

CloudLink Deployment Guide with MiVoice 5000

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1 ABOUT THIS DOCUMENT

1.1 PURPOSE OF THIS DOCUMENT

This document explains how to deploy and integrate the CloudLink solution with MiVoice 5000 so users can develop and use mobile or web applications.

This document also defines the minimum system requirements for deploying and integrating the CloudLink solution with MiVoice 5000.

1.2 RELATED DOCUMENTATION

These documents are available on the documentation site, on Mitel.com:

- CloudLink Accounts
- CloudLink Gateway
- CloudLink Platform
- MiTeam Meetings
- MiVoice 5000– Installation and implementation
- MiVoice 5000 - Operation

1.3 TERMINOLOGY

CSTA: Computer Supported Telecommunications Applications

KVM: Kernel-Based Virtual Machine

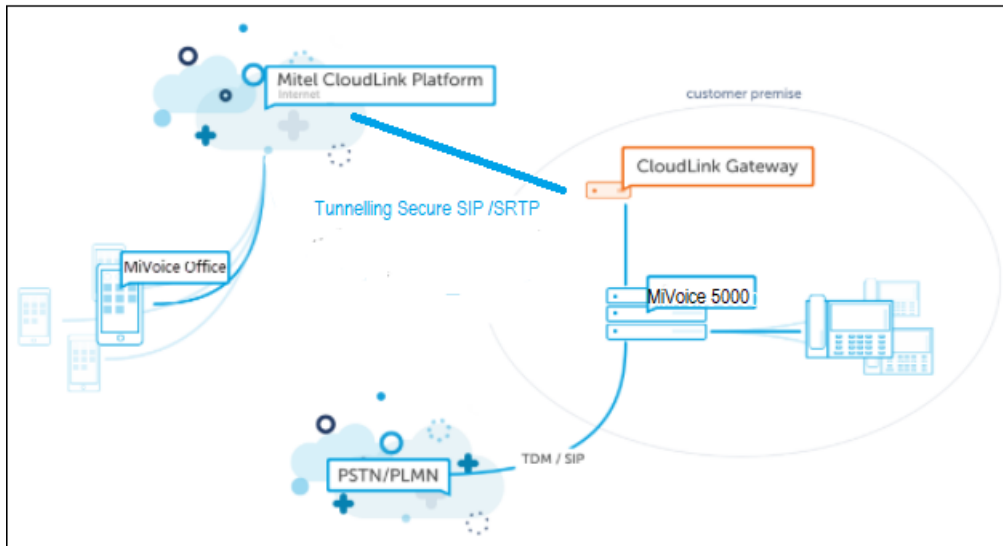
CTI: Computer and Telephony Integration

VM: Virtual Machine

DHCP: Dynamic Host Configuration Protocol.

API: Application Programming Interface

2 INTRODUCTION



The Mitel CloudLink solution has the following components:

- CloudLink Platform
- CloudLink Gateway
- CloudLink applications

CloudLink Platform

CloudLink Platform is an open development platform for application developers, partners and customers.

CloudLink Gateway

The gateway connects iPBXs to CloudLink Platform and CloudLink applications.

CloudLink Gateway facilitates the connection between the iPBX and the Endpoints by standardising the signalling protocols of the different iPBXs.

A single signalling protocol is defined between CloudLink Gateway and the CloudLink Platform infrastructure (hosted on Amazon Web Services (AWS)).

CloudLink applications

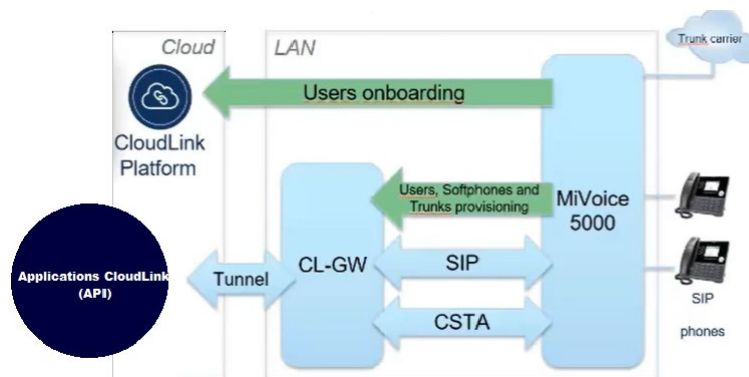
CloudLink applications take advantage of Mitel's application programming interfaces (APIs) and micro services to facilitate the deployment and use of new-generation applications.

