



A MITEL
PRODUCT
GUIDE

CloudLink Integration with MiVoice MX-ONE

Deployment Guide

56/1531-ANF 901 43 Uen D

September 2024

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About this Document

This chapter contains the following sections:

- [Purpose of this Document](#)
- [Related Documentation](#)
- [Terminology](#)

This document contains information about how to install, deploy, integrate, and govern call processing behaviors for CloudLink using the existing MiVoice MX-ONE solution.

This document will serve as an introductory guide to readers seeking a high-level perspective of how to deploy and integrate CloudLink with the MiVoice MX-ONE solution. The document is intended for planners, and engineers. Basic knowledge of telephony (especially ISDN and IP technology) and cloud technology is required to understand the content presented in this document.

MX-ONE can be integrated with Mitel CloudLink to provide a better unified communications experience for an end-user via feature-rich cloud-based capabilities.

1.1 Purpose of this Document

This document describes the deployment and integration of the CloudLink with MiVoice MX-ONE, to enable users to develop and use mobile or web-based applications using published REST APIs.

This document also provides the minimum system requirements for deploying and integrating the CloudLink with MiVoice MX-ONE.

1.2 Related Documentation

The following are relevant reference documents available on the documentation site on mitel.com:

- [MiVoice MX-ONE Product Documentation](#)
- [Mitel Administration](#)
- [CloudLink Gateway](#)
- [CloudLink Platform](#)
- [CloudLink Security Documentation](#)
- [MiTeam Meetings](#)

1.3 Terminology

AD: Active Directory

API: Application Programming Interface

CL: CloudLink

CLGW: CloudLink Gateway

DB: Database

GUI: Graphical User Interface

GW: Gateway

PM: Provisioning Manager

This chapter contains the following sections:

- [CloudLink Platform](#)
- [CloudLink Gateway](#)
- [CloudLink Applications](#)

The solution comprising MiVoice MX-ONE and CloudLink comprises the following MiVoice MX-ONE and CloudLink components.

- MX-ONE components:
 - Service Node
 - Media Server
 - Media Gateway Unit (connection to PSTN)
 - Service Node Manager
 - Provisioning Manager
- CloudLink components:
 - CloudLink Platform
 - CloudLink Gateway
 - CloudLink Applications

2.1 CloudLink Platform

The CloudLink Platform is an open development platform for application developers, partners, and customers. It provides tools for building tailored applications that call for no prior development knowledge. This is hosted by Mitel on Amazon Web Services (AWS).

2.2 CloudLink Gateway

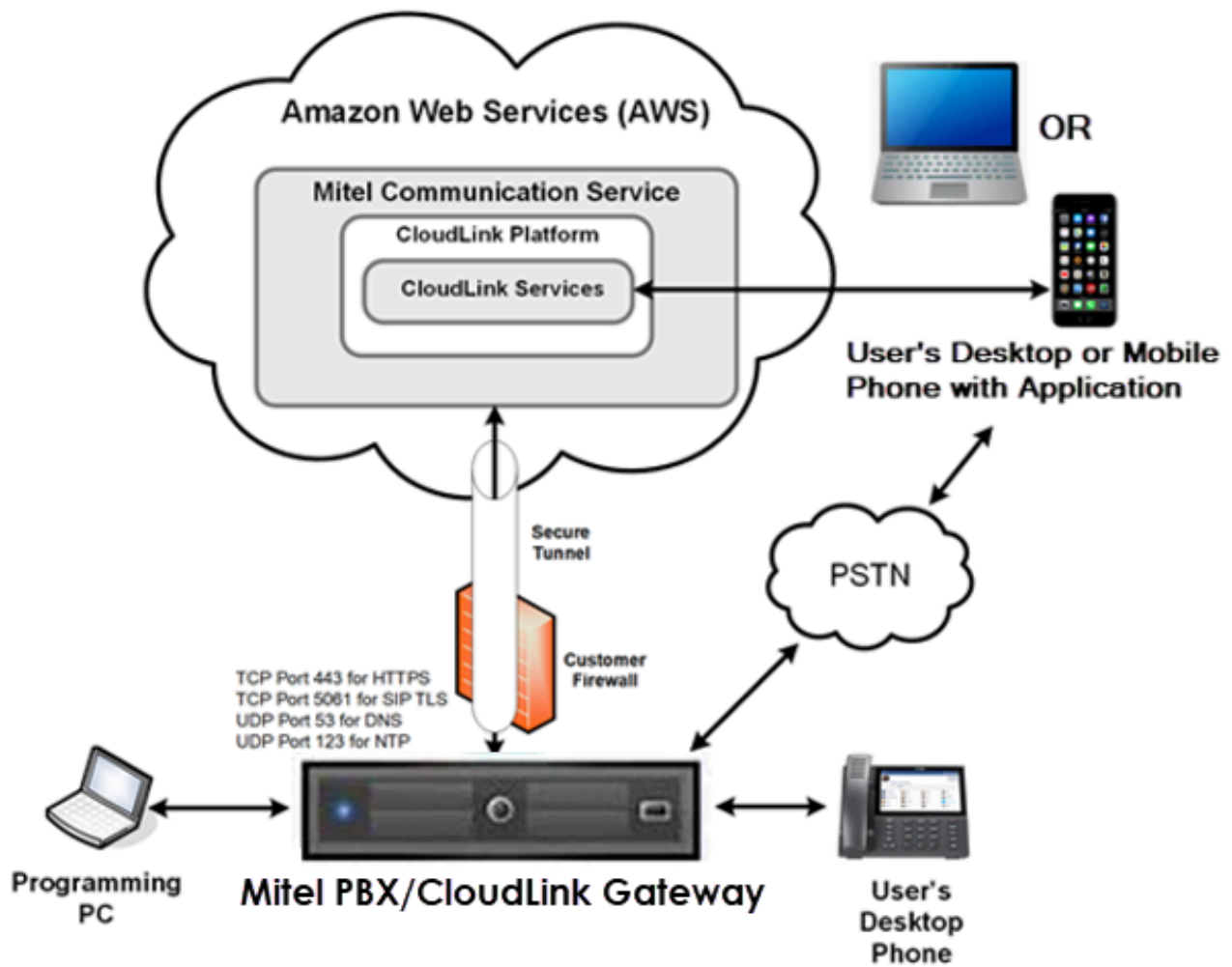
The CloudLink Gateway connects PBXs to the CloudLink Platform and CloudLink Applications. The gateway enables the connection between the PBX and the endpoints by supporting the signaling protocols from different PBXs. Effectively, only one Signaling and Messaging Protocol is used between the CloudLink Gateway and the CloudLink Platform infrastructure that runs on Amazon Web Services (AWS).

2.3 CloudLink Applications

CloudLink Applications leverage Mitel Application Programming Interfaces (APIs) and microservices so that next generation apps can be continuously and rapidly deployed, management is simplified, and real-time communication that meets customer needs is delivered.

Mitel is exploring the possibilities offered by CloudLink Application to support third-party applications under the [Mitel Developer program](#).

These applications make business communications simple, fast, and more effective by connecting users back to their office, their coworkers, and back to their Phone Systems by using the necessary Mid-Call Functionalities of standard office Desktop Phones to enable the direct, immediate communication needed by Businesses.



This chapter contains the following sections:

- [Integration](#)
- [System Requirements](#)

In the Mitel CloudLink environment, the CloudLink Gateway enables the connection between MiVoice MX-ONE and the CloudLink Platform.

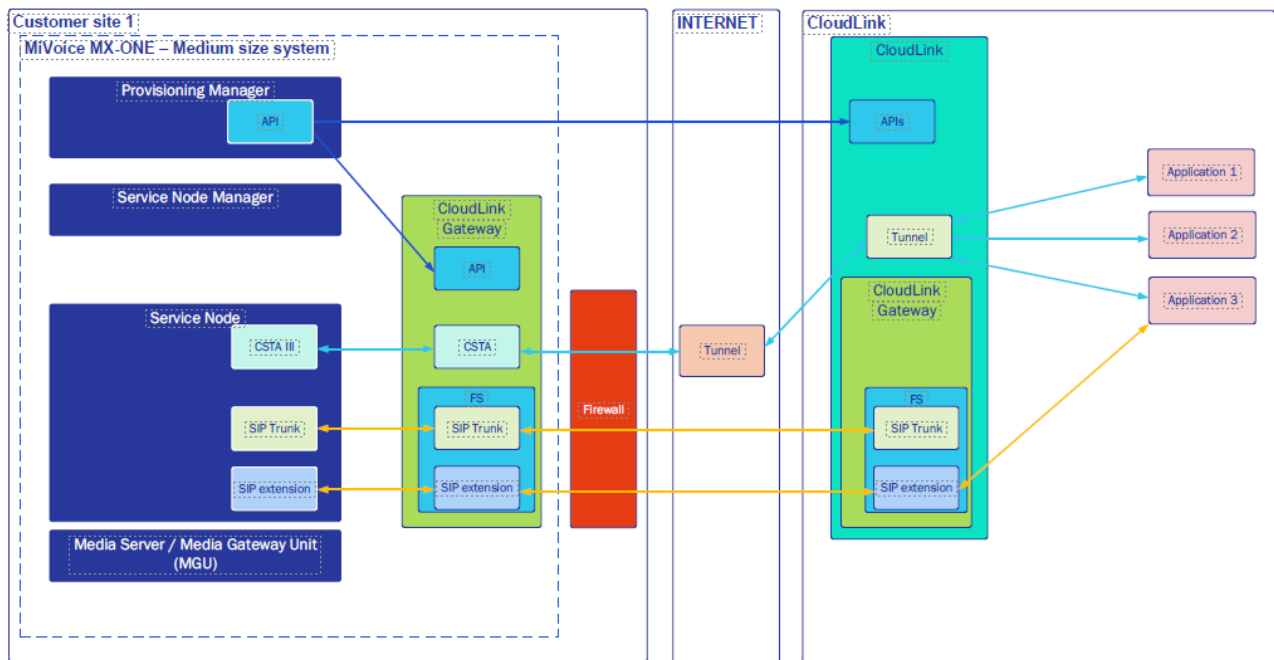
For information on the CloudLink overall solution, where the MiVO PBX represents MX-ONE, refer to the [Network View](#).

