



## Migration

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## Upgrade Dial Plan Model 8.1(x) to 8.1(4)



### Note

If model migration cannot be completed in a single maintenance window for all the locations within a cluster, then no new 8.1(4) model features should be provisioned until all the locations within a cluster have been migrated; otherwise, this will lead to inconsistencies in provisioning and operations between locations, and potential call routing errors that will impact end user service. The subsequent model migration maintenance windows should be scheduled as soon as possible, to fully complete the model migration for the remaining locations within a cluster.

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### Procedure

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- Step 1** Obtain 8.1(4) Dial Plan Model. See [Load the Dial Plan Model](#), on page 2.
- Step 2** Back up Cisco Unified Communications Domain Manager 8.1(x).
- Step 3** Back up each Cisco Unified Communications Manager. See *Cisco Hosted Collaboration Solution, Release 10.6(1) Maintain and Operate Guide*.
- Step 4** Determine customizations to the Model, if any. Update Model.
- Step 5** Ensure that Bulk Loaders are available (if applicable). Download the Bulk Loaders from <http://software.cisco.com/download/navigator.html?mdfid>. To locate the files for this release, navigate as follows: **Downloads Home > Cisco Products > Unified Communications > Call Control > Hosted Collaboration**

> **Cisco Hosted Collaboration Solution (HCS) > Cisco Hosted Collaboration Solution Version 10.0 > Unified Communications Domain Manager (CUCDM) Bulk Loaders.**

- Step 6** Load the new Cisco Unified Communications Domain Manager Dial Plan Model.
- Step 7** Run **InitIPPBX** command for Cisco Unified Communications Manager that is to be migrated, to apply any new or modified CSSs and Partitions at a cluster level.
- Step 8** Use the Dial Plan Migration (dpmig) Tool to extract site information. Verify the Site Summary information and make any adjustments if required. See [Extract Data from Cisco Unified CDM, on page 7](#) and [Collect Information Using the dpmig Tool, on page 11](#).
- Step 9** Use the dpmig Tool to compare the Cisco Unified Communications Manager with the previous Dial Plan Model. This step identifies any customizations that might have been done to the Model. See [Audit the Dial Plan Using the dpmig Tool, on page 18](#).
- Step 10** Use the dpmig Tool (**Generate** command) to generate a Migration Report based on the 8.1(4) Dial Plan Model. This report is a delta file between what is provisioned in the Cisco Unified Communications Manager and what should have been provisioned to the Cisco Unified Communications Manager. The report is generated based on the Site Summary and the new Dial Plan Model. See [Verify and Edit the Dial Plan Using the dpmig Tool, on page 21](#). Make adjustments if required to the Migration Report.
- Step 11** [Migrate the Dial Plan Using the dpmig Tool, on page 24](#).
- Step 12** Perform MACD operations to verify model migration.
- Step 13** Perform PGW model migration, if required.
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## Load the Dial Plan Model

Base data and dial plan models are Excel spreadsheets that you upload to Unified Communications Domain Manager. The model files:

- Define Unified Communications Domain Manager call behavior.
- Contain domain-specific configuration objects, such as Unified Communications Manager route patterns, partitions, route filters, calling search spaces (CSS) and PGW MML commands.
- Are generally spread over multiple device-specific files. For example, the Unified Communications Manager model and PGW model are two different files.
- May depend on other model files, and the wrong upload sequence can cause errors.

Cisco Unified Communications Domain Manager requires the model packages delivered with the solution to be uploaded into the system. Unified Communications Domain Manager will construct various tables in its database from the model templates and call on the data according to the transactions running on the system.

Cisco HCS solution supports the following dial plan models:

- **Generic Dial Plan (G1) (site code + extension):** All directory numbers, voicemail pilots, and mailbox numbers follow the site location code + extension format.
- **Flat Dial Plan (G2) (extension only):** Consists of flat 4- to 11-digit dialing across all locations and supports unique directory number assignment across locations.
- **Shared Instance Dial Plan (G3) (extension only):** Based on the Flat Dial Plan (G2) and modified to support customer-specific dialing and routing in deployments that use Shared Instance.

The procedure that follows provides instructions for loading all types of dial plans. By default, you can load the base data, and USA and United Kingdom dial plan model files (for North America and Great Britain, respectively). If you are a service provider with a customer in another country, you must also download the country-specific dial plan model file. For example, if all your customers are in Italy, you may choose to load the Country Dial Plan for Italy only. If a country-specific dial plan model file does not exist for the country, you can download a dial plan model file for a country that has a similar dial plan, and then customize it.



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**Note** If a new country dial plan is required, contact your Cisco representative for assistance.

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**Important** After you load a country dial plan you are able to go back, if desired, by loading the previous model or models. But if you migrated any customers to the new dial plan, you cannot go back without some manual intervention. In this case, you restore the Cisco Unified Communications Manager from the version that was saved before the migration, and then load the older dial plan back on Cisco Unified Communications Domain Manager.

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**Note** The following file name conventions apply to the procedure:

- 8.1(x) = Unified Communications Domain Manager version
  - Gx = dial plan type (for example G1)
  - <xx.x> = model file version
  - y = Cisco Unified Communications Domain Manager version number bulk loader file. See *Bulk Loader Guide for Cisco Unified Communications Domain Manager 8.1.4*, to obtain a list of the latest bulk loader files.
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### Before You Begin

Consult the latest versions of the following documents: *Cisco Hosted Collaboration Solution, Release 10.6(1) End-User Provisioning Guide* and *Cisco Unified Communications Domain Manager Documentation for Cisco HCS*, available at [http://www.cisco.com/en/US/partner/products/ps11363/prod\\_maintenance\\_guides\\_list.html](http://www.cisco.com/en/US/partner/products/ps11363/prod_maintenance_guides_list.html).

### Procedure

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**Step 1** Download the base data and country dial plan model file package from the <http://software.cisco.com/download/navigator.html?i=!mmd>. To locate the package files for this release, navigate as follows: **Downloads Home>Cisco Products>Unified Communications>Call Control>Hosted Collaboration>Cisco Hosted Collaboration Solution (HCS)>Cisco Hosted Collaboration Solution Version N.N.N>Cisco Unified Communications Domain Manager (CUCDM) Dial Plans**. Select the zip file for the Dial Plan Model you want to install. The final package you use will depend on the following criteria:

- Which dial plan you are using.
- Whether you are using vPGW or SME (optional depending on what you are using in the aggregation layer).

- The countries you are servicing.
- Whether you are using Contact Center for HCS and other advanced services.

**Step 2** Schedule a new Bulk Loader job and load the following files:

- Base data model file: 01-GenericBD-8.1.x-GxModelv<xx.x>.xls
- 01-ModelSpecificBD-8.1.x-GxModelv<xx.x>.xls
- If you are using the Shared Instance Dial Plan (G3), load the latest version of the following bulk loader files: CUCDM81y-VS-P3-NetworkElements-MultiCustomerClusters-MCC-CL1-CL2, CUCDM81y-VS-P3-Customers-Divisions-Locations-MultiCustomerClusters-MCC-CL1, CUCDM81y-VS-P3-LocationAdmin-Extended-Formula-Loader, and CUCDM81y-VS-P1-NetworkElements-v1-26-RG-RL-RP-Connections-MCC-CL1.

**Step 3** Schedule a new Model Loader job and load the following network component model files:

**Note** Because loading a Leaf Cluster Model deletes the previous version of Leaf Cluster Model as well as Country Dial Plans, it is necessary for you to reload Country Dial Plans (in Step 4) if a new version of Leaf Cluster Model is loaded in Step 3a.

- 02-LeafCluster-8.1.x-GxModelv<xx.x>.xls
- 02-SME-8.1.x-GxModelv<xx.x>.xls (OPTIONAL)
- Either 03-IODevice-IOS12X-8.1.x-GxModelv<xx.x>.xls OR 03-IODevice-IOS15X-8.1.x-GxModelv<xx.x>.xls

**Important** IOS12X files are not available for Cisco Unified Communications Domain Manager 8.1(4). For Cisco Unified Communications Domain Manager 8.1(4) use IOS15X files.

