco.com/web/partners/tools/edelivery.html).

Obtaining a License File

Register the PAK and the MAC address of the system where Provisioning is installed with Cisco.com at http://www.cisco.com/go/license. You will be asked to log in. You must be a registered user of Cisco.com to log in.

Note The MAC address is required because licensing uses node-locking technology. The license file can only be used with the MAC address that you supply. The license file will be emailed to you. After you obtain a license file, register the license with the Provisioning server.

Registering a License File with Provisioning

Prime Collaboration Provisioning converged application

To add a License file:

Step 1 Choose **Administration > License Management**.

Step 2 In the License Management page, under License Files, click **Add**.

Step 3 In the Add License File window, choose the **License Type** - Provisioning.

Step 4 Upload the license file and click **OK**.

The newly added license file information appears in the License Status pane of Prime Collaboration Provisioning.

For more information, see Adding a License File section in the *Prime Collaboration Administration Guide*.

Prime Collaboration Provisioning standalone application

To add a license file, you must log in to the Provisioning server:

Step 1 Log into the Provisioning server as root using SFTP.

Step 2 Copy the license file to the Provisioning server, in the folder *opt/cupm/*license.

The system validates the license file and updates the license. The updated licensing information appears on the License Status Information page.

Step 3 If the license does not automatically take effect after a few minutes, go to the **License Management page (** choose **Administration > System Configuration > License Management),** and click **Perfom Audit**.

You will see the phones that you are licensed to update.

If you purchased more than one license, repeat Step 2 to install each additional license.

Managing Log Files

Provisioning writes application log files for the Service Enabling Platform (SEP) module (sep.log) and the Network Interface and Configuration Engine (NICE) service (nice.01.log). The log files are located in the /opt/cupm/sep/logs folder.

You cannot disable logging. However, you can:

- Collect more data when needed by increasing the logging level
- Return to the default logging level (NORMAL)

Following are the available logging levels:

- DETAIL (provides the most information)
- LOW
- NORMAL
- HIGH
- EMERGENCY

Log files are backed up every hour, or when they reach their maximum log size limit. The default size limit is 20 Mb (see Changing the Maximum Log File Size, page 2-6). The files are saved in the format sep.log.*date stamp timestamp*.

Note Log files are deleted from the Provisioning server when their size exceeds 5000 MB or the number of log files in the logs folder exceeds 500. If you want to change these levels, see Changing the Log Purging Level, page 2-6.

Changing the Log Level

Step 1 On the Provisioning system, go to the opt/cupm/sep folder.

Note If you accepted the default location during installation, the installation location is /opt/cupm.

Step 2 Open the dfc.properties file.

Step 3 Change the dfc.log.level property to the desired level. Following are the available logging levels:

- DETAIL
- LOW
- NORMAL
- HIGH
- EMERGENCY

Step 4 Save the changes and restart the Provisioning services.

Changes will not take effect until Provisioning is restarted.

a. Log into the server using SSH.

b. Go to /opt/cupm folder.

c. Execute the **./cupm-app-service.sh stop** command.

d. Check whether the services are down by running the following commands:

```
ps -aef | grep startcupm
```

If there are any processes running, kill those services by using the following command:

```
kill -9 <processID1> <processId2>
ps -aef | grep nice
```

If there are any processes running, kill those services by using the following command:

```
kill -9 <processID1> <processId2>
```

e. Check if the port 46009 is free (used by JBoss):

```
netstat -a | grep 46009
```

If this port is in use, wait till it gets free.

f. Start the application services:

execute **./cupm-app-service.sh** start

Wait for the services to start.

Note

- To permanently change log level, you must change the value of dfc.log.level in the dfc.properties file located in: CUPM_INSTALL_DIR/sep/build/bin and restart Provisioning.
- Provisioning logs are stored in: /opt/cupm/sep/logs

1. To temporarily change the log level: Log into the Provisioning server as root using SSH.
2. Open the command prompt.
3. Go to the script directory: cd CUPM_INSTALL_DIR/sep/ipt/bin
4. Run the following command with the appropriate options to change the log level:

./changeloglevel.sh -level *loglevel* **[APPSERVER | NICE | BOTH]**
if APPSERVER, NICE, or BOTH options are not specified, the default option BOTH is used.

loglevel can be DETAIL, LOW, NORMAL, HIGH, or EMERGENCY.