The solution between MX-ONE and CloudLink has the following key system functions:

- API – Application Programming Interface
 - API defines the way that the systems will interact with each other.
- CSTA – Computer Supported Telecommunications Applications
 - It provides third-party call control. It is an interface that external computer applications can use to remotely control a phone.
- SIP – Session Initiation Protocol and Media Handling
 - SIP extension is used to provide a valid PBX extension to a softclient.
 - Media Handling provides media capability to the CloudLink.

3.1 Integration

The following figure illustrates the high-level solution overview of the integration between MiVoice MX-ONE and CloudLink.



3.1.1 API – Application Programming Interface

CloudLink provides APIs that can be used to interact with CloudLink Services.

The CloudLink ecosystem has different APIs for different CloudLink components, such as different CloudLink APIs for Authentication, Admin, Administration, and so on. The CloudLink Gateway also contains an API that is used to add, change, delete and view users, SIP extensions (softclients), and the SIP trunk in CloudLink Gateway.

The MX-ONE Provisioning Manager uses CloudLink APIs to add, change, delete and view information in CloudLink.

Depending on the service used in the solution, the Provisioning Manager will use one or more APIs to perform each task. The API calls are implemented in the Provisioning Manager software and it is transparent for the system Administration.

3.1.2 CSTA – Computer Supported Telecommunications Applications

CloudLink Gateway contains a CSTA server that is used to interact with the different Mitel Call Managers. CSTA III XML is used with MX-ONE.

The CSTA component in CloudLink Gateway supports the following:

- Monitoring: StartMonitor, StopMonitor, SnapshotDevice.
- Call control: MakeCall, ClearCall, ConsultationCall, AlternateCall, TransferCall, ConferenceCall, SingleStepTransfer, HoldCall, RetrieveCall.
- Call events: service initiated, delivered, established, held, retrieved, diverted, transferred, conferenced.
- Other functions: DND, MWI, Call Forward, Presence.

- Support for forking (multiple Terminals with same DN).

3.1.3 SIP – Session Initiation Protocol and Media Handling

CloudLink Gateway contains a SIP PBX used to interact with the different Mitel Call Managers.

The SIP PBX component on the CloudLink Gateway LAN side supports the following:

- SIP TCP, SIP UDP
- RTP and SRTP (media)

3.2 System Requirements

The solution between MiVoice MX-ONE and CloudLink requires licenses, access to services, and applications. The following sections list the minimum requirements for the basic solution.

3.2.1 MX-ONE Requirements

This section describes the prerequisites for a MiVoice MX-ONE with CloudLink that includes MiVoice MX-ONE Gateway and MiCollab.

1. MX-ONE Licenses:

- SIP extensions
- SIP trunk (*optional*)
- CSTA
- Provisioning Manager

2. SWA License: An active SWA license subscription is required to have access to configure CloudLink in MX-ONE. The PM/SNM can read the SWA status by typing the `license_status` command.



Note:

SWA license is time-limited and has an expiry date. An alarm is sent 30 days before the expiry date and the SWA subscription must be renewed before the expiry date.

3. For CloudLink configuration, the minimum MX-ONE Provisioning Manager (PM) version must be **7.6 or higher**. For information on CloudLink configuration, see [Provisioning Manager User Task](#) on page 34.
4. The solution supported currently is a deployment that includes MiVoice MX-ONE, MiVoice MX-ONE Gateway paired with a CloudLink Gateway, MiCollab, and the CloudLink Platform.
5. The solution is supported only for a single MiVoice MX-ONE.
6. A single CloudLink Gateway is supported. There is no CTI resiliency.
7. MiCollab is not required to be part of the solution, but is expected to be present most of the time based on the fact that MiCollab will still be the primary UC application.

8. The CloudLink is primarily an enabler for development of third-party CTI applications on the CloudLink Platform. CloudLink APIs will include:
- Call, Answer, Clear/Release, Hold/Retrieve, Consultation Hold and Transfer
 - Call History
 - Basic Voice Mail (currently there is no support for Visual Voice Mail), Message Waiting Indicator, and click to call voice mail (to retrieve messages) support is for EMEM, NuPoint Messaging, and MiCollab Advanced Messaging (MiCAM) but technical support covers all voicemail applications on MiVoice MX-ONE whether these are Mitel applications or not.
9. CloudLink Integration supports a maximum of 5000 users and 5000 devices in MX-ONE 7.5. For more information, see the Engineering guidelines documentation. With the expected enhancements being implemented in Mitel PBX/ CloudLink solutions, technicians must always check the Mitel Documentation Center and Release Notes for updates.
10. A user to be successfully imported from MiVoice MX-ONE into CloudLink the user must have specified:
- Email Address
 - Extension Number
 - First or Last Name
 - Softphone Client

3.2.2 CloudLink Requirements

- Partner ID – the Mitel partner needs to have access to CloudLink Services via Mitel MiAccess to be able to set up the solution.
- Administrator account to be used by Provisioning Manager.
- CloudLink licenses for the specific services, such as MiTeam Meetings licenses.

3.2.3 Network Requirements

This section provides details of network connections required between CloudLink Gateway and MX-ONE. You must ensure that the ports on MX-ONE are reserved for operational use for the CloudLink Gateway and that the connections are routed properly through the corporate network.

For more information on the network connection required between CloudLink Gateway with MiVoice MX-ONE, see the following sections in [CloudLink Gateway User Guide](#):

- [Configuration Prerequisites](#)
- [Network View](#)
- [Connections Between the CloudLink GW and PBX/Call Server > MiVoice MX-ONE Considerations](#)

Introduction to Mitel Administration

4

This chapter contains the following sections:

- [Access to Mitel Administration](#)
- [Create a CloudLink Customer Account](#)
- [Create and Add CloudLink Users to Customer Account](#)

Also see the [Mitel Administration User Guide \(mitel.com\)](#).

The Mitel Administration portal allows you to perform the following actions:

Partner Level:

- Create and manage end-customers in the CloudLink Platform.
- Create Administrator accounts for each customer.

Administrator Level:

- Associate a CloudLink Gateway with a customer.
- Configure the CloudLink Gateway.
- View and manage CloudLink users declared by MiVoice MX-ONE.

After creating a customer on the CloudLink Platform, the customer is listed in the partner dashboard.

4.1 Access to Mitel Administration

As a Mitel Partner, you can log in to the [Mitel MiAccess Portal](#) either via Mitel MiAccess Portal or through the URL <https://accounts.mitel.io>.

4.2 Create a CloudLink Customer Account

For information about creating a CloudLink Customer account, see the section Managing Accounts in [Mitel Administration User Guide \(mitel.com\)](#).

4.3 Create and Add CloudLink Users to Customer Account

For information about creating a CloudLink user account, see the section Managing Users in [Mitel Administration User Guide \(mitel.com\)](#).

Note:

A Mitel Partner can add users to customer accounts. The customer's Administrator account can add users to that account.

After a Mitel Partner or an Administrator adds a user to a customer account, the Mitel Administration sends a verification email to the user. The user needs to verify the email address. For more details, see the section [Create Customer Accounts and Add Users](#) in [Mitel Administration User Guide \(mitel.com\)](#).

Note:

A Mitel Partner must add a user with Administrator role in the customer account as the Account ID and PM Administrator user created is used to setup a CloudLink subsystem in Provisioning Manager.

4.3.1 Provisioning Manager Administrator User

A user with Administrator privileges is required to authenticate Provisioning Manager towards CloudLink API.

To create an Administrator in CloudLink:

1. Navigate to **User Management > Users**.
2. In the **New User** window that opens, enter the relevant user details and turn on the **Account Admin** radio button.
3. Click **Create** to add the Administrator user to the account.



New User

Enter user details below

Name *

First Name *

Last Name *

Email *



☒ Account Admin

*required

Cancel

Create

Note:

The Administrator account needs to have a valid email address. CloudLink will validate the address and send a Welcome Email to the user.

4.3.2 Validation of the Administrator User

The Administrator user must complete the account setup by following the instructions sent via the Welcome Email.

Note:

This validation must be done before the user can use any CloudLink service. For more information, refer to the [Managing Users](#).