**Note** It is important to note that either the IOS12X or IOS15X should be loaded and not both. Use IOS15X for deployments with only IOS 15.x installed and IOS12X with deployments with both IOS 12.x and 15.x.

- 04-PGWmml-8.1.x-GxModelv<xx.x>.xls (OPTIONAL)
- 05-PGWx10-8.1.x-GxModelv<xx.x>.xls (OPTIONAL)

**Step 4** Load the country-specific Dial Plan files you downloaded in Step 1, into the CountryDP-Packages directory. Repeat Steps 4 and 5 as required to load all the country dial plans.

- Schedule a new Bulk Loader job and load the CtryDP-BD-[country]-8.1.x-GxModelv<xx.x>.xls; for example, to load the dial plan file for Great Britain, use the CtryDP-BD-GBR-8.1.x-GxModelv<xx.x>.xls file.
- Schedule a new Model Loader job and load the CtryDP-LC-[country]-8.1.x-GxModelv<xx.x>.xls; for example, to load the leaf cluster files for the United States, use the CtryDP-LC-USA-8.1.x-GxModelv<xx.x>.xls file.

**Step 5** Schedule a new Model Loader job and perform one of the following tasks:

**Important** IOS12X files are not available for Cisco Unified Communications Domain Manager 8.1(4). For Cisco Unified Communications Domain Manager 8.1(4) use IOS15X files.

Option	Description
If IOS 12.x and IOS 15.x are installed	Load the following files: <ul style="list-style-type: none"> <li>• IOS12X-USA-8.1.x-GxModelv&lt;xx.x&gt;.xls</li> <li>• IOS12X-GBR-8.1.x-GxModelv&lt;xx.x&gt;.xls</li> </ul>

Option	Description
If only IOS 15.x is installed	Load the following files: <ul style="list-style-type: none"> <li>• IOS15X-USA-8.1.x-GxModelv&lt;xx.x&gt;.xls</li> <li>• IOS15X-GBR-8.1.x-GxModelv&lt;xx.x&gt;.xlsv01</li> </ul>

**Step 6** Check log files for errors.

**Step 7** Continue with call testing.

## Base Data

The Base Data directory consists of two files:

- Dial Plan Specific Base Data
- Platform Specific Base Data

The Base Data files are loaded using the Bulk Loader in Unified Communications Domain Manager.



**Note** Be sure that you are using the latest Bulk Loader files. Download the base data from <http://software.cisco.com/download/navigator.html?mdfid>. To locate the latest files for this release, navigate as follows: **Downloads Home > Cisco Products > Unified Communications > Call Control > Hosted Collaboration > Cisco Hosted Collaboration Solution (HCS) > Cisco Hosted Collaboration Solution Version 10.0 > Unified Communications Domain Manager (CUCDM) Bulk Loaders**.

When you load new base data, existing base data is *not* overwritten.

## Base Data Models



**Note** For country dial plan specific base data, please refer to [Cisco HCS Country Dial Plans](#).

### Procedure

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- Step 1** Log in to Cisco Unified Communications Domain Manager and navigate to General Tools.
  - Step 2** Click **Bulk Load Tools**.
  - Step 3** Click **Schedule new job**.
  - Step 4** Browse for files starting with 01-GenericBD-8.1.4- and 01-ModelSpecificBD-8.14-(G1/G2) and upload individually.
  - Step 5** Select file encoding: **Default Character Encoding**.
  - Step 6** Return to Bulk Load Tools.
  - Step 7** Verify the files loaded successfully by clicking on the job number and reviewing the transactions.
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## Network Component Models

### Procedure

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- Step 1** Log in to Cisco Unified Communications Domain Manager and navigate to Dial Plan Tools.
  - Step 2** Click **Configuration Models**.
  - Step 3** Click **Model Loader**.
  - Step 4** Click **Schedule new job**.
  - Step 5** Browse for files starting with 02 to 05 and upload individually.
  - Step 6** Select file encoding: **Default Character Encoding**.
  - Step 7** Return to Model Load Tools.
  - Step 8** Verify the files loaded successfully by clicking on the job number and reviewing the transactions.
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## Using the Dial Plan Model Migration Tool

Use the Cisco HCS Dial Plan Model Migration Tool (dpmig tool) to migrate a Cisco Unified Communications Domain Manager-based Cisco Unified Communications Manager from any 8.(x) version of the Dial Plan model to the latest Cisco Unified Communications Domain Manager 8.1(x) Dial Plan model.

All calls handled by Cisco Unified Communications Manager (Cisco Unified Communications Manager) are controlled by the Dial Plan rules that you implement by configuring the following elements:

- Route Partitions
- Calling Search Spaces (CSS)
- Translation patterns
- Route patterns
- Calling transformation patterns

Each element can be customer-specific, country-specific, or location-specific (site). The generic template definition of these elements is published in a standard format in a base Dial Plan worksheet and the country-specific Dial Plan worksheet.

When a new Dial Plan model is loaded on Cisco Unified Communications Domain Manager, the system automatically updates some of the tables in the Unified CM when InitIPPBX is performed. Only the elements related to the following transactions are updated:

- InitIPPBX
- AddProviderCountryIPPBX

To update the remaining Cisco Unified Communications Manager elements to match the newer Dial Plan model, apply the difference between the old model and the new model to Cisco Unified Communications Manager. This process is referred to as Model Migration.

The Cisco Unified Communications Domain Manager Migration Tool supports Add, Update, or Delete operations for translation patterns, route patterns and transformation patterns. The Migration worksheet specifies all the transactions that can be automated using the Migration Tool. All remaining elements must be manually updated on Cisco Unified Communications Manager. The manual process of migrating the Dial Plan Model can be difficult and error-prone.

To simplify the model migration and to minimize manual intervention, use the automated Dial Plan Model Migration (dpmig) Tool. Obtain the latest version of the dpmig Tool from <https://software.cisco.com/download/type.html?mdfid=286281672&flowid=73042> by selecting **HCS Utilities**, and the **Dial\_Plan\_Migration\_Tool-vx.x.zip** file (where x.x is the tool version number).

The Dial Plan Migrator **dpmig.jar** is platform independent and requires only the Java Runtime Environment Version 1.7.0\_45 or later.

The dpmig tool is supported on Apple and Microsoft Windows (7.0 and 2003 R2) for all G1, G2, and Shared Instance Dial Plans with Cisco Unified Communications Manager 8.2 or later.

Take the following steps to upgrade the Dial Plan using the dpmig tool:

- 1 Back up Cisco Unified Communications Manager and Cisco Unified Communications Domain Manager.
- 2 Upgrade the Cisco Unified Communications Domain Manager platform.
- 3 Upgrade the Cisco Unified Communications Domain Manager software.
- 4 Upload the new Dial Plan Model (G1, G2, and Shared Instance) on Cisco Unified Communications Domain Manager.
- 5 Extract data from Cisco Unified Communications Domain Manager.
- 6 Load Static Config of Cisco Unified Communications Domain Manager (also referred to as InitIPPBX).
- 7 Migrate the Dial Plan.
- 8 Upgrade Cisco Unified Communications Manager.

## Extract Data from Cisco Unified CDM

Before you migrate the Dial Plan, extract data from Cisco Unified Communications Domain Manager (Unified CDM), such as customer information, location information, country code, and ISO codes. The following procedure extracts location information for all the customer locations, so run it only once during Dial Plan Migration (unless new locations are added before the migration of each Cisco Unified Communications Manager (Unified CM) is completed).

## Before You Begin

Complete the following before performing this procedure:

- Back up Unified CDM and Unified CM. For more information, see the *Cisco Hosted Collaboration Solution, Release 10.6(1) Maintain and Operate Guide*.
- Upgrade the Unified CDM platform and software.
- Upload the new Dial Plan Model on Unified CDM.
- Obtain the latest version of the dpmig tool from <https://software.cisco.com/download/type.html?mdfid=286281672&flowid=73042> by selecting **HCS Utilities**, and the **Dial\_Plan\_Migration\_Tool-vx.x.zip** file (where x.x is the tool version number).
- Back up Unified CM.
- Perform InitIPPBX of Unified CM. See [Load Static Config](#), on page 10.