3 ENVIRONMENT

In the Mitel CloudLink environment, CloudLink Gateway provides the link between a MiVoice 5000 and CloudLink Platform.



Interfaces



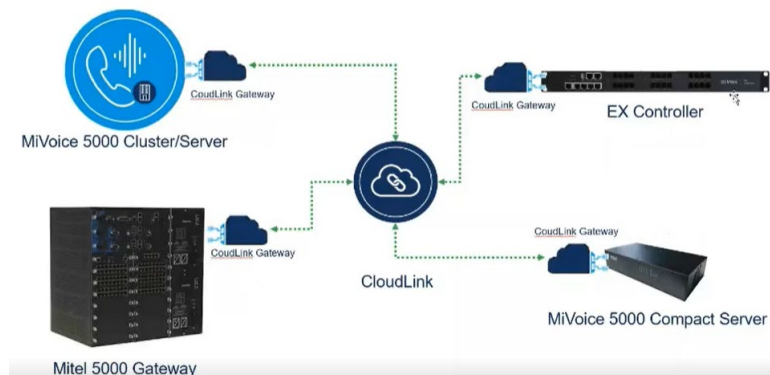
MiVoice 5000/CloudLink Gateway Exchange Protocols:

- Interface rest: HTTPS.

3.1 INTERCONNECTION BETWEEN MIVOICE 5000 SYSTEMS AND CLOUDLINK GATEWAY

CloudLink exists in three forms:

- VM Ware
- VM KVM (EX Controller and Compact Server) (*)
- External box (*).



(*) Refer to the MiV5000 Release Notes, Product Guide or Product Bulletin for the availability of these items.

3.2 REQUIRED CONFIGURATION

CloudLink Gateway, which connects the iPBX to the Mitel CloudLink platform, must be connected to a LAN,

An Internet connection with sufficient bandwidth,

A DHCP server to assign an IP address to CloudLink Gateway,

A DNS server that allows CloudLink Gateway and MiVoice 5000 to resolve domain name issues.

DTMF transport must be set to RFC 2833 mode.

4 OVERVIEW OF CLOUDLINK ACCOUNT CONSOLE

Also refer to [CloudLink Accounts Console User Guide \(mitel.com\)](#).

CLOUDLINK ACCOUNT CONSOLE can be used:

At the Partner level:

- To create and manage end-customers on CloudLink Platform,
- To create Administrator accounts for each customer,

At the Administrator level:

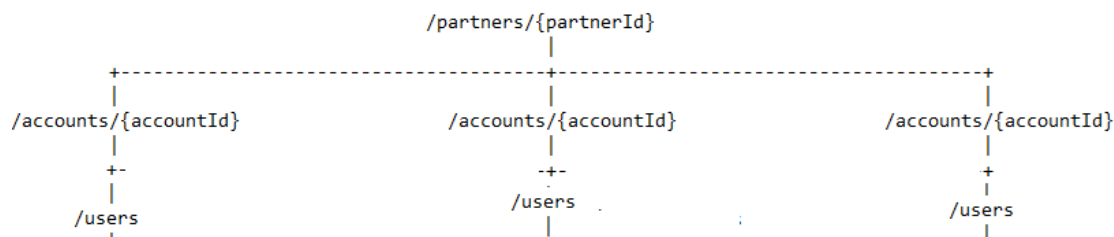
- To assign a CloudLink Gateway to a customer,
- To configure the CloudLink Gateway,
- To view and manage CloudLink users declared by MiVoice 5000.

After creating a customer on CloudLink Platform, the customer is listed in the partner(s) control panel.

Accounts



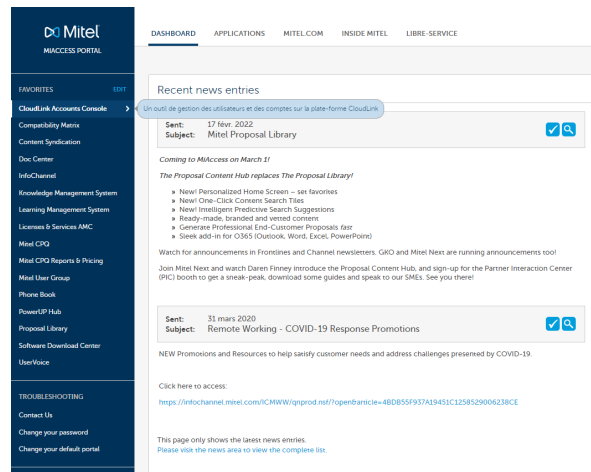
Menu for managing accounts according to this hierarchy:



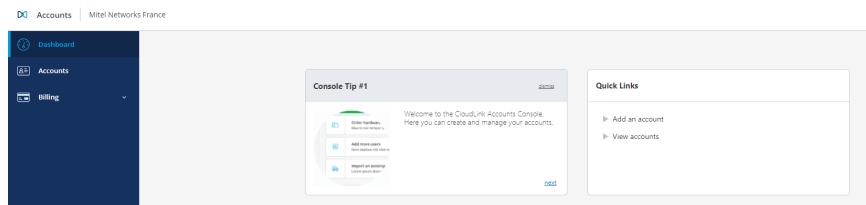
4.1 ACCESS TO CLOUDLINK ACCOUNT CONSOLE

4.1.1 ACCESS VIA MITEL MIACCESS PORTAL

In the MiAccess Portal homepage:

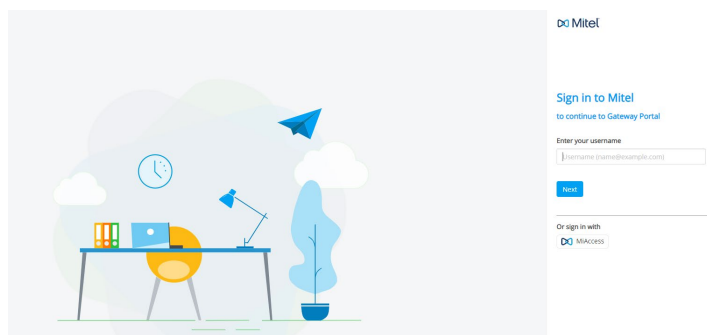


- Click **CloudLink Accounts Console**. The main menu opens and displays different menus and the corresponding actions:



4.1.2 DIRECT ACCESS VIA THE CLOUDLINK GATEWAY URL

A Mitel partner, customer account administrator, or user can access CloudLink Gateway directly at <http://gateway.mitel.io/>



4.2 CREATING A COMPANY ACCOUNT

A Company account must be created by partners according to the rights assigned to them.

Each partner can create several Company/Customer accounts.

This Company account or Customer account must be filled in with all the information concerning them (name, address, contact, etc.).

In the **Account** menu, click **Add account**.

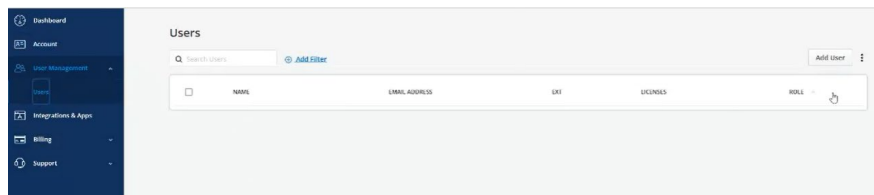
- Fill in the Company/Customer account form.
- Once created, click **Save**.

The account has been created, and an ID generated (top right).

4.3 CREATING AN ADMINISTRATOR-TYPE USER

This type of user/administrator corresponds to the administrator who manages the user accounts of the previously defined company.

In Menu **User Management>Users**, Add a **User** (Administrator),



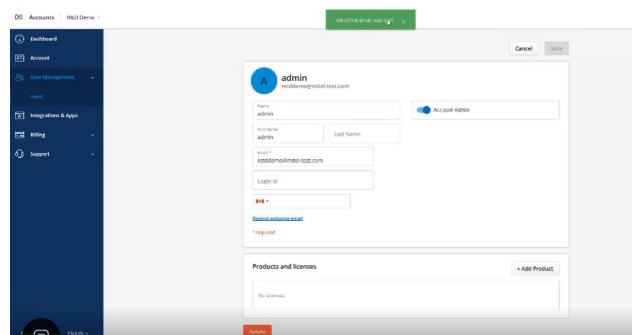
- Click **Add user**.
- Fill in the administrator's information sheet.