Changing the Maximum Log File Size

Step 1 On the Provisioning system, go to the opt/cupm/sep folder.

Note If you accepted the default location during installation, the installation location is /opt/cupm.

Step 2 Open the dfc.properties file and change the dfc.log.maxsize property to the desired size (default is 20 Mb).

Step 3 Save the changes and restart the Provisioning services.

Changes will not take effect until Provisioning is restarted.

a. Log into the server using SSH.

b. Go to /opt/cupm folder.

c. Execute the **./cupm-app-service.sh stop** command.

d. Check whether the services are down by running the following commands:

ps -aef | grep startcupm
If there are any processes running, kill those services by using the following command:

kill -9 <processID1> <processId2>
ps -aef | grep nice
If there are any processes running, kill those services by using the following command:

kill -9 <processID1> <processId2>

e. Check if the port 46009 is free (used by JBoss):

netstat -a | grep 46009
If this port is in use, wait till it gets free.

Step 4 Start the application services:

execute **./cupm-app-service.sh** start

Wait for the services to start.

Changing the Log Purging Level

Step 1 On the Provisioning system, go to the opt\cupm\sep folder.

Note If you accepted the default location during installation, the installation location is /opt/cupm.

Step 2 Open the ipt.properties file, and do one or both of the following:

- To change the maximum file size level, update the dfc.purgelog.maxused_mb property to the desired level.
- To change the maximum number of log files level, update the dfc.purgelog.maxlogsaved property to the desired level.

Step 3 Save the changes.

Step 4 Restart the Provisioning services.

Changes will not take effect until Provisioning is restarted.

a. Log into the server using SSH.

b. Go to /opt/cupm folder.

c. Execute the **./cupm-app-service.sh stop** command.

d. Check whether the services are down by running the following commands:

```
ps -aef | grep startcupm
```

If there are any processes running, kill those services by using the following command:

```
kill -9 <processID1> <processId2>
ps -aef | grep nice
```

If there are any processes running, kill those services by using the following command:

```
kill -9 <processID1> <processId2>
```

e. Check if the port 46009 is free (used by JBoss):

```
netstat -a | grep 46009
```

If this port is in use, wait till it gets free.

Step 5 Start the application services:

execute **./cupm-app-service.sh** start

Wait for the services to start.

Enabling Data Purging for Provisioning

You can configure Provisioning to purge data at a scheduled interval.

Provisioning retains the following types of data:

- Order—When an order is placed for any product provisioning (for example: phone, line, voicemail or any bundle), an order data object is created and stored in the system.
- ServiceAction—Objects that are created when the application is communicating with the device during product provisioning. By default, purging of Service Action data is enabled.
- Task—Scheduling of infrastructure configuration updates. Through Infrastructure Configuration you can save configurations locally. The saved configurations can then be bundled in a Task and pushed to the device.
- Workflow—After an order is placed for a product, it goes through a workflow (approval, shipping, and receiving) before going to the service activator.
- Audit Trail—For every PIN/Password change, PIN/Password reset, PIN/Password change on next login, unlock voice mail of a subscriber in a Unity or Unity Connection device, an audit entry is created.

Note Data will be purged when the retention time or retention count criterion is met. For example, if the data is older than the retention time it will be removed. Also, if the data amount exceeds the retention count, it will be removed.

Step 1 Choose **Administration > System Setup > Provisioning Setup > Data Maintenance**. (See Table 1-1 to choose the UI path in the standalone Prime Collaboration Provisioning application.)

Step 2 In the Data Maintenance Configuration page, check the check box in the row for the data you want to schedule for purging.

Step 3 In the Retention Time column, change the number of days for which you want to retain the data (default is seven days except for ServiceAction, which is 30 days).

Step 4 In the Retention Count column, select the amount of data that you want to retain.

Note Retention count is the number of objects that you want Provisioning to keep and not purge. For example, if there are 1000 total orders and the retention count is 100, Provisioning will purge 900 orders and keep the latest 100 orders.

The default settings for the Retention Count are:

- Orders—100
- ServiceAction—Unlimited
- Task—50
- Workflow—50
- Audit Trail—50

Step 5 (Optional) To export the purged data to a file before it is removed, in the Export Before Purge field select **Yes**, then enter a directory location at which to store the data.