## Procedure

**Step 1** On Unified CDM, log in using SSH as user **usmcli**.

**Step 2** Create a password for the SFTP user (usmcli) at **enable > software > scripts**. For example:

### Example:

```
>[software] [scripts] # password
passwd: password expiry information changed.
Setting password for user usmcli:
Password: usmcliadmin
Retype new password: usmcliadmin
passwd: password updated successfully
SFTP setup completed.
```

```
welcome to the CLI management console
Documented commands (type "help menu | <topic>"):
-----
[enable]  health  history  ping  exit
>>> enable
Documented commands (type "help menu | <topic>"):
-----
[autoregister]  [backup]  [configuration]  [destinations]
[dnccp]          [da]       [logging]        [network]
[ismp]          [software] [system]         [webservices]
health         history  exit
!!! Warnings exist - please run 'health'
>>> # software
Documented commands (type "help menu | <topic>"):
-----
[scripts]  [vmware]  delete  history  language
_pack
packagelist  upgrade  exit
!!! Warnings exist - please run 'health'
>>> [software] # scripts
Documented commands (type "help menu | <topic>"):
-----
history  list  password  run  exit
!!! Warnings exist - please run 'health'
>>> [software] [scripts] #
```

**Step 3** Upload SQL Database Query Files to the local machine. The files are included with the dpmig tool.

**Step 4** Log in to Unified CDM as an SFTP user and transfer the following SQL database query files from the local machine to the Unified CDM directory **/home/sftp/scripts**.

- a) create\_export\_user.enc

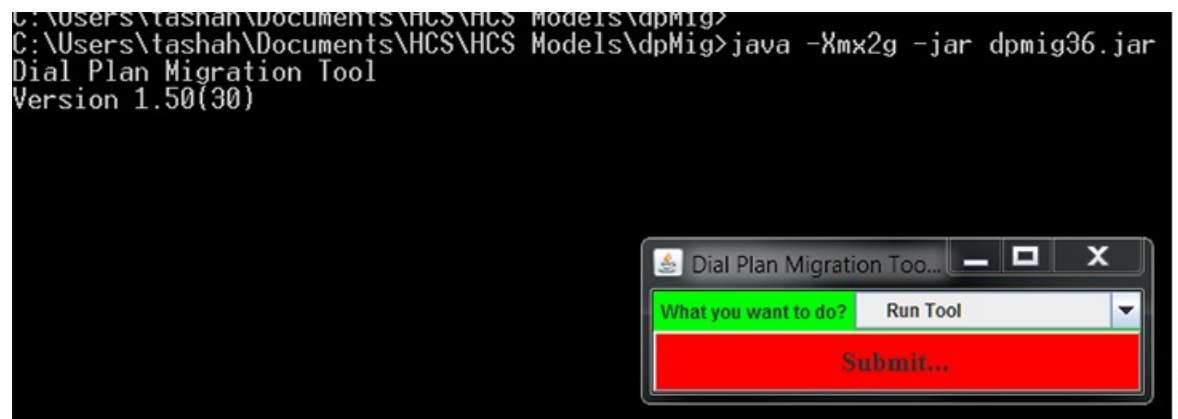


- b) load\_locations\_query.enc
- c) load\_lbo\_query.enc
- d) data\_extractor.enc

**Step 5** Run the following scripts to extract the location detail data file at (at `/home/usmcli/data_extracted/`) and install the files on the Unified CDM database:

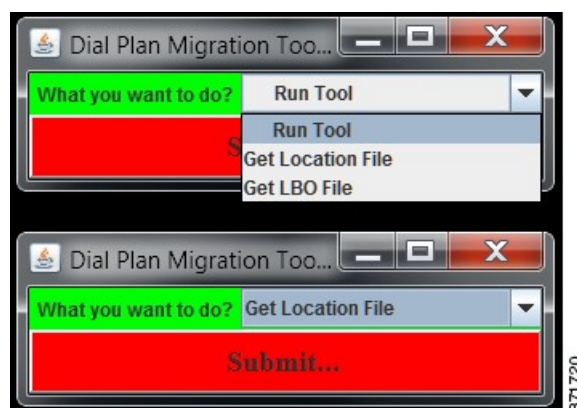
- run (select create\_export\_user.enc)
- run (select load\_locations\_query.enc)
- run (select load\_lbo\_query.enc)

**Step 6** From the command line, enter `java -Xmx2g -jar dpmig<nn>.jar` (where `<nn>` is the tool version number) to extract location details and LBO details from Unified CDM.

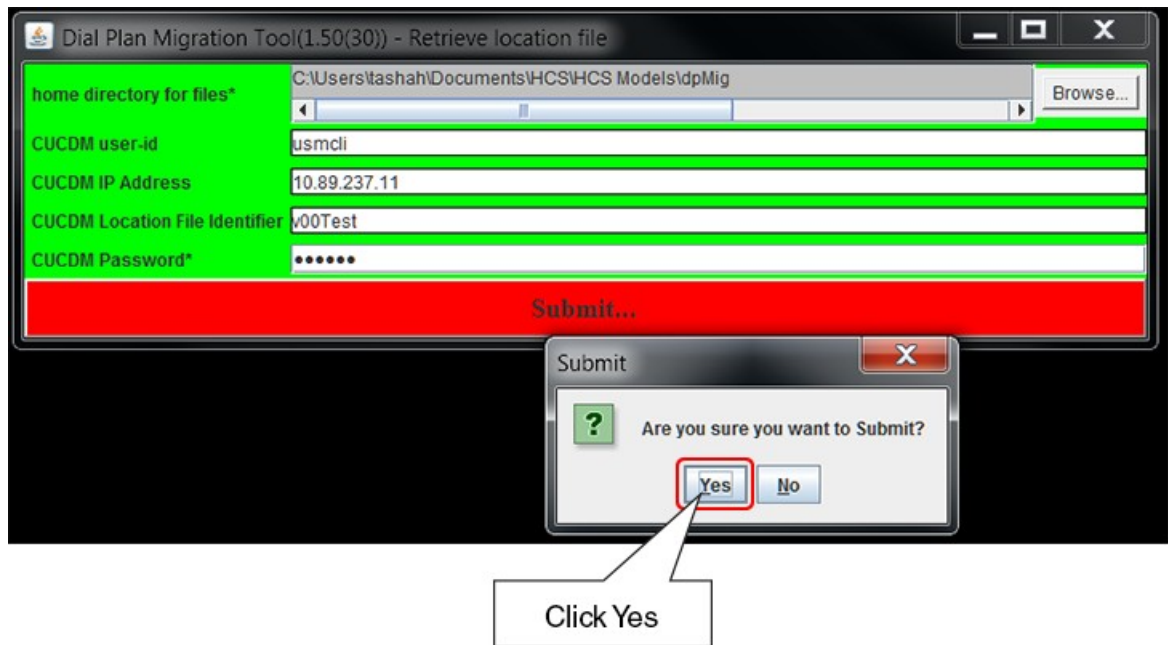


**Step 7** Click **Submit**.

**Step 8** From the dropdown menu, select **Get Location File**, then click **Submit**.



**Step 9** Enter your Unified CDM login ID and password, then click **Yes**.



The location details file is saved in the **home directory for files\***.

**Step 10** Repeat Steps 8 and 9 and select **Get LBO File** to extract LBO details.

### What to Do Next

See [Collect Information Using the dpmig Tool](#), on page 11.

## Load Static Config

When you run Load Static Config (InitIPPBX), the Cisco Unified Communications Domain Manager performs the following transactions in the Dial Plan Model:

- InitIPPBX
- AddProviderCountryIPPBX

### Procedure

To load static config, select **Network > PBX Devices** and then select the cluster to be initialized.