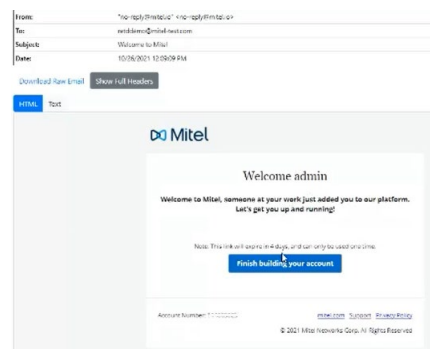
Note: The **Account Admin** box is enabled by default when no users have yet been declared.

- Confirm the creation.

The creation has been completed and a welcome message is displayed at the top indicating that an e-mail has been sent to this user (Admin).




The site administrator can then check their mailbox and find this type of e-mail (example):



- The account number is indicated at the bottom of the message.
- Click **Finish building your account**.

- Then enter and confirm the corresponding password (admin/pwd) to access the Company/Customer site.



Do Mitel

Finish building your account

Name

Create your new password below.

Go

Go

Password requirements

- At least 8 characters
- Must have at least 3 of the following: uppercase, lowercase, number, and special character
- Must not contain the company name
- Must not contain 3 or more of the same character

Continue

Click **Complete**.

A stylized illustration of a person sitting at a desk. The person is represented by a yellow circle with a blue dot for a head. On the desk is a blue laptop, a blue desk lamp, and a blue potted plant. A blue clock is on the wall. A blue paper airplane is flying above the desk. The background is light blue with white clouds.

A login confirmation e-mail is sent to the administrator.

The customer is ready to manage and deploy a CloudLink Gateway.

5 DEPLOYING CLOUDLINK GATEWAY

For this entire chapter, refer to the [CloudLink Gateway User Guide \(mitel.com\)](https://mitel.com) on the Mitel website.

5.1 DEPLOYMENT PRINCIPLE

- INSTALLING CLOUDLINK GATEWAY
- CONNECTING MIVOICE 5000 TO THE CLOUDLINK PLATFORM
- DEPLOYING THEN CONNECTING THE CLOUDLINK GATEWAY TO THE CLOUDLINK PLATFORM
- ENTERING MIVOICE 5000 INFORMATION IN CLOUDLINK GATEWAY
- ENTERING CLOUDLINK GATEWAY INFORMATION IN MIVOICE 5000
- CREATING ROLES AND CONFIGURING MIVOICE 5000 USERS EMBEDDED IN THE CLOUDLINK GATEWAY SYNCHRONISATION
- SYNCHRONIZATION

5.2 INSTALLING CLOUDLINK GATEWAY

CloudLink Gateway in a MiVoice 5000 environment is available in the following physical or virtual system types:

- A virtual instance of the CloudLink Platform installed on a VMware vCenter server,
- An external box installed on site to connect the iPBX to the CloudLink Platform,
- A virtual instance of the CloudLink Platform embedded from a KVM image on EX Controller and Compact Server.

Depending on the configuration, refer to the relevant paragraph.

5.2.1 INSTALLATION IN A VIRTUALISED ENVIRONMENT

The VM CloudLink Gateway is supported in this VMware environment:

- ESXi 6.5 or later.

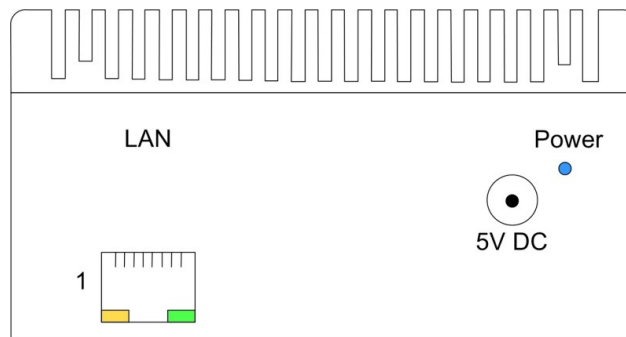
When CloudLink Gateway is virtually deployed, the system assigns the initial IP address via DHCP.

5.2.2 SYSTEM WITH EXTERNAL BOX FOR MITEL 5000 GATEWAYS

For Mitel 5000 Gateways: the appliance



- Configure your DHCP server to reserve an IP address for CloudLink Gateway.
- Set a static IP address (recommended). This address must be entered in the iPBX concerned.
- Connect the external box:
 - Network connection on port 1,
 - 5V power supply



When CloudLink Gateway is powered up, the IP address is retrieved from the DHCP server.

