



Network Elements Loader User Guide for Cisco Unified Communications Domain Manager 8.1.4

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Preface

This guide describes how to use the Network Elements (Single Customer) loader to build an HCS CUCDM platform. All the parameters and settings in this document are based on the CUCDM812/HCS921 version of the HCS reference loaders.

Purpose

This document is to be used as both an operational and reference guide for loading the network infrastructure into CUCDM.



CHAPTER 1

Introduction

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Overview

The Network Elements loader adds the following customer-specific infrastructure and services into CUCDM:

- CUCM, CUC, IM and Presence, EMCC
- CER, Contact Center (UCCE), LDAP Servers, Technician Servers
- Hardware Groups, MRGs, MRGLs, CUCM Groups
- IP Phone Services, Audio Regions, Device Pool Templates, Service Profiles, UC Services
- CUCM Trunks - CUC, IM and Presence, CUBE-SP and UCCE (with RPs, RGs, and RLs for each)

In addition, this loader allows an administrator to initialize (convert from manual to active) CUCDM's connections to the following devices:

- Voicemail to CUCM
- CUCM to Transit Switch (CUBE-SP)
- Presence to CUCM
- Conference Resources to CUCM
- CUCM to CUCM (leaf clusters)
- CER to CUCM
- CUCM to Contact Center

Finally, a host of Raw Data API loaders are provided to accomplish specific tasks:

- Modify IP Phone Services
- Delete specific services and infrastructure items

Note

- The items in this section do not constitute an exhaustive list of all the worksheets.
- The Network Elements bulkloader is designed to be loaded by section (a modular approach).

- Each section of the Network Elements bulkloader is controlled by *load flags*
-

Scope

The Network Elements loader is divided into three sections (a divider sheet with a green tab designates the sections) :

- Customer Network - includes Special Attention Sheets
- Initialize Section - includes Initialize Network Devices
- Delete Worksheets

Unlike some of the other bulkloaders, the Network Elements workbook has a *CUSTOMER INPUT SHEET* that serves as a repository for virtually all of the customer network elements. In turn, the respective worksheets are programmed to *pull* information from the input sheet. As a result, roughly 98 % of the data in this workbook is pulled from a the input sheet.

In line with the Network Elements loader structure, this document will explain each major section of the workbook separately - starting with the *CUSTOMER INPUT SHEET*.



CHAPTER 2

CUSTOMER INPUT SHEET

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Load Flag Fields

The *CUSTOMER INPUT SHEET* is the main repository for customer data. The data in this sheet is used to populate individual worksheets within the Network Elements bulkloader.

In this worksheet, the first eight columns (and their associated fields) function as *Load Flags*. In other words, each column controls whether the information in the associated worksheets should be *loaded* into CUCDM.

The following illustration shows the first eight columns and their associated load flags:

Load Flag Network Elements	Load Flag CUCM Groups/ Imports	Load Flag InitIPPBX/ (Country)	Load Flag MRGs/ Connections BW Groups Regions DevicePool Templates	Configure Trunk Connections	Connect UCCE with IPPBX & Connect CER	Add EMCC Settings	Delete Cluster & Associated Settings
INPUT LINES	##	##	##	##	##	##	##

For example, Column A (*Load Flag Network Elements*) has double-hash marks (##) positioned in two fields below the words *INPUT LINES*. In this example, the corresponding column and row combination is *A7*. Whenever the ## characters are visible, none of the associated worksheets will be loaded into CUCDM. Only, when the ## characters are manually removed (deleted), will the associated worksheets be loaded.

To further illustrate, one of the worksheets controlled by the *Load Flag Network Elements* is *Add CUCM Clusters*:

	Provider Name	Cluster Name
#		
#		
#	HCS PROVIDER	
#		
#	ENTx LEAF CLUSTERS	
##	VS-P1-HCS	VSC-CL1

Notice that column A7 has double-hash marks. The presence, or absence, of the double-hash marks is controlled by the corresponding display in the *CUSTOMER INPUT SHEET* (A7). The formulas contained in A7 in the *Add CUCM Clusters worksheet* (`=IF("#CUSTOMER INPUT SHEET"!A7="", "", "##")`) designates the display or non-display of the ## characters.