**Manage PBX Server**

Provider: HCSArcLab | User: bvsbm Voss | Role: Internal System SuperUser

Search by: Host Name | Max results: 50

**Search results:-**

Name	Product	Description	Connectivity	Associated Devices
HCSAr1	CCM	HCS Arc Lab Cluster	Connectivity	Associated Devices
HCSAr2	CCM	HCS Arc Lab Cluster second	Connectivity	Associated Devices
test-unmanaged	UnmanagedPBX		Connectivity	

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**CCM Cluster Management**

Provider: HCSArcLab | User: bvsbm Voss | Role: Internal System SuperUser

**CCM Cluster Details:-**

Name: HCSAr1  
 Static Config loaded: 2014/01/23 19:38:10 EST  
 CPID: 0001

Mandatory for manual configuration mode

Buttons: Modify, Load Static Config, Delete

Return to Manage Clusters

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## Collect Information Using the dpmig Tool

Perform this procedure to compare the current Cisco Unified Communications Manager (Unified CM) with the existing, preupgrade Cisco Unified Communications Domain Manager (Unified CDM) Dial Plan. The comparison identifies any customizations to Unified CM. This procedure extracts Unified CM cluster information such as customer information, location information, country codes, and ISO codes. This information is specified in the **Summary** sheet of `<file>_collect.xls`.

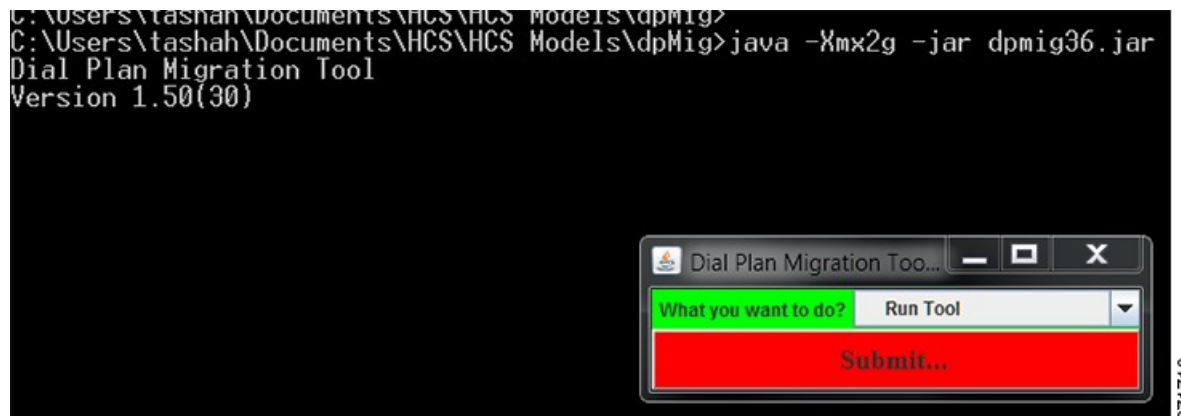
### Before You Begin

Extract Data from Cisco Unified CDM, on page 7

## Procedure

- Step 1** From the command line, enter `java -Xmx2g -jar dpmig<nn>.jar` (where <nn> is the version number of the Migration Tool).

*Figure 1: Start Screen for dpmig Jar File*



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- Step 2** Click **Submit**.  
The Migration Tool displays the Collect operation.
- Step 3** Specify the Report file prefix (for example, 814v00h) and click **Submit**.

*Figure 2: Submit Confirmation*



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- Step 4** Click **Yes**.

The Migration Tool displays fields for the active template directory, new template directory, cucdm location data file, and cucdm LBO data file.

**Figure 3: Migration Tool Inputs**

Migration Tool Inputs

default home directory\* C:\Users\tashah\Documents\HCS\HCS Models\dpMig Browse...

active template directory\* C:\Users\tashah\Documents\HCS\HCS Models\HCS921-SU3\Models Browse...

new template directory\* C:\Users\tashah\Documents\HCS\HCS Models\HCS921-SU3\Models Browse...

cucdm location data file tashah\Documents\HCS\HCS Models\dpMig\locations\_details\_mar31\_20140331\_2104.bt Browse...

cucdm LBO data file Users\tashah\Documents\HCS\HCS Models\dpMig\lbo\_details\_mar31\_20140331\_2104.bt Browse...

CUCM IP Address\* 10.89.237.6

CUCM IP Port\* 8443

CUCM User\* hcsapp

CUCM Password\* .....

Submit...

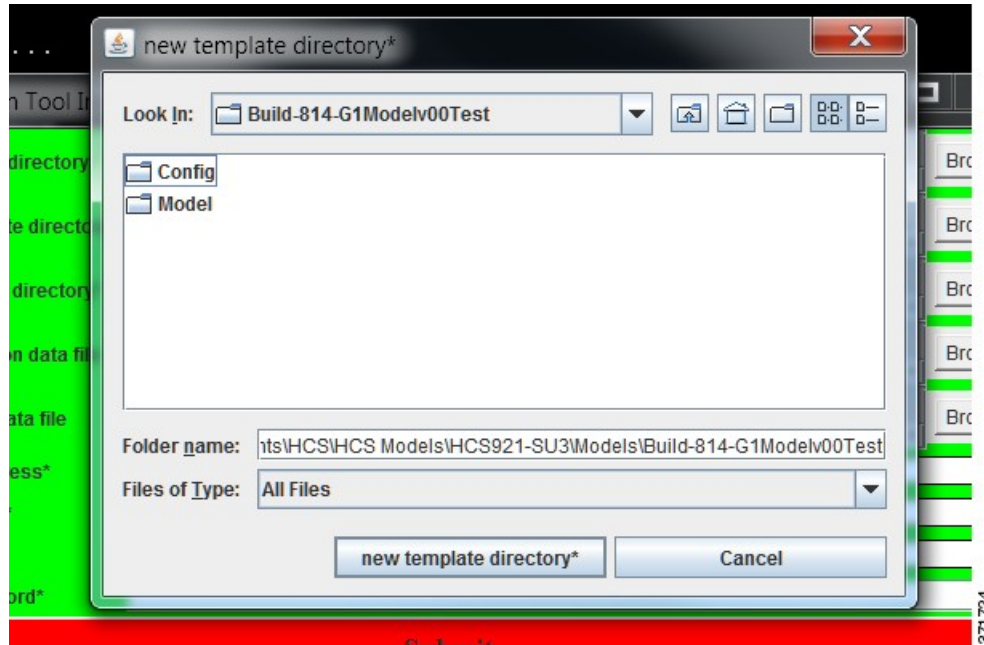
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**Step 5** Click **Browse** to locate the following information:

- a) **active template directory**—the *new* Dial Plan model directory for Cisco HCS 8.x releases or the *current* Dial Plan model directory for all Cisco HCS 9.x releases

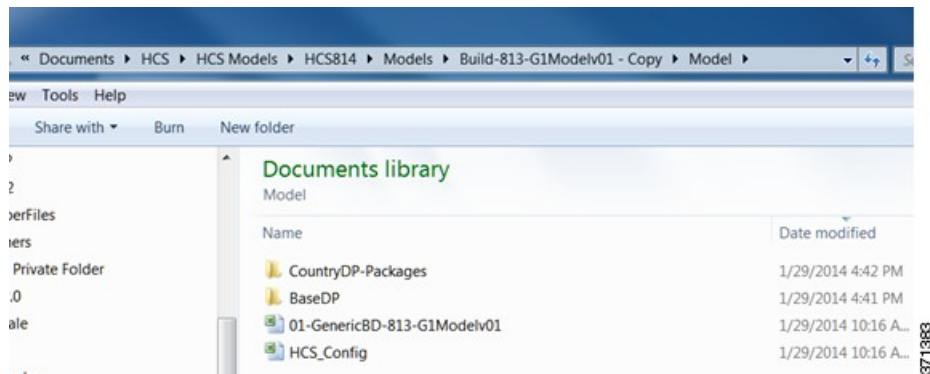
- b) **new template directory**—the *new* Dial Plan model directory