Integrating CloudLink Gateway with Mitel Administration

5

After you create a customer account in the Mitel Administration, you can begin the deployment of the CloudLink Gateway to associate the Gateway with the customer account, configure and connect a PBX, and to deploy a CloudLink application for all the users. For more information, see [Integrating CloudLink Gateway with Mitel Administration](#)

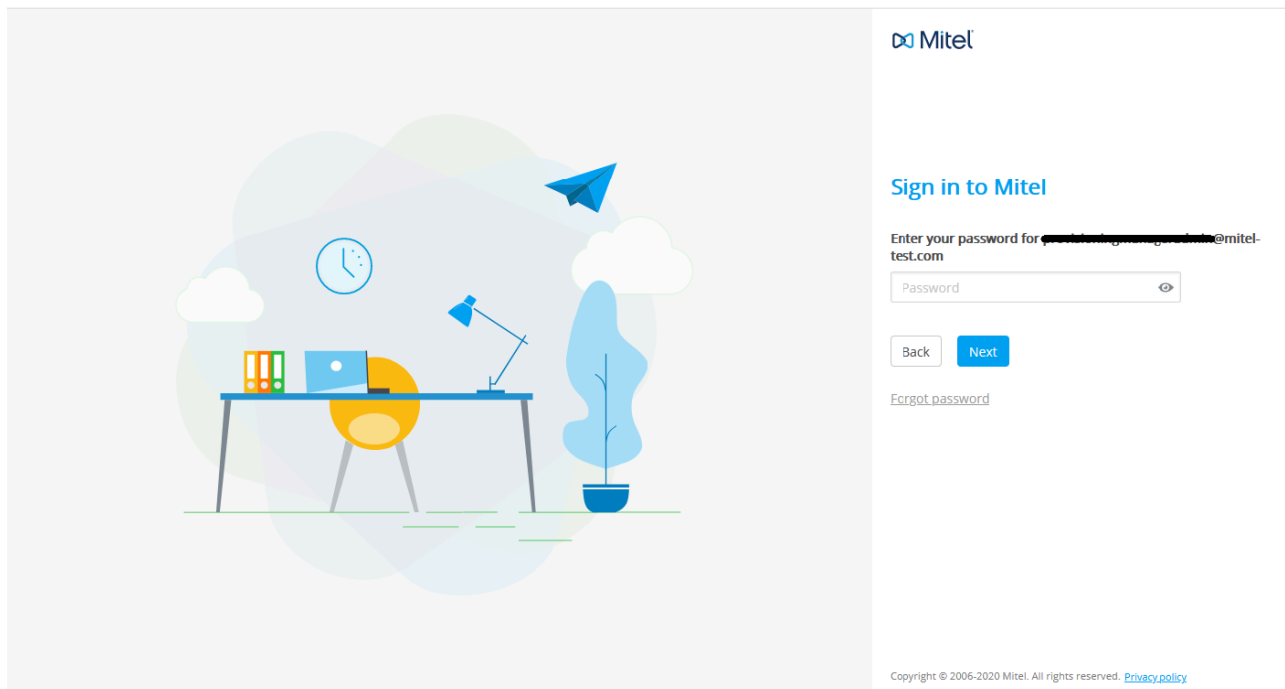
As part of the CloudLink, a CloudLink Gateway in the customer premises is required. It is using services that require CSTA and SIP.

If CloudLink Gateway services will be used as part of the customer solution, install the CloudLink Gateway.

For more information to install CloudLink Gateway, see the section “Install and Access the CloudLink Gateway” in [CloudLink Gateway User Guide \(mitel.com\)](#)

As soon the gateway is up and running, access the gateway using `https:<CloudLink Gateway IP Address>` and do the following:

1. Use your credentials to login.



Mitel

Sign in to Mitel

Enter your password for `test@mitel-test.com`

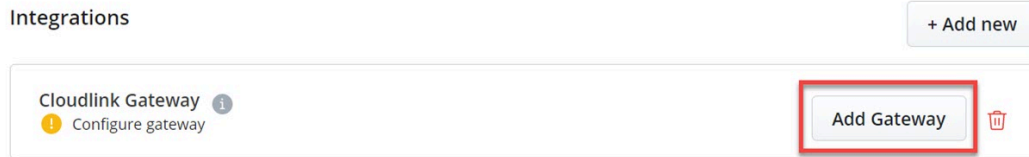
Password

Back Next

[Forgot password](#)

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- From the **Integrations** section of the **Account Information** page, click **Add Gateway**.



- Enter all the mandatory Customer information and click **Next**.

- Enter all the required Gateway information and click **Next**. If the CloudLink Gateway is using a dynamic IP address (DHCP), change it to a static IP address.
 - To change the IP address, select **Static** and add the required information.

Note:

Keep the DNS Servers provided by default and add an internal DNS, if required.

Gateway Portal | [redacted] Successfully updated customer X PM Admin PA

Customer Gateway PBX Connect Deployment Advanced Overview

Gateway Information ⓘ Prerequisite checklist

Site Name* [redacted]

Address [redacted]

Town* [redacted] Country* [redacted]

Postal / Zip Code* [redacted]

Appliance Ethernet Configuration ⓘ

Port 1

DHCP Static

Current IP: [redacted]

*required Back Next

When the CloudLink Gateway shows successfully updated site, you must setup MX-ONE and then go to the next step. For more information, see the section [MX-ONE System Setup](#) on page 21.

5. In the **PBX** page, enter the information as described below:

- a. **PBX Type** - Make sure the model PBX (MiVoice MX-ONE) utilized by your CloudLink account is selected.
- b. **PBX Name** - Enter any name (used as the **PBX ID** for your CloudLink applications).
- c. **IP Address** - Enter the IP address of the MiVoice MX-ONE PBX.
- d. **Port**- Enter the port number if different than the default port number selected for the CSTA service.
- e. Click **Next**.

Gateway Portal | **PM Admin** PA

Customer Gateway **PBX** Connect Deployment Advanced Overview

Configure PBX [Prerequisite checklist](#)

PBX Type* ⓘ
MX-ONE

PBX Name* ⓘ
MX7-S4-SNL

IP Address* ⓘ
[Redacted]

Port* ⓘ
8882

*required

Back Next

If the setup is correct, the following screen is displayed. Click **Connect**.

Gateway Portal | PM_test_onboarding **Successfully created PBX Link** PM Admin PA

Customer Gateway PBX **Connect** Deployment Advanced Overview

Start PBX Connection

Verify and start your connection to the PBX

Connect

6. The following screen shows that the CloudLink Gateway was successfully setup.

Gateway Portal

PM_test_onboarding

Successfully completed customer sync

PM Admin

PA

Customer

Gateway

PBX

Connect

Deployment

Advanced

Overview

PBX Connected

Connection successful

Number of users: 0

Number of phantoms: 0

PBX Sync Schedule (in minutes)

20

Sync Now

Cancel

Next

Installing the CloudLink Gateway Certificate into MiVoice MX-ONE Provisioning Manager

6

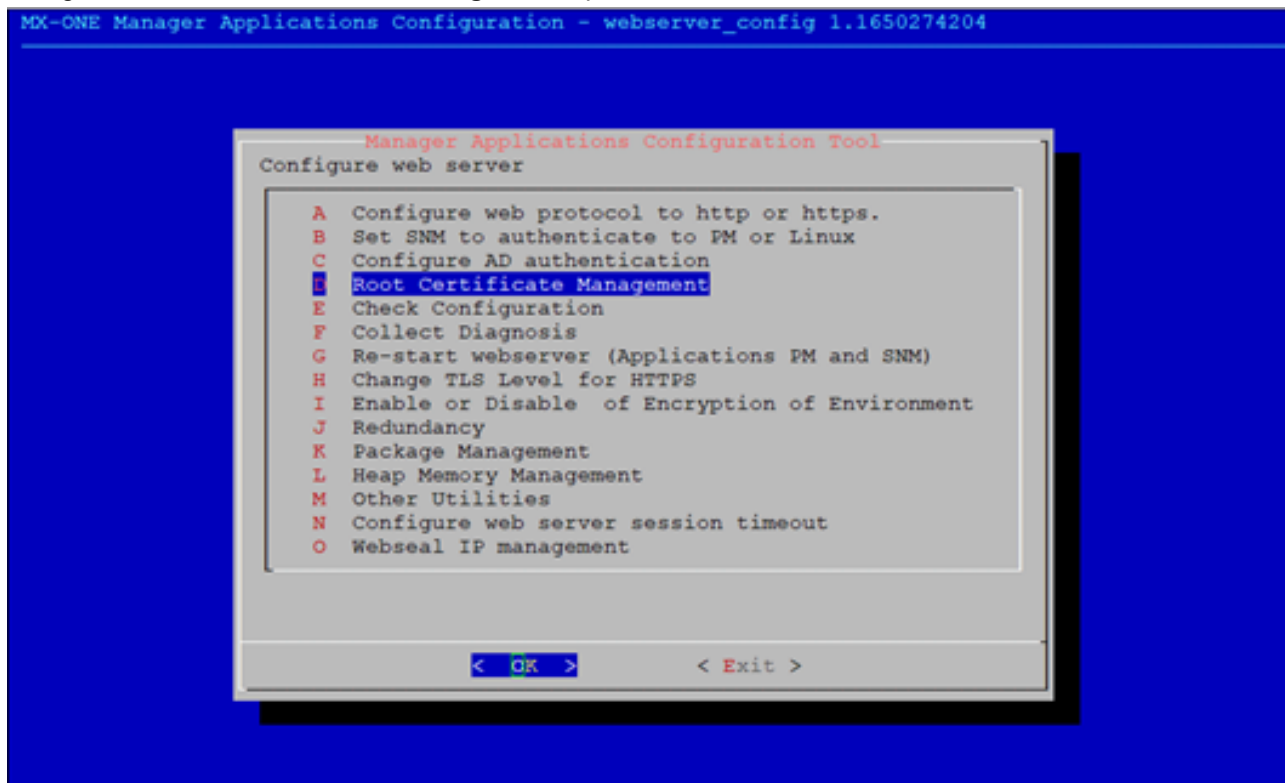
The CloudLink Server/ CloudLink Gateway communicates via an API with Provisioning Manager. For this, the CLGW certificate has to be installed on PM server.