5.2.3 INSTALLATION BY KVM IMAGE ON MITEL EX CONTROLLER

Deployment on Mitel EX Controller via Mitel Gateway Installer

This tool allows CloudLink Gateway to be deployed on Mitel EX Controller.

Mitel GW Installer for EX/GX/TA - V1.2

Web Server

URL	<input type="text" value="http://10.140.0.200:980/"/>	Server is running ...
Port	<input type="text" value="8080"/>	<input type="button" value="Change port"/>
Login	<input type="text" value="exdeployuser"/>	<input type="button" value="Disable authentication"/>
Password	<input type="password" value="exdeploypassword"/>	<input type="button" value="Change password"/>

EX Controller / GX Gateway / TA

FQDN / IP Address	<input type="text" value="10...r1.1.1"/>	<input type="button" value="Refresh"/>	<input type="button" value="Clear"/>	<input type="button" value="Scan new hardware (snmpv1)"/>
SNMP-version	<input type="text" value="V3"/>	Community	<input type="text" value="public"/>	
SNMPv3 login	<input type="text" value="mv3000"/>	SNMPv3 password	<input type="password" value="B3\$@mplexply"/>	
Gateway	<input type="text" value="EX"/>	EX Controller - 0400...		
Firmware	Dgw-48.2.2567	MediatrustSentinel_Dgw_48.2.2567_STNL-MT-D20	<input type="button" value="Upgrade"/>	
<input type="button" value="Deploy"/>				

Network interfaces

Name	Interface	Type	IP Address	Gateway	State	VLAN
ExLan	eth-5	IpStatic	10.*.7.1.* / 2	10.1.*.7.1.*	Active	disable
Uplink	eth1	IpDhcp			LinkDo...	disable
Default ...	-	IpStatic	10.1.*.7.1.* / 25			

Virtual machines

	Name	State	Start	Cpu	RAM(Mo)	Storage(Go)	MAC Address	Network	Format	VM id
	MIV5000	Started	Auto		1	1024	10	12-df-ce-de...	Virtio	Ccow2 - i-1
	Cloudlink	Started	Auto		1	1024	13	12-4b-4b-de...	Virtio	Ccow2 - i-1

5.2.4 DEPLOYMENT ON COMPACT SERVER VIA WEB ADMIN

Menu **Configuration>Virtual Machines**

Allows the administrator to import and manage a CloudLink KVM image on the Compact Server.

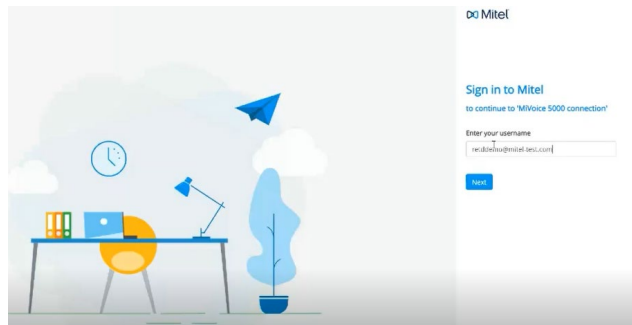
5.3 CONNECTING MIVOICE 5000 TO CLOUDLINK PLATFORM

- Go to iPBX Web Admin.

Go to Menu **Telephony service>Subscribers>Terminals and Applications>Applications**.

In Menu **CloudLink>Connection**, click **MiVoice 5000 Connection** to set up a link between CloudLink Gateway and MiVoice 5000.

Redirect to the CloudLink authentication page in a new tab.



- Enter the administrator's login/password (administrator's e-mail address, see Section 4.3).
- Click **Next**.

On the next screen, enter the corresponding password.

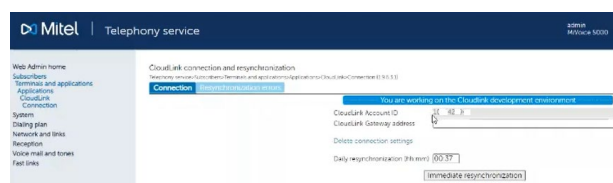
- Click **Next**.

Connection to CloudLink Gateway is set up:



Mivoice 5000 is allowed to configure CloudLink in the AWS CloudLink Platform.