**Figure 4: Location of the Model Directory**



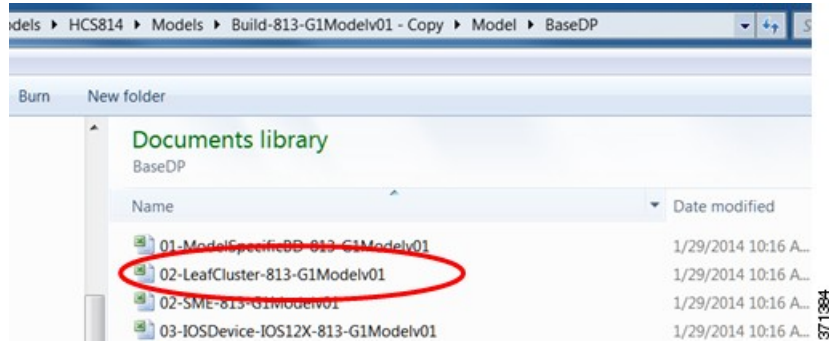
The structure of the Model directory is as follows:

**Figure 5: Directory Structure for Model Directory**



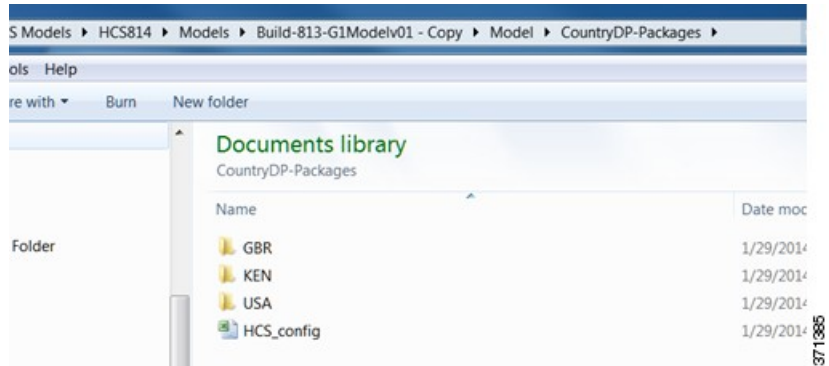
The structure of the BaseDP directory is as follows:

**Figure 6: Directory Structure for Base DP**



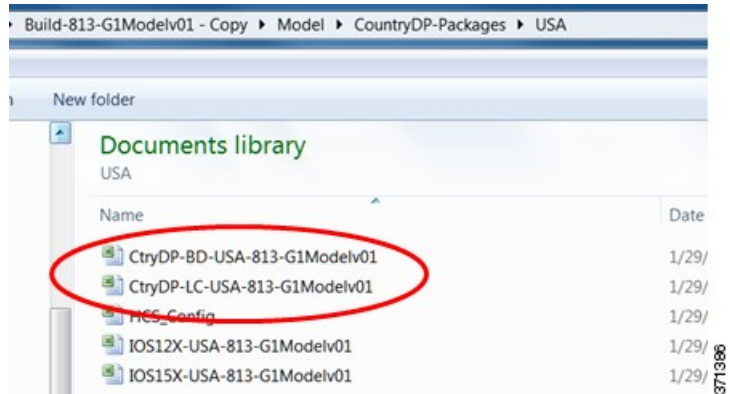
The CountryDP-Packages directory contains one folder for each country. The structure of the CountryDP-Packages directory is as follows:

**Figure 7: Directory Structure for Country Dial Plans**



The Directory Structure for each country module is as follows:

**Figure 8: Directory Structure for Country Module**



- c) **Unified CDM location data file**—select the location data file extracted in [Extract Data from Cisco Unified CDM, on page 7](#).
- d) **Unified CDM LBO data file**—select the LBO data file extracted in [Extract Data from Cisco Unified CDM, on page 7](#).

**Note** The data extraction capability is available only with Unified CDM 8.1(3) and later. For earlier releases, some information must be manually entered.

- Step 6** Enter the Unified CM IP address.
- Step 7** Enter the Unified CM IP Port (default 8443).
- Step 8** Enter the Unified CM username and password.
- Step 9** Click **Submit**.

The following information is generated:

- Country codes of the countries available on Unified CM.
- ISO code for Countries. You can find this information by examining the base dial plan data sheet for each country. The country dial plans are located in the Dial Plan Model directory. If the ISO code is not found, the omission is flagged.
- Customer ID of all the customers provisioned in Unified CM.
- Location information:
  - Location id (xx)
  - Country of Location
  - Country ISO Code
  - Local Breakout (LBO) is based on the existence of the AddPlusxx partition in Unified CM. The tool uses the extracted LBO information to associate call types to LBO routing.
  - Site Partition if it exists. It is used when rebuilding Calling Search Spaces.
  - Located Based Routed Identifier (LRID) (Column G). If the LRID is blank you can find it in the Location Information under General Administration.
  - If the location is a Linked Location, put an \* in the column. Fill in the Site ID of the parent location. (This information is not used)
  - Area Code or NatCode (Column I). If the NatCode is blank you can find the NatCode in the Location Information under General Administration.
  - Customer ID
  - LBO Call Types. If LBO data has not been extracted, manually fill in the LBO Call types for each of the rows that have AddPlusxxx in the LBO Column.

The dpmig tool generates a Summary page as shown in the following figure. Row 9 and all subsequent rows list the locations configured in Unified CM. There is one row for each location (site). Row 2 lists all Transactions in the Dial Plan Model that are ignored by the dpmig tool (see [Table 1: Transactions That Are Ignored by the dpmig Tool, on page 17](#)). You can add more transactions to the row, which are then ignored by the tool. Row 3 lists some of the Route Partitions (see [Table 2: Route Partitions That Are Ignored by the](#)



dpmig Tool, on page 18). The dpmig tool ignores all the Translation and Route Patterns associated with these Route Partitions.

**Figure 9: Output of Summary Page**

Migration Option	LOCATIO	LOCATION	COUNTR	ISO		LOCAT	LINKE	NAICO	CUSTO	SITE	LBO CALL	
(Blank to Migrate)	N	NAME	Y	CODES	LBO	SITE	ION	D	DE	MER	CODE	TYPES
0 Do Not Migrate	139	KEN-1	254	KEN		Site139	0013	20	1		00020	
0 Do Not Migrate	35	G2Location	1	USA		Site35	0010	972	1		00018	
1 Do Not Migrate	120	MEX1	52	MEX		Site120	0005	555	1		00047	
2 Do Not Migrate	127	USA-1	1	USA		Site127	0006	469	1		00049	
3 Do Not Migrate	128	GER-1	44	GBR		Site128	0007	234	1		00024	
4 Do Not Migrate	132	USA-2	1	USA		Site132	0008	469	1		00025	
5 Do Not Migrate	134	USA-3	1	USA	AddPlus134	Site134	0004	469	1		00065	1, 2, 3, 4, 6, 7, 9
6 Do Not Migrate	136	CAN-1	1	CAN		Site136	0009	204	1		00026	
7 Do Not Migrate	143	USA-4	1	USA		Site143	0002	919	1		00029	
8 Do Not Migrate	141	TUR-1	90	TUR		Site141	0015	290	1		00028	
9 Do Not Migrate	142	CAN-2	1	CAN		Site142	0012	204	1		00069	

Call Types to be routed via LBO

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**Table 1: Transactions That Are Ignored by the dpmig Tool**

Transaction Name	Description of Transaction
HCSVersion	Internal transaction to keep track of the model version.
AddLocationVM	Used to add Voice Mail.
AddLocationICTSiteCodes	Used to add InterCluster Site Location Codes.
ConnectIPPBXEResponder	Used to connect Unified CM to a Cisco Emergency Responder.
AssociateFNN	Used to associate a DID number to an internal DN.
AddLocationLegacyGateway	Used to add a Legacy Gateway to a location.
AnalogueLineReg	Used to add Analog Lines.
AddConnection	Used to set up Trunks, Route Groups, Route Lists, and Route Patterns.
AddLocationICTSiteCodesUnmanaged	Used to add Site Location Codes to an unmanaged PBX.
AddLocation [RegisterPhoneLinkedLocation]	Similar to AddLocation[RegisterPhone] and are only applied to linked locations.
ActivateEMCC	Used to add Extension Mobility Cross Cluster.
ConnectIPPBXUCCE	Used to connect Unified CM to a Contact Center.
AddCCService	Used to add Contact Center Service.
AddLocationCC	Used to add Contact Center Location.
AddLocation [LocationLocalArea-7]	Used in the United States to support 7-digit local dialing.
AddLocation [AddLocation-ER]	Used to add a location in the United States with Cisco Emergency Responder.
AddLocation [AddLocation-nonER]	Used to add a location in the United States without Cisco Emergency Responder.