In other words, if the *Load Flag Network Elements* field contains the ## characters, the *Add CUCM Clusters* worksheet will display the ## characters in its corresponding field(s). If the *Load Flag Network Elements* field is blank (contains no ## characters), then the corresponding fields in the *Add CUCM Clusters* worksheet will also be blank.

More importantly, when the *Load Flag Network Elements* field is blank, the *Add CUCM Clusters* worksheet will be loaded into CUCDM. When the *Load Flag Network Elements* field contains the ## characters, the *Add CUCM Clusters* worksheet will not be loaded into CUCDM.

Note

This process works identically for each of the eight flag fields and their respective worksheets.

Also notice in the Load Flags illustration that the content of each cell in the *Add CUCM Clusters* is populated from a specific field within the *CUSTOMER INPUT SHEET*. For example, in B7, the *Provider Name* is listed as *VS-P1-HCS*. This information is pulled from column I, row 7 of the *CUSTOMER INPUT SHEET* using a formula (that is `=#CUSTOMER INPUT SHEET!I7`).

Load Flag Network Elements

The following seven worksheets are controlled by the *LoadFlag Network Elements* field:

- Add CUCM Clusters (adds the CUCM publisher)
- Add CUCM Subscribers (is co-dependant upon additional data fields; adds additional servers to the cluster)
- Modify CUCM Subscribers (modifies publisher roles after subscribers and TFTP servers are added)
- Add CER Servers (Cisco Emergency Responder)
- Add LDAP Auth Servers (co-dependant upon additional data fields)
- Add Technician Servers, for example ISR Conferencing Servers
- Add Hardware Groups (CUCDM internal feature)

Note

- These seven worksheets are the first set of loaders run during a customer buildout.
 - CUC, CUPS and UCCE have their own individual load flags
-

Load Flag CUCM Groups/Imports

The following eight worksheets are controlled by the *Load Flag CUCM Groups/Imports* field:

- Add CUCM Groups (server groups)
- Import CCM Items (phone button templates, softkey templates, and so on)
- Add IP Phone Services (USA only)
- Add IP Phone Services-Germany
- Add IP Phone Services-France
- Import IP Phone Services (services will be set to *Restricted* upon import)
- Import CUC Services
- Raw Data-ModIPPhoneService

Note

CUCM and CUC must be taken **out** of *manual mode* before this section of the workbook is loaded into CUCDM.

Load Flag InitIPPBX (Country)

Only one worksheet (*Initialize Network Devices*) is controlled by the *Load Flag InitIPPBX (Country)* field. This worksheet pushes the static configuration (loaded by the *leaf cluster dialplan model*) from CUCDM to Unified CM. This step performs the *InitIPPBX* and *AddProviderIPPBXCountry* functions and pushes the cluster-wide and country-level dial plan models settings to the Unified CM cluster.

Note that the same process can be accomplished by pressing the *Load Static Config* link in CUCDM under *Network Elements > PBX > CUCM Cluster Name*.

Load Flag MRGs/Connections BW Groups Regions Device Pool Templates

The following eight worksheets are controlled by the *Load flag MRGs/Connections BW Groups Regions Device Pool Templates* field:

- Connect Voicemail to PBX
- Connect PBX to Transit
- Connect Presence to PBX
- Connect Conference to PBX (used for 3rd party conference devices on separate network elements - only load it if required for MRGs)
- Add CCM Audio Regions (codecs)
- Add Device Pool Templates
- Add CUCM Media Resource Groups
- Add CUCM MRG Lists

Configure Trunk Connections

The following seven worksheets are controlled by the *Configure Trunk Connections* flag field:

- **Add CCM Connections:**

- Connection to Aggregation (CUBE-SP)
- Connection to Unity Connection
- Connection to UCCE
- **Add CCM Connection Trunks:**
 - Trunk to Aggregation
 - Trunk to Unity Connection (Primary)
 - Trunk to Unity Connection (Secondary)
 - Trunk to UCCE
- **Add CCM Connection Route Groups:**
 - Route Group to Aggregation
 - Route Group to Aggregation (TEHO only)
 - Route Group to Unity Connection
 - Route Group to UCCE
- **Add CCM Connection Route Lists1:**
 - Country Specific Route Lists to Aggregation
 - PSTNNAT1
 - PSTNINT1
 - SERVICE1
 - EMERGENCY1
- **Add CCM Connection Route Lists2**
 - Route Lists to Unity Connection
 - Route List to UCCE CUBE-E
 - Route List to UCCE CVP
- **Add CCM Associate RG-RL:**
 - Route List to Unity Connection
 - Route List to UCCE CUBE-E
 - Route List to UCCE CVP
 - Country Specific Route Lists to Aggregation
 - PSTNNAT1
 - PSTNINT1
 - SERVICE1
 - EMERGENCY1
- **Add CCM Connection Route Patterns:**
 - Route Pattern to Aggregation
 - Route National Calls - USA

- Route International Calls - USA
- Route Service Calls - USA
- Route National FAC Calls - USA
- Route International FAC Calls - USA
- Route Service FAC Calls - USA
- Route Emergency Calls - USA

Connect UCCE with IPPBX & Connect CER

The following three worksheets are controlled by the *Connect UCCE with IPPBX & Connect CER* flag field:

- Connect CUCM to CUCM (leaf clusters)
- Connect ER to PBX (connects CER to CUCM)
- ConnectPBXtoContactCentre (connects UCCE to CUCM)

Add EMCC Settings

The following four worksheets are controlled by the *Add EMCC Settings* flag field:

- Add EMCC Countries
- Add EMCC Remote Clusters
- Add GeoLocation Filter
- Add EMCC Feature Parameters

Add EMCC Settings

The following 26 worksheets are controlled by the *Delete Cluster & Associated Settings* flag field:

- Raw Data-DelGeoLocationFilter
- Raw Data-DelEMCCRemoteCluster
- Raw Data-Del EMCC Countries
- Raw Data-Del MRGL
- Raw Data-Del MRG
- Raw Data-DisconnectContactCent
- Raw Data-Disconnect Conference
- Raw Data-Disconnect CUPS
- Raw Data-Disconnect PBXTransit
- Raw Data-Disconnect Voicemail
- Raw Data-Del HardwareGroup
- Raw Data-Disconnect CER
- Raw Data-Del CER

- Raw Data-Del Auth Server
- Raw Data-Del Conference Server
- Raw Data-Del UCCE Server
- Raw Data-Del CUPS
- Raw Data-Del UCX
- Raw Data-Del CCM Groups
- Raw Data-Del CCM Subscribers
- Raw Data-Del IPPhoneService-1
- Raw Data-Del IPPhoneService2
- Raw Data-DelCCMNet Connections
- Raw Data-DelDevicePoolTemplates
- Raw Data-Del Regions
- Raw Data-Del CCM Cluster



CHAPTER 3

CUSTOMER INPUT SHEET (Data Entry)

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Data Entry Fields

The remaining fields in the CUSTOMER INPUT SHEET are for data entry. As such, these fields serve as the central repository for the remaining worksheets.