Note Only Orders and Workflow data is exported. Service action data cannot be exported.

Step 6 Select a purge interval (the default is 24 hours).

The Purging Information pane displays the time of the next scheduled purge and the last purge.

Step 7 Click **Update**.

To purge Provisioning data, choose **Administration > System Setup > Provisioning Setup > Data Maintenance** (In the standalone Prime Collaboration Provisioning application, choose **Administration > System Maintenance > Data Maintenance**). You can provide the data in the Data Maintenance Configuration page.

Maintenance Mode

You can put Provisioning into maintenance mode to perform user-impacting actions that are not available in normal mode, such as deleting Domains, processors, and Service Areas.

Any user other than administrator will be able to access all non Provisioning pages as per the roles assigned to him. Though Provisioning links are available, when user tries to access these pages, a message appears indicating that the application is currently in Maintenance mode.

Step 1 Choose **Administration > System Setup > Provisioning Setup > Maintenance Mode**.

Step 2 In the Application Mode Management page, Click **Enter Maintenance Mode**.

A warning appears on the login page, notifying users that system use is limited to users with administrative privileges. Maintenance options that are not available in normal mode, such as deleting Domains, become available.

Step 3 Perform any maintenance activities, such as deleting a Domain.

Step 4 When you have completed maintenance activities, select **System Administration > Maintenance Mode.**

Step 5 Click **Exit Maintenance Mode**.

The warning on the login page is removed and users can now log in as usual. Maintenance options such as deleting Domains are no longer available.

Changing the IP Address on a Provisioning System

If you are changing the IP address on a single machine setup, after changing the IP address on the system you must stop and restart Provisioning.

If you are changing the IP address on a distributed setup, you can change either system's IP address. See either Changing the IP Address on the Provisioning Server (for a Distributed Setup), page 2-9 or Changing the IP Address on the Provisioning Database Server (for a Distributed Setup), page 2-10.

Changing the IP Address on the Provisioning Server (for a Distributed Setup)

This procedure is required only for a distributed setup. Perform this procedure after changing the IP address of the Provisioning server.

Step 1 Restart the Provisioning services.

Changes will not take effect until Provisioning is restarted.

a. Log into the server using SSH.

b. Go to /opt/cupm folder.

c. Execute the **./cupm-full-service.sh stop** command.

d. Check whether the services are down by running the following commands:

```
ps -aef | grep startcupm
```

If there are any processes running, kill those services by using the following command:

```
kill -9 <processID1> <processId2>
ps -aef | grep nice
```

If there are any processes running, kill those services by using the following command:

```
kill -9 <processID1> <processId2>
```

e. Check if the port 46009 is free (used by JBoss):

```
netstat -a | grep 46009
```

If this port is in use, wait till it gets free.

Step 2 Start the application services:

execute **./cupm-full-service.sh** start

Wait for the services to start.

Step 3 On the system where Provisioning is running, update the following files:

- opt\cupm\sep\dfc.properties—Update the following line with the new IP address:

```
dfc.postgres.host=<DB_SERVER_ADDR>
```

- opt\cupm\EnterprisePlatform-4.2.0.GA_CP09\server\cupm\deploy\dfc-ds.xml —Update the following line with the new IP address:

```
<connection-url>jdbc:postgresql://<DB_SERVER_ADDR>:5432/cupm</connection-url>
```

Step 4 On the system where the Provisioning Database is running, in the file opt\cupm\pgsql9.0\data\pg_hba.conf, update the following line with the new IP address:

The pg_hba.conf file is under /opt/postgres/9.0/data/pg_hba.conf.

Changing the IP Address on the Provisioning Database Server (for a Distributed Setup)

This procedure is required only for a distributed setup. Perform this procedure after changing the IP address of the Provisioning database server.

Step 1 Restart the Provisioning services.

Changes will not take effect until Provisioning is restarted.

a. Log into the server using SSH.

b. Go to /opt/cupm folder.

c. Execute the **./cupm-full-service.sh stop** command.

d. Check whether the services are down by running the following commands:

```
ps -aef | grep startcupm
```

If there are any processes running, kill those services by using the following command:

```
kill -9 <processID1> <processId2>
ps -aef | grep nice
```

If there are any processes running, kill those services by using the following command:

```
kill -9 <processID1> <processId2>
```

e. Check if the port 46009 is free (used by JBoss):

```
netstat -a | grep 46009
```

If this port is in use, wait till it gets free.