Transaction Name	Description of Transaction
AddAdjacentAreaCode	Used to add adjacent area codes that are considered as local dialing.

**Table 2: Route Partitions That Are Ignored by the dpmig Tool**

Route Partition	Description
EUSA	This partition is United States-specific and is used if Cisco Emergency Responder is deployed.
FMCLookUp	This partition is used for Fixed Mobile Conversion.
E164LookUp	This partition is used to provision Translation Patterns to look up E.164-to-DN lookup in Unified CM.
GlobalForUnity-PT	This partition is specific to Shared Instance Dial Plan (G3). The Partition is assigned to the incoming Calling Search Space assigned to the common trunk between Unified CM and Cisco Unity Connection.

### What to Do Next

See [Audit the Dial Plan Using the dpmig Tool](#), on page 18.

## Audit the Dial Plan Using the dpmig Tool

Compare the current Cisco Unified Communications Manager (Unified CM) with the existing, preupgrade Cisco Unified Communications Domain Manager (Unified CDM) Dial Plan. The comparison identifies any customizations to Unified CM.



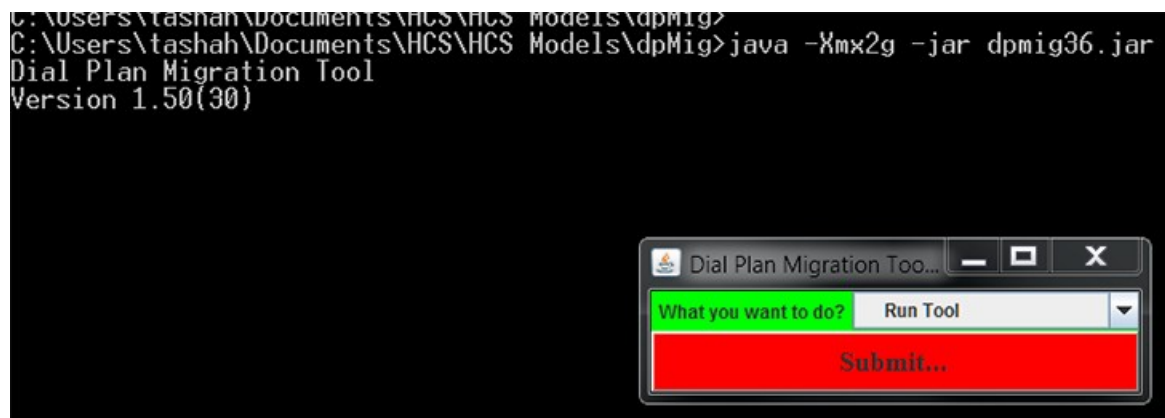
#### Note

This procedure is mandatory when upgrading from Cisco HCS Release 8.6(2) and Release 8.6(2)SU1+ to Cisco HCS Release 10.6(1).

## Procedure

- Step 1** From the command line, enter `java -Xmx2g -jar dpmig<nn>.jar` (where <nn> is the version number of the Migration Tool).

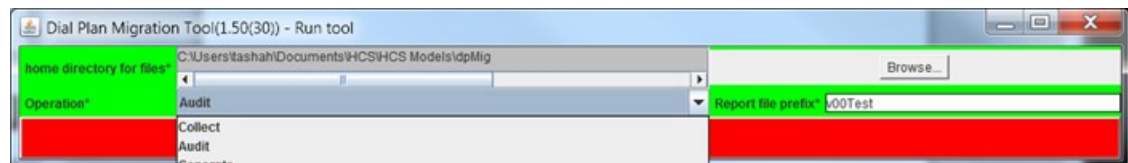
**Figure 10: Start Screen for dpmig Jar File**



371719

- Step 2** Click **Submit**.
- Step 3** From the dropdown menu, select **Audit** and enter the same file prefix that you used in the procedure [Collect Information Using the dpmig Tool](#), on page 11.

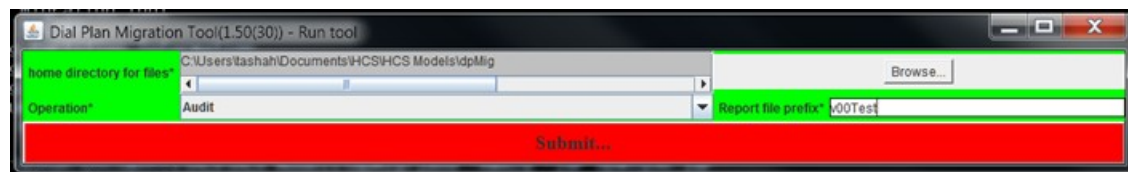
**Figure 11: Audit Selection**



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- Step 4** Click **Submit**.

**Figure 12: Submit Confirmation**



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The following Excel is generated: <filename>\_audit.xls. Each element record provides configuration information and several attributes that tell the dpmig Tool how to process the record. The following figure displays the Route Partition worksheet of the output from the Audit Report.

**Figure 13: Audit Report Output**

State	Notes	Location	Transaction Name	Model Name	Partition Name	Description	Time Schedule	Time Zone	Use Original Device Time Zone
IGNORED		1000	AddLocation	RegisterPhoneLinkedLocation	LB0CallingT4PubNum#T1000	LB0 Plus Handling for Call Forward Calls	AllDay		true
CUSTOM(ADD)					Point2CallingPartyScreeningPT	For Flat Dial Plan all DNs are in this partition	AllDay	Etc/GMT	true
UNCHANGED			InitIPBX	InitIPBX	E164LockUp	plus E164 DID to DN	AllDay		true
CUSTOM(REMOVE)			ConnectInterwiseServer	ConnectInterwisePBX	IncomingToCluster-PT	IncomingToCluster for Interwise UC Central	AllDay		true
UNCHANGED			InitIPBX	InitIPBX	CallingT4CFwdCallPT	Plus Handling for Call Forward Calls	AllDay		true
UNPROCESSED			ActivateEMCC	ActivateEMCC	EMCC-PT-#EMCCOUNTRY#	EMCC Partition for #EMCCOUNTRY#	AllDay		true
UNCHANGED		1000	AddLocation	RegisterPhone	AllowInternal1000	Allow Internal Calls	AllDay		true

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Each element (row) provides the following information:

- **State:** Refer to Step 5 for a description of how each action changes the state of the record.
- **Note:** Any note returned by the tool or by Unified CM.
- **Transaction Name:** Name of the transaction. The transaction name is empty if the dpmig tool cannot determine the type of transaction.
- **Model Name:** The Model Name of the element record. The Model Name is empty if the dpmig tool cannot determine the model of the element record.

**Note** The dpmig tool ignores any transaction and model combination that is set to be ignored in the Summary page.

**Step 5** Review each sheet of the Route Partitions, Calling Search Spaces, Translation Patterns, Route Patterns and Calling Transformation Patterns in the <filename>\_audit.xls file. A mismatch between Unified CM and the preupgrade Dial Plan Model appears as one of the following:

- **UNPROCESSED**—The tool could not process the record from the spreadsheet because it lacks the complete information. You can edit the record and complete the information. You can manually change the state from UNPROCESSED to any state listed below.
- **ACTIVE**—This record is active in Unified CM. No search was necessary to find the matching instantiated record.
- **INSTANTIATED**—This record is included in Unified CM. No search was needed to find the matching record.
- **UNCHANGED**—No differences were found between the included (instantiated) data and the one from Unified CM for the specific dial plan element.
- **COMMENT**—Any record for a location that is not being migrated.
- **CUSTOM(ADD)**—The element appears in Unified CM but does not exist in the Dial Plan Model. This mismatch could be due to customizations or Translation and Route Patterns that were added using Enhanced Number Translations.