Also, it is mandatory to install the certificate before setting up CL/CLGW subsystem from the PM interface.

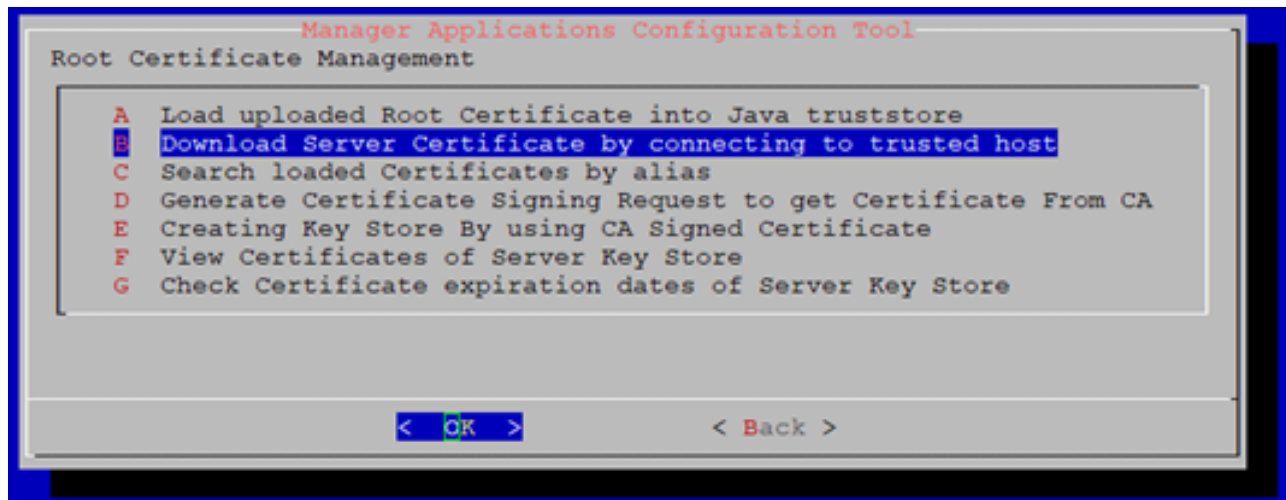
The following procedure explains the process to establish the certificate using the **webserver_config** (or **mxone_maintenance**) tool on the command prompt.

To configure the certificate to allow PM to trust CloudLink perform the following tasks:

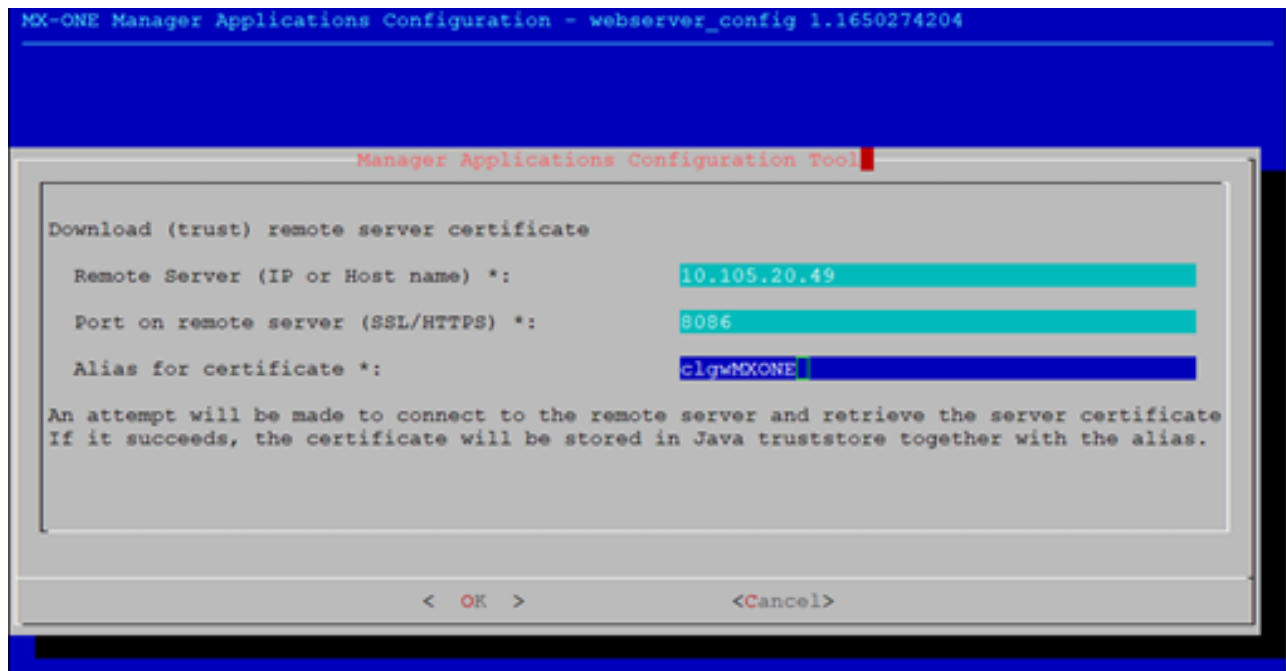
1. Open up an SSH connection (using Putty or a similar app) to the PM server.
2. Login using a suitable username and password (such as **mxone_admin**) and launch the webserver configuration tool using the command **sudo -H webserver_config**.
3. Navigate to the **Root Certificate Management** option.



4. Choose the option **Download Server Certificate by connecting to trusted host**.



5. Enter the IP address of the CloudLink Gateway, the remote server port (8086 by default) and a descriptive text string as the certificate alias.

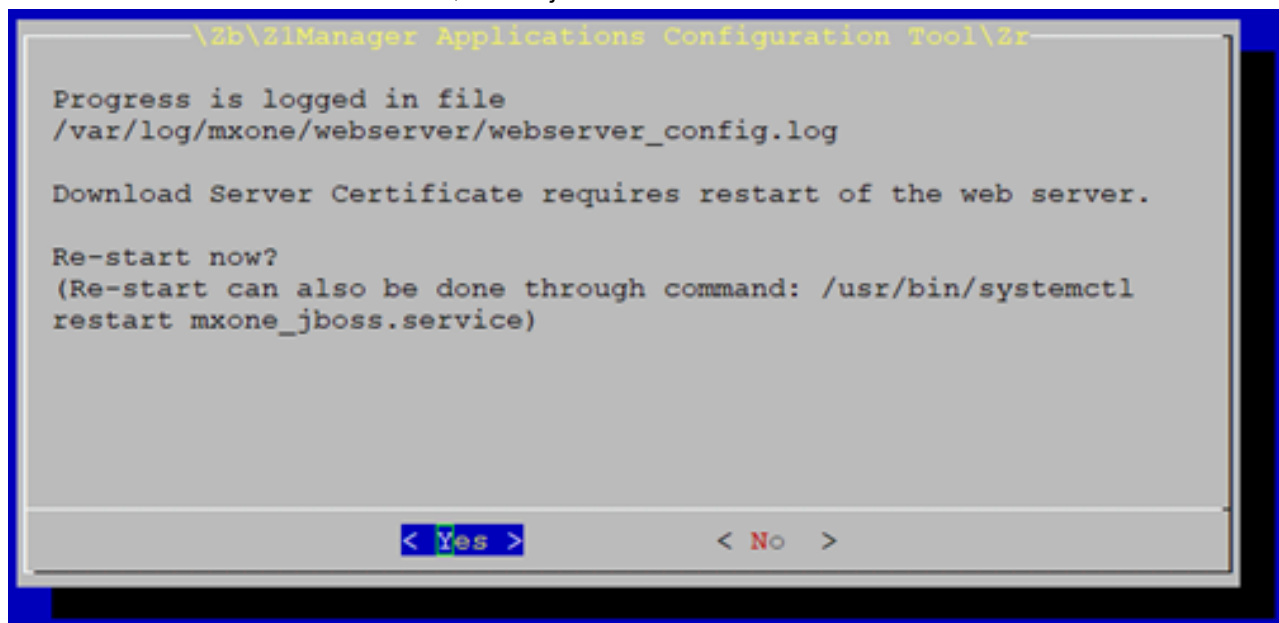


MX-ONE will attempt to connect to CLGW and download the certificate. After successful connection, a command-line based message is displayed asking to trust the certificate. Type Yes and then press enter to close the dialog.

```
Owner: EMAILADDRESS=georg.dudas@mitel.com, CN=Micloud Link, OU=Vaihingen, O=Mitel, L=Stuttgart, ST=
BW, C=DE
Issuer: EMAILADDRESS=georg.dudas@mitel.com, CN=Micloud Link, OU=Vaihingen, O=Mitel, L=Stuttgart, ST
=BW, C=DE
Serial number: c1091b4b0d8373ba
Valid from: 7/13/17 11:02 AM until: 11/27/44 10:02 AM
Certificate fingerprints:
    MD5:  2C:33:43:58:9A:46:70:C7:3B:2E:EB:CE:55:C5:D6:A3
    SHA1: 7D:74:45:08:48:5E:D9:3C:F0:49:9E:EE:5F:26:C2:09:74:17:4C:3A
    SHA256: 16:FC:FB:8F:2B:2F:86:AB:CD:A9:C4:A9:18:1E:A6:14:79:91:38:D8:26:ED:C2:BE:AE:C7:01:B
4:B8:B4:25:AF
    Signature algorithm name: SHA1withRSA
    Version: 1
Trust this certificate? [no]: yes
Certificate was added to keystore

Press enter key to continue ...
```

6. After the certificate has been installed, restart jboss service.



MX-ONE System Setup

7

This chapter contains the following sections:

- [Creating a CloudLink Gateway Subsystem in Provisioning Manager](#)
- [Configure CloudLink Gateway Network Trunk via Provisioning Manager](#)
- [Service Node Manager](#)

7.1 Creating a CloudLink Gateway Subsystem in Provisioning Manager

After the security certificate has been imported into Provisioning Manager, it is possible to link the MX-ONE to CloudLink via a subsystem.