Letter	Column Name	Description	Required/Optional
I	Provider Name	Name of the provider as listed in CUCDM.	R
J	Customer Name	The name of the customer as it will be listed in CUCDM.	R
K	Cluster Name	Best Practice: Keep this name short, no longer than 7 characters.	R
L	Cluster Status	Options are <i>Live</i> (for non-manual mode) and <i>Simulated</i> (for manual mode). Best Practice use <i>Simulated</i> .	R
M	Description	This field is for the cluster description, and not a description of the publisher server.	R
N	Software Version	Applies to the Unified CM cluster. Options are 7.1.x, 8.0.x, 8.5.x, 8.6.x, 9.0.x, 9.1.x.	R
O	ISO County Code	3-digit ISO code for example USA, GBR, DEU, and so on.	R
P	Publisher Host Name	Name of the publisher host. Best Practice: should match the Vmware Host Name.	R
Q	Publisher Name	Unified CM Name..	R
R	Provisioning IP Address	IP Address on the CUCDM side of the network NAT boundary (typically a public address).	R
S	Real Publisher IP Address (Real IP Address)	IP address on the customer side of the network NAT boundary (typically a private address).	R
T	Configuration UserID	This is the user id that is used to login to the CCMAAdmin, for example Administrator). Do not use hyphens in the user id.	R
U	Configuration Password	Password that is used in conjunction with the CCMAAdmin user id.	R
V	Manual Mode	Best Practice: use Y for Simulated.	R

Letter	Column Name	Description	Required/ Optional
W	Manual Mode Email Address	Required if CUCDM is in manual mode, or Optional if CUCDM is in non-manual mode.	R/O
X	IPPBX CID	CUCM Cluster ID is a required internal CUCDM feature.	R
Y	LDAP Enabled	Required only if a Unified CM cluster will be integrated via LDAP, options are Y or N.	R/O
Z	Subscriber 1 IP Address	IP Address of subscriber #1 on the CUCDM side of the network NAT boundary (typically a public address). If no subscriber IP is present, the node will not be labeled. Note Subscriber roles must be adjusted using the Add CUCM Subscribers worksheet.	R/O
AA	Subscriber 1 NAT Address	IP Address of Subscriber #1 on the customer side of the network NAT boundary (usually a private address).	R
AB	Subscriber 2 IP Address	IP Address of subscriber #2 on the CUCDM side of the network NAT boundary (typically a public address).	R
AC	Subscriber 2 NAT Address	IP Address of Subscriber #2 on the customer side of the network NAT boundary (usually a private address).	R
AD	Subscriber 3 IP Address	IP Address of subscriber #3 on the CUCDM side of the network NAT boundary (typically a public address).	R
AE	Subscriber 3 NAT Address	IP Address of Subscriber #3 on the customer side of the network NAT boundary (usually a private address).	R
AF	Subscriber 4 IP Address	IP Address of subscriber #4 on the CUCDM side of the network NAT boundary (typically a public address).	R
AG	Subscriber 4 NAT Address	IP Address of Subscriber #4 on the customer side of the network NAT boundary (usually a private address).	R
AH	Subscriber 5 IP Address	IP Address of subscriber #5 on the CUCDM side of the network NAT boundary (typically a public address).	R
AI	Subscriber 5 NAT Address	IP Address of Subscriber #5 on the customer side of the network NAT boundary (usually a private address).	R
AJ	Subscriber 6 IP Address	IP Address of subscriber #6 on the CUCDM side of the network NAT boundary (typically a public address).	R
AK	Subscriber 6 NAT Address	IP Address of Subscriber #6 on the customer side of the network NAT boundary (usually a private address).	R
AL	Domain Name	-	R