- CUSTOM(REMOVE)—The element does not exist in Unified CM, but is available in the Dial Plan Model.
- CUSTOM(UPDATE)—The element in the Dial Plan Model and the existing Unified CM do not match.

### What to Do Next

Perform manual migration steps. See [Verify and Edit the Dial Plan Using the dpmig Tool](#), on page 21.

## Verify and Edit the Dial Plan Using the dpmig Tool

Review the <filename>\_audit.xls file and perform any necessary changes before migrating the Dial Plan.

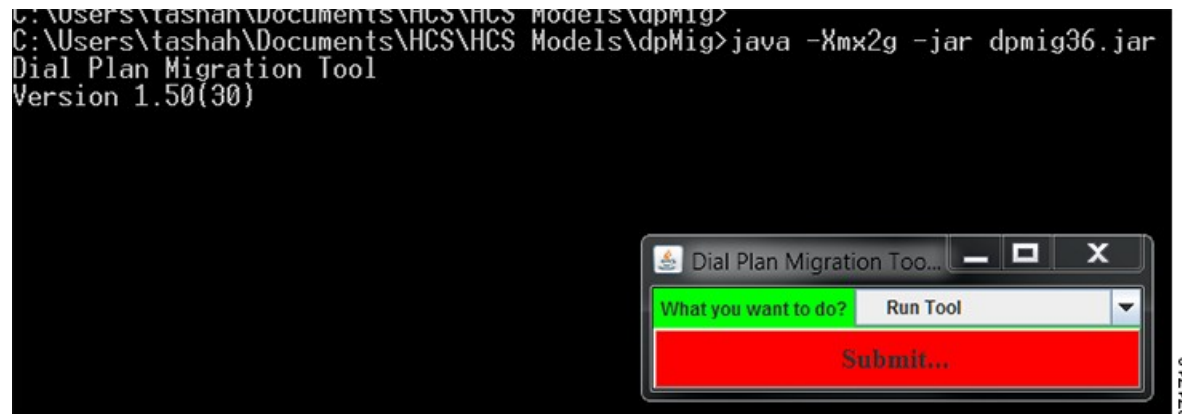
### Before You Begin

Complete [Audit the Dial Plan Using the dpmig Tool](#), on page 18.

### Procedure

- Step 1** From the command line, enter `java -Xmx2g -jar dpmig<nn>.jar` (where <nn> is the version number of the Migration Tool) to compare Cisco Unified Communications Manager with the new Cisco Unified Communications Domain Manager Dial Plan. The comparison identifies any differences between Cisco Unified Communications Manager and the new Dial Plan.

*Figure 14: Start Screen for dpmig Jar File*



- Step 2** Click **Submit**.
- Step 3** From the dropdown menu, select **Generate**.
- Step 4** Click **Submit**.  
The following file is created: <filename>\_generate.xls. An example of the Generate Report is shown below.

State	Notes	Location	Transaction Name	Model Name	Partition Name	Description	Time Schedule	Time Zone	Use Original Device Time Zone
IGNORED		1000	AddLocation	RegisterPhoneLinkedLocation	LBOCallingT4PubNumPT1000	LBO Plus Handling for Call Forward Calls	AllDay		true
CUSTOM(ADD)					Point2CallingPartyScreeningPT	For Flat Dial Plan all DNs are in this partition	AllDay	Etc/GMT	true
UNCHANGED			InitIPPBX	InitIPPBX	E164LookUp	plusE164 DID to DN	AllDay		true
CUSTOM(REMOVE)			ConnectInterwiseServer	ConnectInterwisePPBX	IncomingToCluster-PT	IncomingToCluster for Interwise UC Central	AllDay		true
UNCHANGED			InitIPPBX	InitIPPBX	CallingT4CFwdCallPT	Plus Handling for Call Forward Calls	AllDay		true
UNPROCESSED			ActivateEMCC	ActivateEMCC	EMCC-PT-#EMCCOUNTRY#	EMCC Partition for #EMCCOUNTRY#	AllDay		true
REMOVE		1000	AddLocation	RegisterPhone	AllowEmccCall1000	Allow EMERGENCY Calls	AllDay		true
ADD		1000	AddSNR	AddSNR	SNRRPT1000	SNR = Mobile Connect Reroute Partition	AllDay		false
UPDATE		1000	AddLocation	RegisterPhone	EmerCalls1000	Allow EMERGENCY Calls	AllDay		true
UNCHANGED		1000	AddLocation	RegisterPhone	AllowInternal1000	Allow Internal Calls	AllDay		true

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**Step 5** Review each sheet of the Partition List, Calling Search Space, Translation Pattern, Route Patterns, and Calling Transformation Patterns in the <filename>\_generate.xls file. The following table summarizes the different transaction states and the actions you can take.

**Table 3: Transaction States in the Generate Report**

State	Description	Action
ACTIVE	The record is active in the Cisco Unified Communications Manager. This is the case when no search was performed to find a matching record.	No Action
ADD	Any new dial plan element which is available only in the new Dial Plan sheet (not yet in Cisco Unified Communications Manager).	No Action
COMMENT	Any record with the location which is not to be migrated. Only the locations identified on the Summary page are migrated.	No Action

State	Description	Action
CUSTOM(ADD)	Any record manually added on the Cisco Unified Communications Manager.	Route Partition: <ul style="list-style-type: none"> <li>• Change state to “IGNORED” for partitions names as Site-Clone-x.</li> <li>• All other partitions if not required, change the state to “REMOVE”</li> </ul> Calling Search Space: <ul style="list-style-type: none"> <li>• Change state to “IGNORED” for pCSS named CFBUSYxxx-Clone-X.</li> <li>• All other CSSs if not required, change the state to “REMOVE”</li> </ul>
CUSTOM(UPDATE)	Any record manually updated on the Cisco Unified Communications Manager.	If the Notes section of the Generate Report indicates “Old and New Model Matches, Custom Updated in UCM”, then change the state for Partitions, CSS, Translation Patterns and Route Patterns to “UPDATE”
CUSTOM(REMOVE)	Any record manually removed from the Cisco Unified Communications Manager.	If the record is required then change the state to “ADD”, else No Action
IGNORED	The matched dial plan element was ignored because the Transaction, Model was to be ignored	No Action
INSTANTIATED	The record instance is in the Cisco Unified Communications Manager. This is the case when no search was performed to find a matching record in the Cisco Unified Communications Manager.	No Action
REMOVE or #REMOVE	Any Dial Plan element that is available in Cisco Unified Communications Manager and not available in the new Dial Plan sheet.	Change all location-specific elements to “REMOVE”  <b>Note</b> Leave location agnostic (records where location ID is null) elements as “#REMOVE”
UNCHANGED	No changes were found between the instantiated data and the Cisco Unified Communications Manager for the specific Dial Plan element.	No Action
UNPROCESSED	The tool was not able to process the record from the spreadsheet because it lacks complete information. You have to edit the record and complete it. You can manually change the state from UNPROCESSED to ADD, UPDATE, or REMOVE.	No Action

State	Description	Action
UPDATE	Any Dial Plan element that is available in the new Dial Plan sheet and the Cisco Unified Communications Manager but it is different.	No Action