To create a subsystem in Provisioning Manager, do the following:

The screenshot shows the Mitel Provisioning Manager interface. The top navigation bar includes 'Users', 'Services', 'Administrators', 'System' (selected), 'Logs', and 'Own Settings'. Below this is a secondary navigation bar with 'Location', 'Subsystem' (selected), 'Data Management', 'Options', 'Email Server', 'Configuration Wizard', 'Batch Operation', and 'Password Settings'. The main content area is titled 'Subsystem - Add' and contains a form with the following fields:

- Subsystem Type: CloudLink Server (dropdown)
- Subsystem Name: (text field)
- CloudLink API URL: (text field)
- CloudLink Account ID: (text field)
- User ID in Subsystem: (text field)
- Password in Subsystem: (text field)
- Confirm Password in Subsystem: (text field)
- Location: Location01 (dropdown) with an 'Edit...' button
- CloudLink Gateway URL: (text field)

At the bottom of the form are 'Apply' and 'Cancel' buttons. A help window is open on the right side of the form, titled 'Subsystem'. The help text reads:

Subsystem

MiVoice MX-ONE comprises a number of components, such as CMG, MiCollab Advanced Messaging, MMC, MiCollab Server, SIP DECT Manager and MiVoice MX-ONE. By adding the servers on which the components run as subsystems in Provisioning Manager, user accounts and services related to the subsystems can be managed using Provisioning Manager as a single point of entry. Several subsystems can be installed on the same server, including the server on which Provisioning Manager runs.

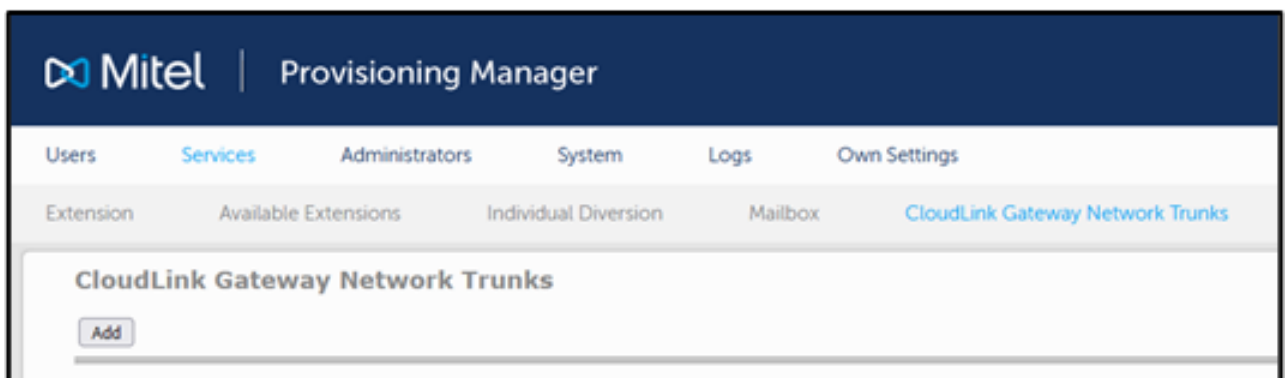
When adding a subsystem, Provisioning Manager is provided with user credentials that are valid for logging on to the subsystem. These credentials are used, in the background, by Provisioning Manager.

1. Navigate to **System > Subsystem** and click **Add** to add a new subsystem.

2. Create a CloudLink server subsystem by using the following steps:
 - a. In the **Subsystem Type** field, select CloudLink Server from the drop-down list.
 - b. In the **Subsystem Name** field, enter the name of the subsystem. For example, CloudLink.
 - c. In the **CloudLink API URL** field, enter the CloudLink subsystem URL address. For example, `https://authentication.api.mitel.io/2017-09-01/token`
 - d. In the **CloudLink account ID** field, enter the ID of your CloudLink account.
 - e. In the **User ID in Subsystem** field, enter the user ID of the Administrator user of your CloudLink account.
 - f. In the **Password in Subsystem** field, enter the password of the Administrator user of your CloudLink account.
 - g. In the **Confirm Password in Subsystem** field, re-enter the password as entered in the **Password in Subsystem** field.
 - h. In the **Location** field, select the subsystem's location from the drop-down list.
 - i. In the **CloudLink Gateway URL** field, enter the CloudLink Gateway subsystem URL address and select the MX-ONE Service Node to which you want to add the subsystem.
3. Click **Apply** to add the CloudLink Server Subsystem to the Provisioning Manager.

7.2 Configure CloudLink Gateway Network Trunk via Provisioning Manager

1. Login to the Provisioning Manager as a **Service Provider** admin user.
2. Navigate to the **Services > CloudLink Gateway Network Trunks**.
3. Click **Add**.



4. Configure the following information on the wizard:

- IP/FQDN of the CloudLink Gateway
- SIP Port Number (5060 or 5061 depending on protocol)
- Transport Protocol, TCP is the default used by CloudLink Gateway
- Description
- PBX user name and password, an MX-ONE user account used to authenticate SIP messages
- CloudLink Gateway user name and password. The default CloudLink Gateway user name is **officelinkmxone**.
- GSM Callthrough Deploy Number, this allows mobile calls via the PBX to be routed through the CloudLink Gateway.

The screenshot shows the Mitel Provisioning Manager interface. The top navigation bar includes 'Users', 'Services', 'Administrators', 'System', 'Logs', and 'Own Settings'. Below this, a secondary navigation bar shows 'Extension', 'Available Extensions', 'Individual Diversion', 'Mailbox', and 'CloudLink Gateway Network Trunks'. The main content area is titled 'CloudLink Gateway Network Trunks - Add' and contains the following fields:

- IP/FQDN Address:** Text input field.
- SIP Port Number :** Text input field.
- Transport Protocol:** Dropdown menu with 'TCP' selected.
- Description:** Large text area.
- PBX User name:** Text input field.
- PBX User Password:** Text input field.
- CloudLink Gateway User name:** Text input field with the value 'officelinkmxone' pre-filled.
- CloudLink Gateway User Password:** Text input field.
- GSM Callthrough Deploy number:** Text input field.

There are 'Apply' and 'Cancel' buttons at the top left and bottom left of the form area.

Access the CloudLink Portal via Provisioning Manager Subsystem

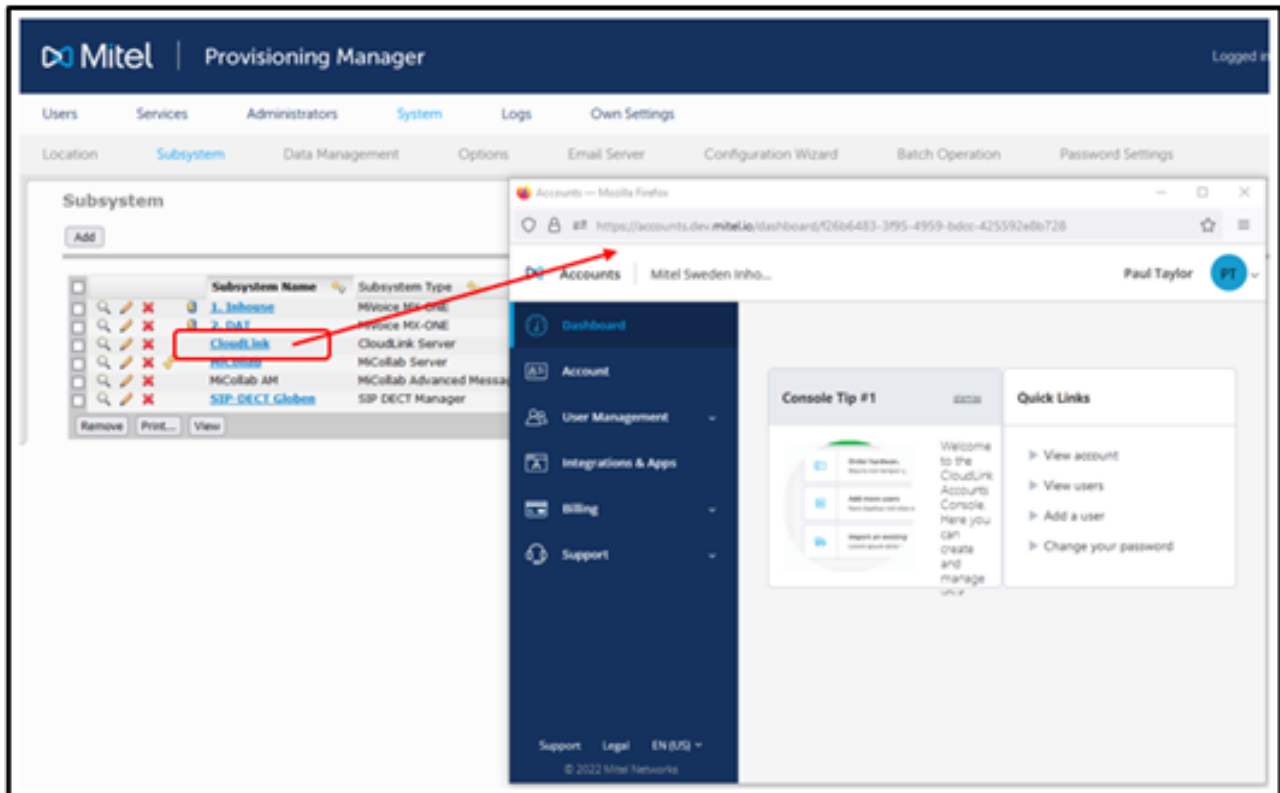


Note:

This section is optional.