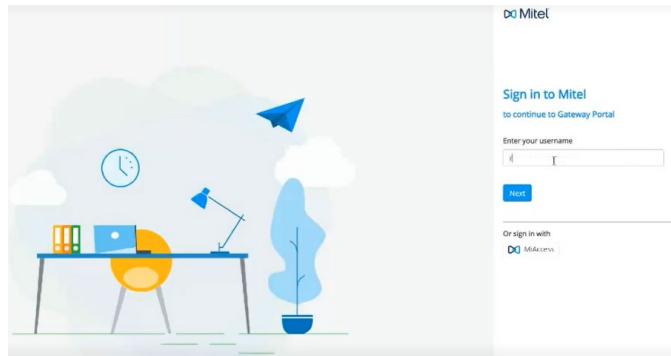
This information is given in Menu **CloudLink>Connection**.



- **CloudLink Account ID**, ID of the previously created account (not modifiable),
- **CloudLink Gateway address**, to be filled in later. Refer to Section 5.6.

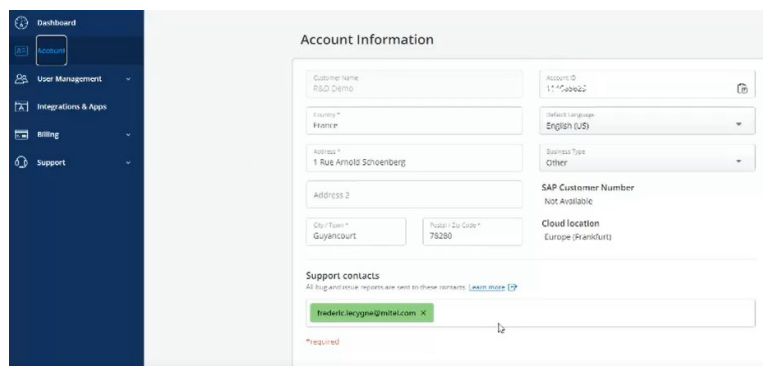
5.4 DEPLOYING AND CONNECTING CLOUDLINK GATEWAY TO CLOUDLINK PLATFORM (CUSTOMER SITE CONFIGURATION)

Log on to CloudLink Gateway via HTTP: CloudLink Gateway IP address set on the DHCP server.



- Enter the administrator's login/password (administrator's e-mail address), see Section 4.3).

Redirection to CloudLink Platform is done, and the connection set up:

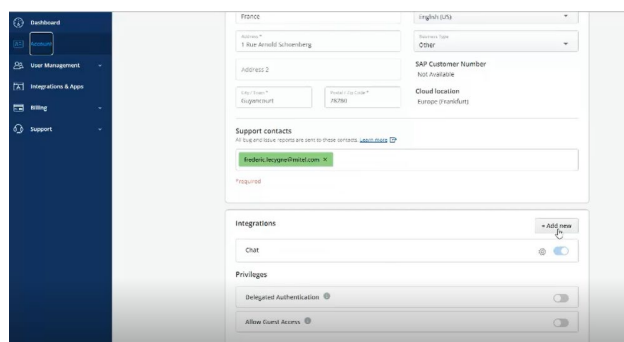


In the **Account** menu:

The account information is displayed and limited to the rights assigned to this administrator account.

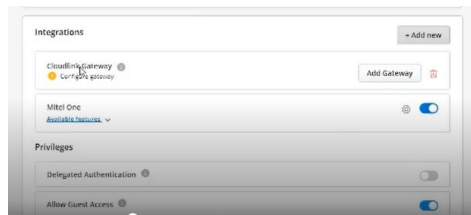
In the **Integration** area at the bottom of the window:

- Add CloudLink Gateway integration to this account, click + **Add new**.



- Click **Done**.

In the CloudLink Gateway area, click **+ Add Gateway**.



Information screen to be filled in for CloudLink Gateway

- Fill in the various fields (a CloudLink Gateway name must be filled in).
- Check or change the CloudLink network settings.

Click **Next**.

During this phase, messages indicate the progress status:

Connecting, registering, creating CloudLink Gateway/CloudLink Platform tunnel.

5.5 ENTERING IPBX INFORMATION IN CLOUDLINK GATEWAY

The screen below allows you to define the access to the iPBX in question:

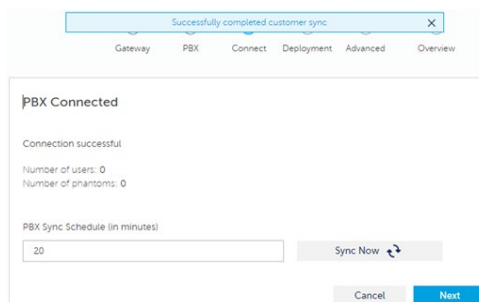
In the PBX Site list options, select the iPBX concerned (MV5000).