Letter	Column Name	Description	Required/ Optional
AM	Associated Transit Switch	This field applies only if you are deploying FMC, if so, then add a PGW to the system in simulated mode.	R
AN	Aggregation Trunk IP Address	This field is a legacy HUCS setting.	R
AO	Unused	-	N/A
AP	Load Unity Cluster Flag	Unity Connection has its own individual load flag; it controls whether CUCX will be loaded when the Load Flag Network Elements section is run. Options are Y or N.	R
AQ	CUCX Cluster Name	This field controls what is displayed in the Add CCM cluster worksheet. The cluster name and publisher name may or may not be the same. Best practice is to use the Vmware Host Name for the publisher.	R
AR	Cluster Status	Options are <i>Live</i> (for non-manual mode) and <i>Simulated</i> (for manual mode) Best Practice: use <i>Simulated</i> .	R
AS	Description	Description of the Unity Connection cluster.	R
AT	Software Version	Applies to the CUCX cluster Options are 8.0.x, 8.5.x, 8.6.x, 9.0.x, 9.1.x.	R
AU	Country Code	ISO Country Code (e.g., USA, GBR).	R
AV	Nat'd Primary IP Address	IP Address on the CUCDM side of the network NAT boundary (usually a public address) for the primary CUCX server.	R
AW	Nat'd Secondary IP Address	IP Address on the CUCDM side of the network NAT boundary (usually a public address) for the secondary CUCX server.	R
AX	Real Primary Address for Visual Voicemail	IP Address on the CUCDM side of the network NAT boundary (usually a public address) for the Primary CUCX server that is configured to support Visual voicemail.	R
AY	Real IP Address for UCX Trunk - Primary Node	IP Address of CUCX Primary server's trunk on the customer side of the network NAT boundary (usually a private address). The ":5060" suffix must be appended to the IP address for the SIP trunk.	R
AZ	Real IP Address for UCX Trunk - Secondary Node	IP Address of CUCX secondary server's trunk on the customer side of the network NAT boundary (usually a private address). The ":5060" suffix must be appended to the IP address for the SIP trunk.	R
BA	Configuration UserID	This is the user id that is used to login to the CUC Admin GUI, for example administrator).	R
BB	Configuration Password	Password that is used in conjunction with the CUC Admin GUI user id.	R
BC	Manual Mode	Best Practice: use N (for Live).	R

Letter	Column Name	Description	Required/Optional
BD	Voicemail CPID	Voicemail Call Processing ID; internal CUCDM feature.	R
BE	LDAP Enabled	Required only if a CUCX cluster will be integrated via LDAP; Options are Y or N.	R
BF	CUC Cluster DNS Alias	Required only if using DNS.	R
BG	IVR Server Role	Required only if utilizing IVR capabilities within CUCX.	R
BH	CUPS Cluster Load Flag	CUPS has its own individual load flag; controls whether CUPS will be loaded along with other items when the Load Flag Network Elements section is run. Options are Y or N .	R
BI	CUPS Cluster Name	Best Practice: should match the Vmware Host Name. This maps to the CUP publisher virtual machine name.	R
BJ	Cluster Status	Options are <i>Live</i> (for non-manual mode) and <i>Simulated</i> (for manual mode). Best Practice: use <i>Live</i> .	R
BK	Description	Description of the CUPS cluster.	R
BL	Software Version	Applies to the CUPS cluster. Options are 8.0.x, 8.5.x, 8.6.x, 9.0.x, 9.1.x.	R
BM	Country Code	ISO Country Code, for example USA, GBR).	R
BN	Nat'd IP Address	IP Address on the CUCDM side of the network NAT boundary (usually a public address). This is the IP address of the UCCE server (Cisco CVP server).	R
BO	Configuration UserID	This is the user id that is used to login to the CUPS Admin GUI, for example Administrator.	R
BP	Configuration Password	Password that is used in conjunction with the CUPS Admin GUI userid.	R
BQ	Manual Mode	Best Practice: use Y (for Simulated).	R
BR	UCCE Cluster Load Flag	UCCE has its own individual load flag; controls whether UCCE will be loaded along with other items when the Load Flag Network Elements section is run. Options are Y or N.	R
BS	UCCE Cluster Name	Best Practice: should match the Vmware Host Name.	R
BT	Cluster Status	Options are <i>Live</i> (for non-manual mode) and <i>Simulated</i> (for manual mode). Best Practice: use <i>Simulated</i> .	R
BU	Description	Description of the UCCE cluster.	R
BV	Country Code	ISO Country Code, for example USA, GBR.	R
BW	Nat'd IP Address	IP Address on the CUCDM side of the network NAT boundary (usually a public address).	R