Once the CloudLink Gateway subsystem has been created in Provisioning Manager, it can be used as another way of accessing the CloudLink Portal.

Clicking on the subsystem hyperlink opens a new browser window with the connection to the portal.



7.3 Service Node Manager

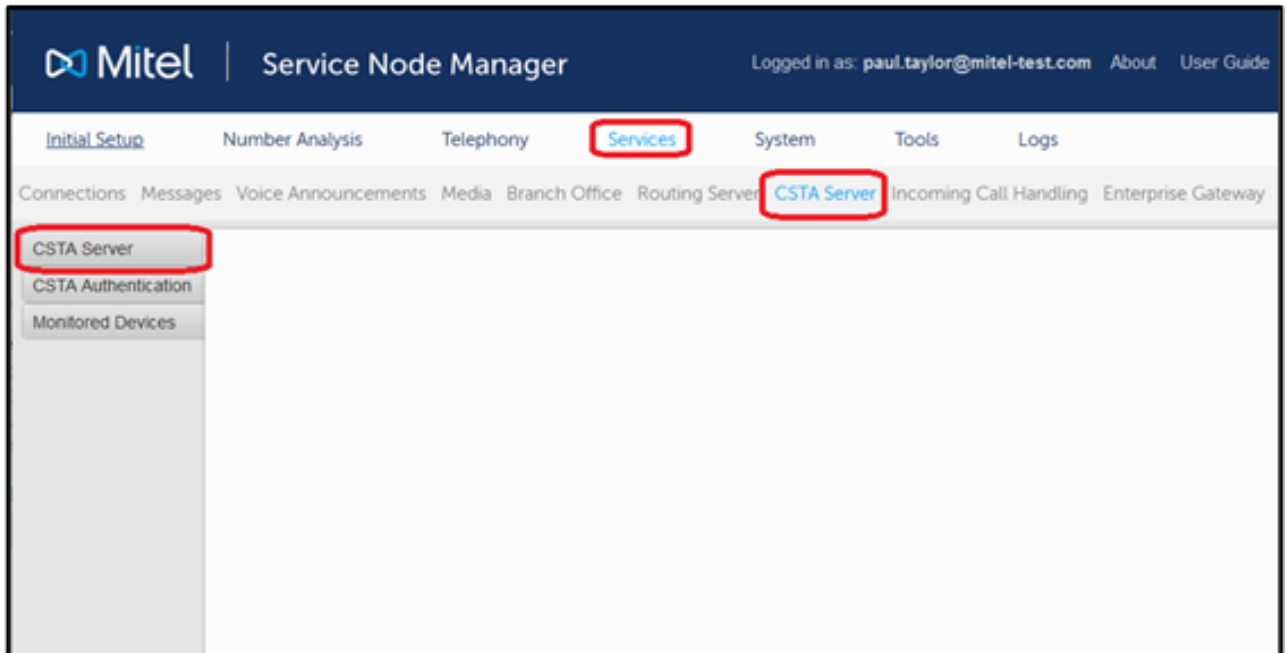
7.3.1 Configuring the MiVoice MX-ONE CSTA Server

The MiVoice MX-ONE and CloudLink use the CSTA (Computer Supported Telecommunications Application) protocol for all call control / CTI signaling between the two products via the CloudLink Gateway.

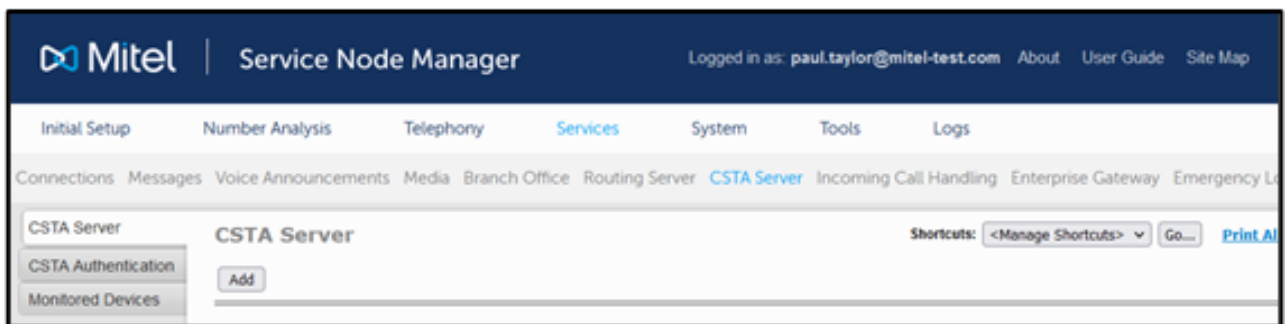
As with many other integrations, MX-ONE must have the CSTA Server function enabled to allow the CloudLink Gateway to connect via the protocol.

This is activated on MX-ONE via the Service Node Manager tool, accessed via Provisioning Manager via the MX-ONE subsystem.

1. In the **Services/CSTA Server** menu, choose the **CSTA Server** option on the left.



2. Click the **Add** button.



3. Choose the MX-ONE Server (LIM) that will communicate with the CloudLink Gateway. The options shown in the following image are the default:

The screenshot shows the 'CSTA Server - Add' configuration page in the Mitel Service Node Manager. The page is titled 'CSTA Server - Add' and has 'Apply' and 'Cancel' buttons at the top. The left sidebar shows 'CSTA Server' selected, with sub-items 'CSTA Authentication' and 'Monitored Devices'. The main content area contains the following settings:

- Server Number: 1 (dropdown)
- Type Of Interface: ☒ ECMA323, ☐ TR87 uaCSTA
- Port: 8882 (text input)
- Call Deflect Options:
 - Heartbeat Option: ☒ No Heartbeat, ☐ Heartbeat support by external application
 - By-pass Option: ☒ No by-pass, ☐ By-pass of personal number
 - Diversion Option: ☒ No diversion, ☐ Allow diversion after deflection
 - Dialed Number Presentation Option: ☒ Do not replace dialed number, ☐ Replace dialed number with deflect-to number
 - Connection View Option: ☒ Local view, ☐ Fixed view
 - Encryption keys: ☒ Do not send Encryption keys, ☐ Send Encryption keys
 - Security: ☐
 - Allow Diversion Category Override: ☐
 - Application Authentication: ☐

At the bottom are 'Apply' and 'Cancel' buttons. A help window titled 'CSTA Server' is open on the right, providing information about the CSTA protocol and its use in MX-ONE.

If the CSTA server is already being used on MX-ONE to communicate with a different additional platform (such as MiContact Center Enterprise) using the same CSTA settings required for CloudLink Gateway but a different port number, then that port number should be used.

The port number chosen in Service Node Manager is then specified during the CloudLink Gateway configuration in Mitel Administration.

7.3.2 Configure CloudLink Gateway SIP Route via Service Node Manager

Note:

For specific CloudLink applications, an SIP trunk may be required between the MiVoice MX-ONE and the CloudLink Gateway. The *Application Documentation* provides more information on the SIP trunk configuration.

A SIP Trunk profile called **CloudLink Gateway** exists for setting up the SIP route to CloudLink Gateway. This allows a SIP connection to be established for media resources between the MX-ONE and CloudLink.

To setup the SIP route, use the following process:

1. The CloudLink Gateway profile requires the following information:

- a. **CloudLink Authentication username** and **password**. This username (default: officelinkmxone) and password must be the same as configured in the [Configure CloudLink Gateway Network Trunk via Provisioning Manager](#) on page 22.
- b. **Remote Host IP**.
- c. **Match Remote Domain**. The name format is **<AccountId><.eu.api.mitel.io>**.

To generate the Match Remote Domain name:

- i. Login to the Cloudlink portal.
- ii. Select the account for which you want to generate the AccountId.
- iii. From the URL, after *accounts/* copy the following AccountId.

```
https://accounts.mitel.io/accounts/7454089f-1145-43c2-  
aaf0-0ffdc1fa1921
```

- iv. Build the following **Match Remote Domain** name by adding the domain name at the end of the **AccountId**. For example, add *.eu.api.mitel.io*.