Step 2 Start the application services:

Log into server using SSH.

Go to /opt/cupm.

Execute **./cupm-db-service.sh** stop

Step 3 On the system where Provisioning is running, update the following files:

- /opt/cupm/sep/dfc.properties—Update the following line with the new IP address:

```
dfc.postgres.host=<DB_SERVER_ADDR>
```

- /opt/cupm/jboss/server/cupm/deploy/dfc-ds.xml —Update the following line with the new IP address:

```
<connection-url>jdbc:postgresql://<DB_SERVER_ADDR>:5432/cupm</connection-url>
```

Step 4 Start the Postgres service by running the follwing command:

Login to server using SSH

Go to /opt/cupm

Execute **./cupm-db-service.sh** start.

Step 5 Start the application services:

execute **./cupm-app-service.sh** start

Wait for the services to start.

Changing Time Zone Settings

You can change the time zone settings as well as the location. You can provide Coordinated Universal Time (UTC), also known as Greenwich Mean Time (GMT), updated with leap seconds.

Step 1 Select the Time Zone icon from the top right corner of the Provisioning home page.

The Time Zone Settings (UTC Offset) page appears.

Step 2 Enter either of the following to change the time zone settings:

- New UTC offset.
- New Location (optional).

Step 3 Click **Apply** to save the time zone settings.

Launching Operations Manager

If you have purchased Operations Manager and are running it, you can launch it from Provisioning.

You can find this option in the standalone Prime Collaboration Provisioning application only.

Step 1 Choose **Administration > Application Suite > Launch Monitoring Home Page**.

Step 2 In the Cisco Unified Communications Management Suite page, click the **Cisco Prime Unified Operations Manager** link.

Launching Cisco Prime Unified Operations Manager IP Phone Details

If you have purchased Operations Manager and are running it, you can set up Provisioning to launch the IP Phone Details dialog box from Operations Manager. The IP Phone Details dialog box is launched from a subscriber record.

Before using this feature, you must first configure Provisioning (see Configuring Provisioning to Open Cisco Prime Unified Operations Manager IP Phone Details, page 2-12).

After performing the configuration procedure, a Details button appears on the subscriber record. The Details button launches the IP Phone Details dialog box from Operations Manager (see Opening the Cisco Prime Unified Operations Manager IP Phone Details Dialog Box, page 2-12).

Configuring Provisioning to Open Cisco Prime Unified Operations Manager IP Phone Details

Step 1 On the Provisioning system, go to the *opt/cupm*/sep folder.

Note If you accepted the default location during installation, the installation directory is opt/cupm.

Step 2 Open the ipt.properties file.

Step 3 In the ipt.properties file change the following properties:

- `dfc.ipt.operationsmanager.host: <hostname>`—Enter the Operations Manager system hostname or IP address.
- `dfc.ipt.operationsmanager.port: <port>`—Enter the port number that Operations Manager uses.

Step 4 Save and close the file.

Step 5 Stop and start Provisioning.

Opening the Cisco Prime Unified Operations Manager IP Phone Details Dialog Box

Step 1 Open the subscriber record for the desired subscriber (see Accessing a Subscriber Record, page 10-2).

Step 2 Click the Phone that you want to see the details for.

Step 3 Click the **Details** button.

The Operations Manager login page appears. (Valid Operations Manager credentials are required to view the IP Phone Details dialog box.)

Step 4 Log into Operations Manager.

The IP Phone Details dialog box from Operations Manager appears.

IPv6 Support in Prime Collaboration Provisioning

Prime Collaboration Provisioning is IPv6 aware. IPv6-aware is defined as containing IPv6 functional information, but using IPv4 for transport.

As an IPv6-aware application, Prime Collaboration Provisioning continues to communicate with Cisco Unified Communications Manager devices through an IPv4 link.

The following also apply to IPv6-aware support in Provisioning Manager:

- In the Call Processor Configuration page, you can only enter an IPv4 IP address. If you enter an IPv6 address, an error message appears.
- Prime Collaboration Provisioning communicates with Cisco Unified Communications Manager using IPv4 protocol, but can provision phones that use either IPv4 or IPv6 protocol.