Letter	Column Name	Description	Required/ Optional
BX	UCCE CPID	UCCE Call Processing ID; internal CUCDM feature.	R



CHAPTER 4

Network Elements : Bulk Load Process

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Bulkload Set #2: CUCM Groups / Import Settings / IP Phone Services 19

Bulkload Set #3: Initialize the CUCM Clusters (InitIPPBX) 20

Bulkload Set #4: Load Flag MRGs/Connections/BW Groups/Regions/DevicePool Templates 21

Bulkload Set #5: Configure Trunk Connections 21

Bulkload Set #6: Connect UCCE with IPPBX and Connect CER 22

Bulkload Set #7: Add EMCC Settings 22

We recommend that each loader set is added one step at a time, as described below.

C1-CUCDM812-VS-P1-NetworkElements-v1-29(Single Customer)(VSC-CL1-CL2)

Note

Within each bulk loading step, the assumption is made that only one customer is being added during the process. For clarity, only one row in the CUSTOMER INPUT SHEET (8) will be used for illustration.

Important Information

- Ensure that the CUCDM Customer-Side IP address is set on the #CUSTOMER INPUT SHEET (cell G4) (this is required for loading IP Phone Service settings).
- Double-check the input settings in the input lines on #CUSTOMER INPUT SHEET lines 8/9 before you start loading. Avoiding data errors will save time!.
- Double-check that the correct version levels are set in the input sheet to ensure that CUCDM uses the correct version level driver when provisioning the Cisco UC App servers, for example, Dial-plan loading failures will occur if a Unified CM v9.1 cluster is loaded with CUCDM set to version 8.6 or 9.0
- Double-check the Hardware Group settings are configured as required, for example, Transit switch included or not? Multiple Unified CM clusters in the FNN Hardware groups or not? (recommended for multi-cluster deployments).
- The Reference loader is set up to load a USA Aggregation trunk and associated RGs, RLs and RPs. Amend the workbook if a different country is required. Alternatively ensure the follow-on Multi-Country loader is added afterwards to add the Network Connectivity for other countries.

C6-CUCDM812-VS-P1-NetworkElements-v1-28-RG-RL-RP-Connections(VSC-CL1)
(AddMultipleCountries)

- The extra example data in lines 21 and below on the input sheet is for reference and will not be loaded.
- Do not tamper with the formulas in the formula-driven worksheets.
- Keep backup versions of this loader when making amendments.
- Revert to an earlier (working) version of the loader if the workbook formulas are damaged.

Bulkload Set #1: Load Flag Network Elements

Procedure

Configure the #CUSTOMER INPUT SHEET as follows:

- Step 1** Verify that CUCM, CUPS, UCCE and CUC are in manual mode.
- Step 2** To load this set, un-hash (delete) the ## characters in A8 under the *Load Flag Network Elements* (Column A).
- Step 3** In CUCDM > General Tools > Bulk Load Tools > Schedule new job > Browse, load the *Network Elements* loader.
- Step 4** Monitor the CUCDM transaction logs and verify (CUCDM > Network menu) that the required customer network elements have been loaded, for example CUCM clusters, CUCX clusters, CUPS clusters, CUCCE clusters, Additional Conference resources, Authentication Servers, Cisco Emergency Responders, Hardware Groups, and so on.
- Step 5** After loading the worksheet contents into CUCDM, re-hash (enter) the ## characters back into the field(s) under *Load Flag Network Elements* (from where they were originally deleted).

Note

Make sure that the required customer network elements (as shown in step 4 above) have been loaded.