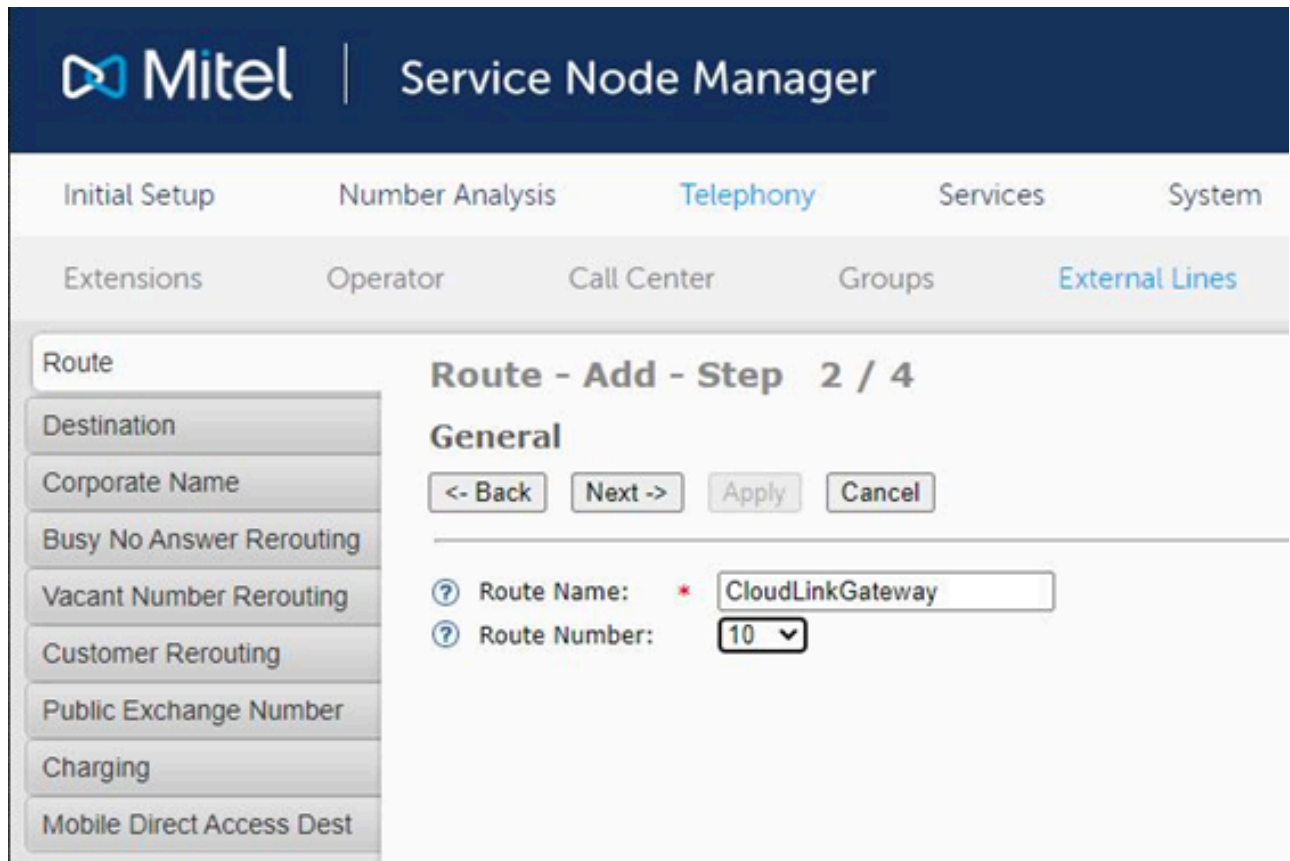
```
7454089f-1145-43c2-aaf0-0ffdc1fa1921.eu.api.mitel.io
```

- 2. Launch Service Node Manager via its subsystem in Provisioning Manager.
- 3. Go to the **Telephony / External Lines / Route** option and choose **Add**.

4. Set the signaling type to **SIP** and choose the **CloudLink Gateway** profile.

The screenshot shows the Mitel Service Node Manager interface. The top navigation bar includes 'Initial Setup', 'Number Analysis', 'Telephony' (highlighted), 'Services', and 'System'. Below this, a secondary navigation bar shows 'Extensions', 'Operator', 'Call Center', 'Groups', and 'External Lines' (highlighted). The main content area is titled 'Route - Add - Step 1 / 9'. On the left, a sidebar lists various routing options: 'Route', 'Destination', 'Corporate Name', 'Busy No Answer Rerouting', 'Vacant Number Rerouting', 'Customer Rerouting', 'Public Exchange Number', 'Charging', and 'Mobile Direct Access Dest'. The main form area contains two dropdown menus: 'Type of Signaling' set to 'SIP' and 'Profile Name' set to 'CloudLink-Gateway'. Navigation buttons include '<- Back', 'Next ->', 'Apply', and 'Cancel'.

5. Chose a suitable Route name and select an available route number.



Mitel | Service Node Manager

Initial Setup Number Analysis **Telephony** Services System

Extensions Operator Call Center Groups **External Lines**

Route

Route - Add - Step 2 / 4

General

? Route Name: * CloudLinkGateway

? Route Number: 10 ▼

Destination

Corporate Name

Busy No Answer Rerouting

Vacant Number Rerouting

Customer Rerouting

Public Exchange Number

Charging

Mobile Direct Access Dest

6. Equip the route with trunk individuals for the server that connects to the CloudLink Gateway, i.e., Server 1 1-10. This would allocate 10 SIP channels to the route.

Mitel | Service Node Manager

Initial Setup Number Analysis **Telephony** Services System

Extensions Operator Call Center Groups **External Lines**

Route

Route - Add - Step 3 / 4

Individuals

<- Back Next -> Apply Cancel

Server	Trunk Index
1	1-10
1	
1	

Route configuration options (left sidebar):

- Destination
- Corporate Name
- Busy No Answer Rerouting
- Vacant Number Rerouting
- Customer Rerouting
- Public Exchange Number
- Charging
- Mobile Direct Access Dest

7. Enter the specific CloudLink Gateway information mentioned in **Step 1**.

8. Click **Apply**.

Mitel | Service Node Manager Logged in as: mpadmin

Initial Setup Number Analysis **Telephony** Services System Tools

Extensions Operator Call Center Groups **External Lines** System Data

Route

Route - Add - Step 4 / 4

Profile specific settings

<- Back Next -> Apply Cancel

Profile specific settings

Profile Name: CloudLink-Gateway

Password: *

Authentication Username: * officelinkmxone

Match Remote Domain: * 6454089f-1145-43c2-aaf0-0f

Remote Host IP: * 10.105.82.9

Note: External Destination Number needs to initiate in the Number Analysis -> Number Series and it needs to be associated with the route in Telephony -> External Lines -> Destination.

Note:

Match Remote Domain name is built from the CloudLink/CloudLink Gateway **AccountId** and the attached domain. For more information, see **Step 1.c**.

9. After the SIP route has been created, Destination Code/Codes may need to be created to route calls to the relevant CloudLink Application. To assign Destination Code to the created SIP route, navigate to **Telephony/External Lines/Destinations** and **Add** a new Destination code.

The screenshot shows the Mitel Service Node Manager web interface. The top navigation bar includes 'Initial Setup', 'Number Analysis', 'Telephony' (highlighted), 'Services', and 'System'. Below this, a secondary navigation bar shows 'Extensions', 'Operator', 'Call Center', 'Groups', and 'External Lines' (highlighted). On the left, a sidebar menu lists various telephony features: 'Route', 'Destination' (selected), 'Corporate Name', 'Busy No Answer Rerouting', 'Vacant Number Rerouting', 'Customer Rerouting', 'Public Exchange Number', 'Charging', and 'Mobile Direct Access Dest'. The main content area is titled 'Destination - Add - Step 2 / 3' and 'Route Details'. It contains a navigation bar with '<- Back', 'Next ->', 'Apply', and 'Cancel' buttons. Below this, there are three configuration fields: 'Destination' with a dropdown menu showing '43800-External' and an 'Edit...' button; 'Route Name' with a dropdown menu showing 'CloudLinkGateway' and 'View...' and 'Edit...' buttons; and 'Customer Choice' with an unchecked checkbox.

10. Select the **Start Position for Digit Transmission** from the drop-down list to send digits required digits to the CloudLink Application and set **Type of Calling Number** and **Type of Calling Private Number** to Private Unknown.

Mitel

Service Node Manager

Logged in as: mpadmin

Initial Setup

Number Analysis

Telephony

Services

System

Tools

Logs

Extensions

Operator

Call Center

Groups

External Lines

System Data

IP Phone

DECT

Route

Destination

Corporate Name

Busy No Answer Rerouting

Vacant Number Rerouting

Customer Rerouting

Public Exchange Number

Charging

Mobile Direct Access Dest

Destination - Add - Step 3 / 3

ADC Details

<- Back

Next ->

Apply

Cancel

Destination: 43800

Route Name: CloudLinkGateway

Primary Choice is the sequence number for the route choice in alternative routing

Start Position for Digit Transmission: 1

Type of Seizure of External Line: Immediate seizure

Forward Switching:

Type of Called Number: Unknown private

Type of Calling Public Number: Unknown public

Type of Calling Private Number: Unknown private

Use as Emergency Destination:

Pre-digits in order to form a new External Number:

Truncated Digits in Dialed Number: 0

Type of Signal Seizure: Terminating seizure

B-Answer Signal Available:

Allow to send Traveling Class Mark:

Route Type:

Maximum Number of Transit Exchanges: 25

PNR Number Translation Information: No Translation

Supplementary Services Using User to User Interface: Not Allowed

Use Least Cost Routing for All Calls:

Allow Sending of Expensive Route Warning Tone:

Type of Protocol to use for Supplementary Service Call Offer: User to User Interface(UUI)

Type of Protocol for Call Back/Call Completion: User to User Interface(UUI)

Show Original A-Number:

Use Original A-Number's Type of Number:

Enable Enhanced Sent A-Number Conversion:

Use ETSI Diversion Supplementary Service:

Basic...