- Step 6** Review the Transformation Patterns Worksheet, which requires special attention. The dpmig Tool does not create a delta list for Calling Party Transformation Patterns, but rather lists the Transactions in the Dial Plan Model and all the Transformation Patterns in the Cisco Unified Communications Manager.
- Match each Transformation Pattern in the Cisco Unified Communications Manager with the corresponding Transformation Pattern Transaction in the Dial Plan Model. Use the AutoFilter command in the Excel worksheet and then select the Route Partition from the Route Partition Column.
  - Compare each column to ensure that the columns are the same.
  - To update a column, update the worksheet information, and then change the state in the first column to UPDATE.
  - To delete a row, change the state in the first column to REMOVE.
- Step 7** Verify all the Translation and Route Patterns (AddLocationLocalGateway transactions) associated with Local Breakout (LBO).
- Step 8** To update a column in any worksheet, update the worksheet and then change the state in the first column to UPDATE.
- Step 9** To delete a row in any worksheet, change the state in the first column to REMOVE.
- Step 10** As a precaution, the elements to be removed from Cisco Unified Communications Manager (because they are not required by the new Dial Plan Model) are put in #REMOVE state. Change the state from #REMOVE to REMOVE in each sheet, if they are to be removed, or leave them as is. You can remove them later if necessary.
- Step 11** When you have completed all your checks and changes, save the file.
- 

## Migrate the Dial Plan Using the dpmig Tool

Use the Dial Plan Model Migration Tool to read the records from the <filename>\_generate.xls file and apply the changes to the Cisco Unified Communications Manager.

ADD and UPDATE operations are performed in the following order: **Route Partitions > Calling Search Spaces > Translation Pattern > Route Patterns > Calling Transformation Patterns.**

For the REMOVE operation, the order is reversed: **Calling Transformation Patterns > Route Patterns > Translation Pattern > Calling Search Spaces > Route Partitions.**

The migration consists of three sub-steps:

- 1 Location Agnostic Data (Add, Update). This is updated using the InitIPPBX transaction.
- 2 Location Specific Data (Add, Update, Remove). This step is repeated until all locations have been migrated.
- 3 Location Agnostic Data (Remove)





**Note** Initially, migrate a few locations to verify the call flows based on the new model. When you are satisfied with the results, you can migrate the remaining locations.



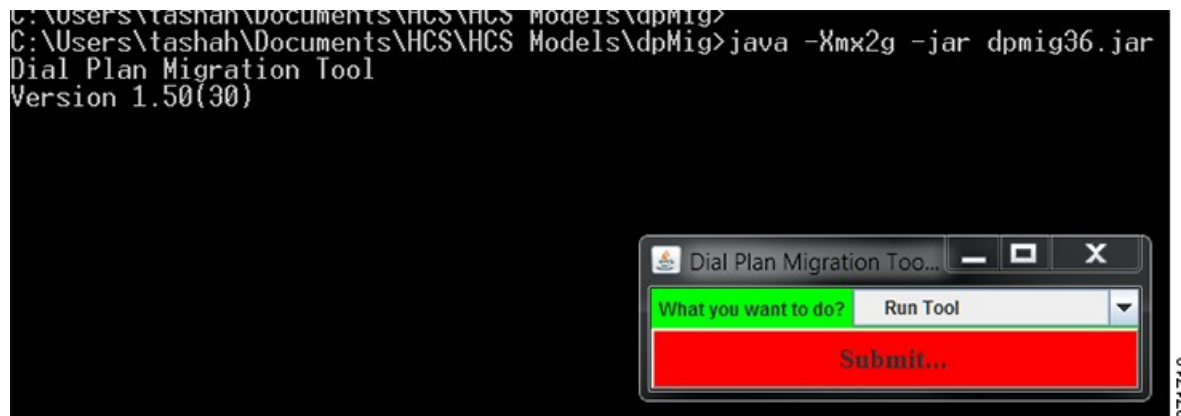
**Note** When you are not migrating all locations, ensure that you do not remove any partitions or CSSs (location agnostic) that may be required for the locations that are not being migrated.

Migration Option (Blank to Migrate)	LOCATION	COUNTRY	ISO CODES	LBO	SITE	LOCATION BA ROUTE IDENT
	4	1	USA	AddPlus4	Site4	0002
	13				Site13	0007
	17				Site17	0009
	35				Site35	0010
Do Not Migrate	43	1	USA		Site43	0018
Do Not Migrate	98	1	USA		Site98	0011
Do Not Migrate	99	1	USA		Site99	0012
Do Not Migrate	104				Site104	0004
Do Not Migrate	106				Site106	0005
Do Not Migrate	11	1	USA		Site11	0003
Do Not Migrate	22	1	USA	AddPlus22	Site22	0002
Do Not Migrate	107	254	KEN		Site107	0006

**Procedure**

**Step 1** From the command line, enter `java -Xmx2g -jar dpmig<nn>.jar` (where <nn> is the version number of the Migration Tool).

*Figure 15: Start Screen for dpmig Jar File*



**Step 2** Click **Submit**.

**Step 3** From the dropdown menu, select **Migrate**.

**Step 4** Click **Submit**.

This command updates the Dial Plan by processing only those records from the <filename>\_generate.xls with a state of ADD, UPDATE, or REMOVE. When successful, the state changes to Processed(ADD),

Processed(UPDATE), and Processed(REMOVE). If a transaction fails, the state of the transaction is not updated. <filename>\_migrate.xls is generated. An error message is displayed in the Note column. If more locations are to be migrated, then rename the file to file\_generate.xls, identify the locations to be migrated, and re-run the migration step until all locations have been migrated.

After all locations are migrated, modify the location agnostic transaction from #REMOVE to REMOVE to remove the location agnostic elements.

- Step 5** Review <filename>\_migrate.xls for records with the following states: ADD, UPDATE, and REMOVE. Any files that were not updated can be manually corrected in the Cisco Unified Communications Manager or updated in the <filename>\_migrate.xls report file and then saved as <filename>\_generate.xls. Repeat this procedure if needed. A sample of the Migration Report is shown in the following figure.

**Figure 16: Sample Migration Report**

State	Notes	Location	Transaction Name	Model Name	Partition Name	Description	Time Schedule	Time Zone	Use Original Device Time Zone
IGNORED		1000	addLocation	RegisterPhoneUnlinkedLocation	LBOCallingT4PublumpPT1000	LBO Plus Handling for Call Forward Calls	Allow		true
CUSTOM[ADD]					Point2CallingPartyScreeningPT	For Flat Dial Plan all DNs are in the partition	Allow	Etc/GMT	true
CUSTOM[REMOVE]			ConnectInterfUserServer	ConnectInterfUserPBX	IncomingToClusterPT	IncomingToCluster for InterfUser UC Central	Allow		true
UNCHANGED			InteGrRouting	InteGrRouting	InteGrRoutingPT	Handles InteGr Routing	Allow		true
UNPROCESSED			EMCC	EMCC	EMCC-PT-EMCCOUNTRV#	EMCC Partition for #EMCCOUNTRV#	Allow		true
REMOVE	Check to update all call times	1000	addLocation	RegisterPhone	InternalCall1000	Internal Call	Allow		true
PROCESSED[ADD]		1000	addSR	addSR	SIRPPT1000	SIP - Mobile Connect Route Partition	Allow		false
PROCESSED[UPDATE]		1000	addLocation	RegisterPhone	Emergency1000	SIP - Emergency Call	Allow		true
UNCHANGED		1000	addLocation	RegisterPhone	InternalCall1000	Internal Call	Allow		true

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- Step 6** Perform tests to ensure that there is no impact to the behavior of Cisco Unified Communications Domain Manager 8.1(x) model-related base release-set features for customers. To test functionality, place actual calls using the system, or use the Dialed Number Analyzer Tool. For more information on the Dialed Number Analyzer Tool, see <http://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html>.
- Step 7** If errors are detected during the validation phase after using the dpmig Tool, you can change the transaction state and any of its attributes in the report to reapply the transaction on the Cisco Unified Communications Manager. For example, an ADD transaction can be REMOVED or UPDATED and changes can be processed. At any point if full fallback is required, use the backed-up version of Cisco Unified Communications Domain Manager 8.1(x) and Cisco Unified Communications Manager to restore the original version of the Dial Plan model.