Bulkload Set #2: CUCM Groups / Import Settings / IP Phone Services

Procedure

Re-configure the #CUSTOMER INPUT SHEET as follows:

- Step 1** Replace the ## characters in field A8.
- Step 2** Delete the ## characters in B8 under column B: *Load Flag CUCM Groups/Imports/IP Phones Services*.
- Step 3** Leave column C and further columns hashed, that is do not remove the ## characters.
- Step 4** In CUCDM, take CUCM out of manual mode as follows:
- Network > PBX Devices > CUCM Cluster name.*
 - Click on server name, for example VSC-CL1.
 - Deselect (uncheck) the Manual Mode checkbox.
 - Select the Modify active text link.

- e** Verify that CUCDM can connect to the CUCM cluster by running the import function on one CUCM attribute, for example Date/Time Groups: *PBX Devices > Cluster Name > Import / Refresh Items > Select 'Date/Time Groups' > Import..*
- f** Monitor the CUCDM Transaction Logs and Device Logs and check that the CUCM Groups and IP Phone Services are loaded. Check that the CUCM imports are successful. Be aware that the imports can take five minutes or more to finish.

Step 5 Take Cisco Unity Connection out of manual mode:

- a** *Network > Voicemail Servers > Server name.*
- b** Click on the Voicemail server name, for example VSC-UCX1.
- c** Deselect (uncheck) the *Manual Mode* checkbox.
- d** Click the **Modify** button.

Step 6 Take CUPS out of manual mode:

- a** *Network > Presence Servers > Server name.*
- b** Click on the CUPS server name, for example VSC-CUPS1.
- c** Deselect (uncheck) the Manual Mode checkbox.
- d** Click the **Modify** button.

Step 7 Re-run the Network Elements loader.

Note

If this transaction is not successful, perform the following procedures:

- Verify CUCM username and password has been correctly loaded into CUCDM.
- Verify network connectivity between CUCDM and the CUCM publisher.
- Verify correct natted IP address has been added.
- Only continue to the next step upon the successful import of CUCM/CUC information
- If some of the network elements are being simulated, leave these elements in Manual Mode.

Bulkload Set #3: Initialize the CUCM Clusters (InitIPPBX)

This step performs the *InitIPPBX* and *AddProviderIPPBXCountry* functions and pushes the cluster-wide, and country-level, dial plan parameters to the Unified CM cluster.

Alternatively, the *InitIPPBX* step can also be run via the CUCDM GUI for each cluster. Go to *Network > PBX Devices > ClusterName*, scroll to the bottom of the *CCM Cluster Management* screen and click **Load Static Config**.

Procedure

Configure the #CUSTOMER INPUT SHEET as follows:

Step 1 Hash fields A8 and B8 (replace the ## characters).

Step 2 Un-hash C8 (replace the ## characters).

Step 3 Re-run the Network Elements loader.

Note

- Verify that the *InitIPPBX* transaction is successful and that a message similar to "*CUCM 9.2.x: Driver load of cluster VSC-CL1 [192.168.14.67] completed ... [779]*" is displayed.
- As an extra confidence check, review the Device Log for the InitIPBX transactions.
- Alternatively, log in to the CUCM cluster and verify that the cluster-wide and country-level dialplan settings have been loaded into the cluster, for example check for addition of Partitions, CSSs, RPs, TPs, and so on.

Successful completion of the InitIPPBX step is an important milestone in configuring an HCS-CUCM cluster in that it indicates that the static configuration has been added correctly.

Bulkload Set #4: Load Flag MRGs/Connections/BW Groups/Regions/ DevicePool Templates

Procedure

Configure the #CUSTOMER INPUT SHEET as follows:

- Step 1** Verify that the fields A8, B8, and C8 are hashed.
- Step 2** Un-hash D8.
- Step 3** Re-run the Network Elements loader.
- Step 4** Monitor the CUCDM Transaction logs and confirm the required Unified CM settings are added:
- a** MRGs, MRGLs
 - b** Logical connection of UCX, CUPS, UCCE and Conference Servers
 - c** Addition of CUPS SIP trunk
 - d** Bandwidth Groups
 - e** CCM Audio Regions
 - f** Device Pool Templates
 - g** Network Connections with Trunks, Route Groups, Route Lists and associated Route Patterns

Bulkload Set #5: Configure Trunk Connections

Procedure

Configure the #CUSTOMER INPUT SHEET as follows:

- Step 1** Verify that the fields A8, B8, C8, and D8 are hashed.
- Step 2** Un-hash E8.
- Step 3** Re-run the Network Elements loader.