MX-ONE Provisioning Manager – CloudLink Tasks

8

This chapter contains the following sections:

- [Provisioning Manager User Task](#)
- [Bulk Function via Provisioning Manager Import](#)
- [Sync Option for CL/CLGW Subsystem](#)

Provisioning Manager is the tool to onboard users in CloudLink.

There are two ways of onboarding users in CloudLink:

- Provisioning Manager User Task

One by one, users are defined and added in CloudLink Platform and CloudLink Gateway.

- Bulk function via Provisioning Manager import

User are imported into Provisioning Manager in bulk using a predefined Import Source template.

8.1 Provisioning Manager User Task

To configure a user, do the following:

1. Navigate to **Users > User** and type asterisk(*) in the **Enter User Name(s), Extension Number, Department** field.

The screenshot shows the Mitel Provisioning Manager web interface. The top navigation bar includes the Mitel logo, 'Provisioning Manager', and links for 'Logged in as: [username]', 'About', 'User Guide', 'Site Map', and 'Logout'. Below this is a secondary navigation bar with 'Users', 'Services', 'Administrators', 'System', 'Logs', and 'Own Settings'. The 'Users' section is expanded, showing 'User', 'Departments', 'UDF Mapping', and 'Unlock'. The 'User' sub-section is active, displaying a form to 'Add' a user. The form includes fields for 'Enter User Name(s), Extension Number, Department:' (with a placeholder example: 'Example: * or Will Smith or Will or Smith'), 'Imported from:' (set to 'All'), and a 'View' button. Below the form is a table listing users with columns: 'User Id', 'Last Name', 'First Name', 'Extension / MiVoice MX-ONE', 'Department(s)', 'Import from', 'Customer', 'CloudLink Server', and 'CloudLink Role'. The table contains 10 rows of user data.

User Id	Last Name	First Name	Extension / MiVoice MX-ONE	Department(s)	Import from	Customer	CloudLink Server	CloudLink Role
admin_rd	rd	admin		Company01				
Jack_smith	Smith	Jack		Company01				
Emma.Smith	Smith	Emma	900000 / MX7-S4-SN1	Company01			10	USER
Olivia.Johnson	Johnson	Olivia	900001 / MX7-S4-SN1	Company01				
Sophia.Williams	Williams	Sophia	900002 / MX7-S4-SN1	Company01				
Isabella.Brown	Brown	Isabella	900003 / MX7-S4-SN1	Company01				
Ava.Jones	Jones	Ava	900004 / MX7-S4-SN1	Company01				
Mia.Miller	Miller	Mia	900005 / MX7-S4-SN1	Company01				
Emily.Davis	Davis	Emily	900006 / MX7-S4-SN1	Company01				
Abigail.Garcia	Garcia	Abigail	900007 / MX7-S4-SN1	Company01				

2. Click **View** to view the list of users.
3. Click the **Change** button beside the user whose details you want to configure.

4. In the page that opens, click the **CloudLink Configuration** tab and do the following:
 - a. Select a CloudLink Extension from the **Assign CloudLink Extension (Extension, LIM IP)** drop-down list.
 - b. Select a CloudLink Server from the **CloudLink Server** drop-down list.
 - c. Select a role for the user from the **CloudLink Role** drop-down list.
 - d. Deselect **MiTeam Meetings** parameter.
 - e. Select **Softphone Client** parameter.
5. Click **Apply** to complete the configuration for the user. With this, a user is synchronized with the CloudLink account. Follow the steps **3-5** for configuring each user.

You can navigate to **CloudLink Gateway portal > Deployment** and check if the user is added there.

You can navigate to **CloudLink portal > User Management > Users** and check if the user is added there.

8.2 Bulk Function via Provisioning Manager Import

To use the bulk function via the Provisioning Manager Import option, do the following:

1. Navigate to **System > Data Management > Import task** and select the type of the file to be imported under **Import Source** and click **Next**.

The screenshot displays the Mitel Provisioning Manager interface. At the top, the header includes the Mitel logo and the text 'Provisioning Manager'. Below the header, there is a navigation bar with tabs: Users, Services, Administrators, System (highlighted), Logs, and Own Settings. Under the 'System' tab, there is a sub-navigation bar with tabs: Location, Subsystem, Data Management (highlighted), Options, Email Server, Configuration Wizard, and Batch Operation. The main content area is titled 'Import Data - Import - Step 1 / 4'. On the left side of this area, there is a sidebar with buttons: Compare with Subsystem, Backup & Restore, Import, Export, Scheduling, Active Directory, and Config Mirror Scheduling. The main content area contains a section for 'Import Source' with a question mark icon and a list of radio buttons: CSV file (selected), CSV file on Express Format, CMG, D.N.A, and XLSX file for User with Extension. Above the radio buttons, there are buttons for '< Back', 'Next ->', 'Apply', and 'Cancel'.

Figure 1: Import Source

2. Click **Choose File** and select the file from your system to be imported and then click **Next**.

Mitel | Provisioning Manager

Users Services Administrators **System** Logs Own Settings

Location Subsystem **Data Management** Options Email Server Configuration Wizard

Compare with Subsystem
Backup & Restore
Import
Export
Scheduling
Active Directory
Config Mirror Scheduling

Import Data - Import - Step 2 / 3

<- Back Next -> Apply Cancel

? User Data Template [.csv] :
 ? Department Data Template [.csv] :
 ? User with Extension [.csv] :
 ? Data File:

☒ Department **Choose File** User_Extension2.xlsx ✓
☐ User **Choose File** No file chosen

? Delimiter: Semicolon (;)
 ? Data Qualifier: None
 ? Default Location: Bangalore View... Edit...

Useful Information for the Data File for adding extensions and mailboxes

? MiVoice MX-ONEs: MXONE
 ? Template For New Extension:
 ? Extension Range: 1050 1099
 ? Vacant Equipment Positions:

Figure 2: Select Data File

- Click **Apply** and the users will be imported successfully into the Provisioning Manager system and CloudLink portal.

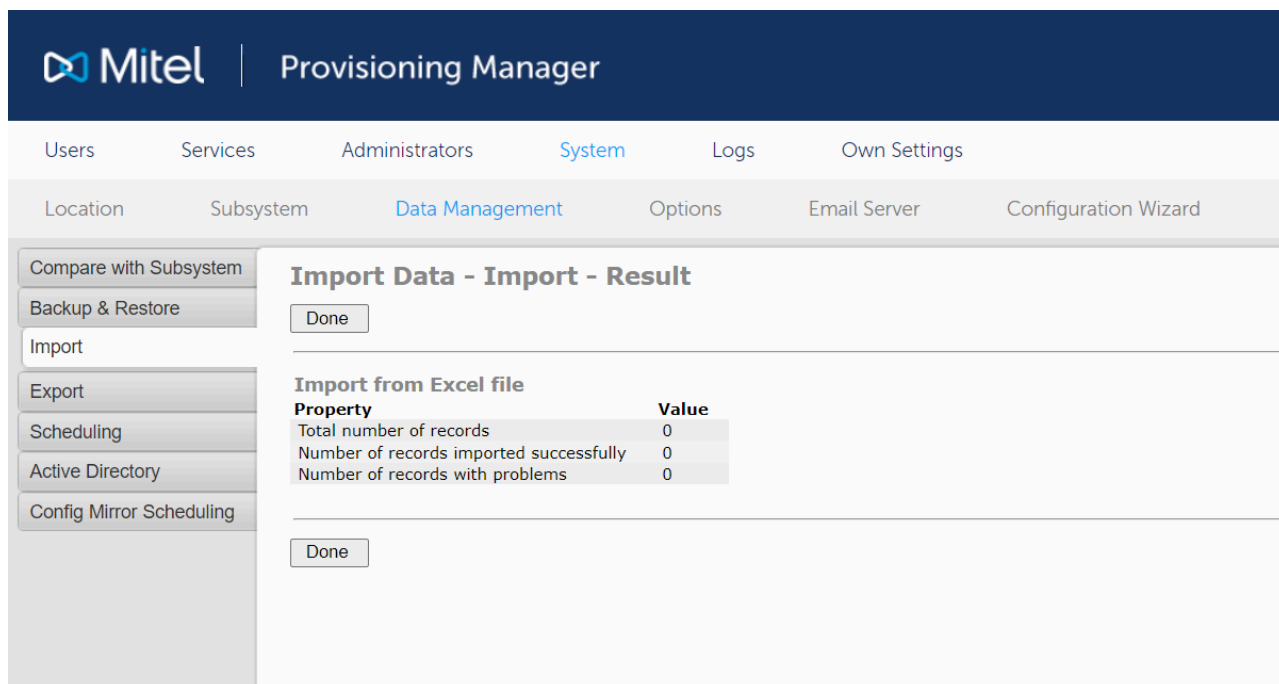


Figure 3: Import Successful

8.3 Sync Option for CL/CLGW Subsystem

The **Refresh/Synchronize** option is available for CloudLink Subsystem.

This option is used to synchronize the CloudLink users from PM user database to CloudLink Server. The CloudLink users present in PM will only be synchronized using this option.

Note:

The version and license details will not be displayed for CloudLink subsystems in PM.

Subsystem

[Print All](#) [Help](#)

Add

	Subsystem Name	Subsystem Type	Version	Location	License Details	Expiration Date
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	10.211.159.225 CloudLink	MiVoice MX-ONE CloudLink Server	7.4 SP2	Location01 Location01	Traditional	