- Step 4** Monitor the CUCDM Transaction logs and confirm the required Unified CM settings are added:
- a** Logical connection of UCX, CUPS, UCCE and Conference Servers
 - b** Addition of CUPS SIP trunk
 - c** Network Connections with Trunks, Route Groups, Route Lists and associated Route Patterns
-

Bulkload Set #6: Connect UCCE with IPPBX and Connect CER

This step must only be performed AFTER the previous step has been successfully completed.

Procedure

Configure the #CUSTOMER INPUT SHEET as follows:

- Step 1** Hash fields A8, B8, C8, D8, and E8.
- Step 2** Un-hash column f8.
- Step 3** Re-run the Network Elements loader.
- Step 4** Monitor the CUCDM Transaction logs and confirm the required UCCE and CER dialplan settings are added to the CUCM cluster.
-

Bulkload Set #7: Add EMCC Settings

This is an optional step and is only required when a customer requires Extension Mobility Cross-Cluster support across multiple clusters, for example between VSC-CL1 and VSC-CL2.

Procedure

Configure the #CUSTOMER INPUT SHEET as follows:

- Step 1** Hash fields A8, B8, C8, D8, E8, and F8.
- Step 2** Un-hash G8.
- Step 3** Re-run the Network Elements loader.
- Step 4** Monitor the CUCDM Transaction logs and confirm the required Unified CM settings are added:
- a** Addition of EMCC Countries
 - b** Addition of EMCC Remote Clusters
 - c** Addition of Geolocation Filters
 - d** Addition of EMCC Feature Parameters
-



CHAPTER 5

Bulkload: Delete Cluster & Associated Settings

This set of loaders is not listed as a recognized step in the loading process. Instead, the information described in this section is completely separate from the standard operating procedure (SOP) for building a customer's network elements.

Caution: The steps outlined in this section are irreversible and should only be utilized with the approval and support of Cisco TAC.

Procedure

Delete a cluster and/or associated settings as follows:

- Step 1** Check that all IP Phone Services are *unrestricted*.
- If the Import Phone Services process has been run in CUDM, Phone Services, Login/Logout, Roaming Login-Logout and VisualVoicemail, will be restricted. This prevents the services from being deleted.
- Step 2** Using the CUCDM GUI (for the required CUCM cluster) run the following transactions:
- a** Select *PBX > Select Connectivity (for required cluster) > Select PBX > Connection Destination > Select All > Delete All*. This removes all trunk-related connections.
 - b** Select *PBX Devices > Select (CUCM Cluster) > Select DevicePoolTemplates > Select All > Delete All*.
 - c** Select *PBX Devices > Select (CUCM Cluster) > Select Audio Regions > Select Audio Regions > Select All > Delete All*.
- Step 3** On the Network Elements bulkloader, remove the ## characters in field H8 on the *CUSTOMER INPUT SHEET*. This enables the *Delete Raw Data* worksheets for the targeted network elements. Verify that the # characters have been removed from the *Delete Raw Data* worksheet tabs.
- Step 4** Run the Network Elements loader (make sure that the A8, B8, C8, D8, E8, F8, and G8 fields are hashed).
- Step 5** Using the CUCDM GUI, switch the IPPBX cluster into manual mode (making sure to click **Modify** after doing so), and then perform the following procedures:
- a** Delete the CUCM Groups
 - b** Delete any remaining IP Phone Services
 - c** Delete the CUCM cluster