- Enter iPBX name and the IP address:
 - Possibly change CSTA Port 3211 (default value) if this value is not defined on MiVoice 5000 for this connection.
 - Depending on the number of users needed on MiVoice 5000 (*), several CSTA servers can be declared. In this case, specify the affected ports by separating them with semicolons.

(*): Refer to the MiV5000 Release Notes, Product Guide or Product Bulletin for the supported capacities.

- Click **Next**.

The CloudLink Gateway/MiVoice 5000 iPBX connection has been set up, confirmed through the message **Connect**.



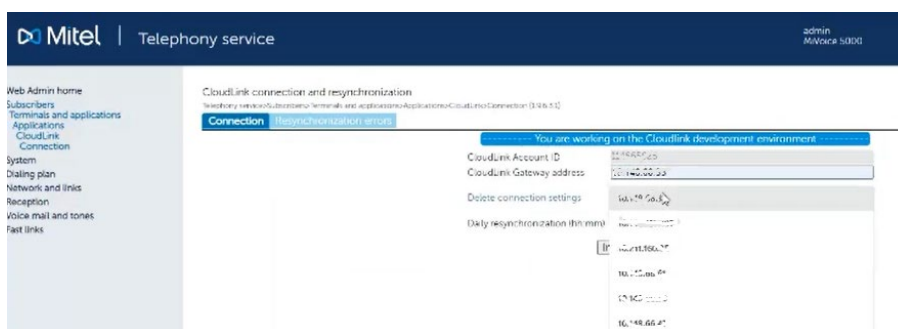
- Click **Next**.

5.6 CONFIGURING CLOUDLINK GATEWAY IN MIVOICE 5000

Go to MiVoice 5000 iPBX **Web Admin**.

In Menu **CloudLink>Connection**, enter the CloudLink Gateway IP address.

A check is made on the time entered. If it is not a CloudLink Gateway, an error message is returned.

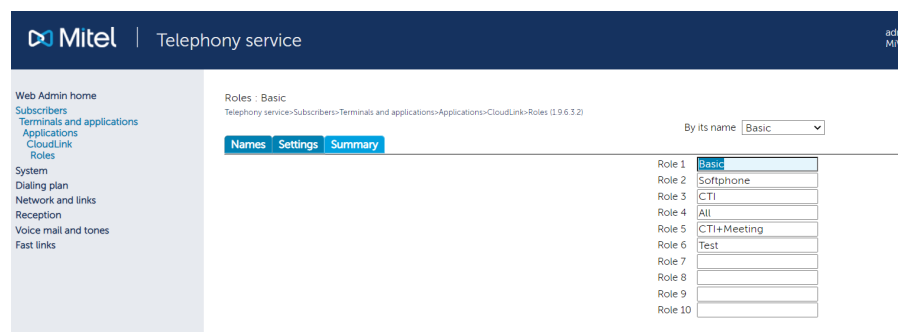


- Click **Synchronise Now** to finish the configuration.

5.7 CREATING ROLES AND CONFIGURING THE MIVOICE 5000 USERS EMBEDDED IN CLOUDLINK GATEWAY

This action is used to assign the right to use the media (Softphone) and/or CTI services offered by the CloudLink APIs to the subscribers concerned.

Create the roles to be assigned to **CloudLink**, in the **Name** tab of Menu **Telephony Service>Subscribers>Terminals and Applications>Applications>CloudLink>Roles**.



Note: This menu is only accessible when the iPBX/CloudLink Gateway connection is set up.

In the same menu, **Settings** tab and for the role in question, tick the features to be activated according to the environment,

- **CTI (Call Control)**
- **Softphone(s) (*)**

(*): See MiV5000 Release Notes, Product Guide or Product Bulletin for the availability.

Basic: default value indicated but no parameter.

When this Role is used, provisioning is only done on CloudLink Platform (no creation in CloudLink Gateway).

In particular, this type of role can be assigned for any type of CloudLink use without the use of a SIP or CSTA connection. This is, for instance, the case with MiTeam Meeting.

Role 1 to x: to be defined by the administrator

If the Softphone box is ticked, CTI is automatically ticked.

If one or both are checked and the role is assigned to a subscription, CloudLink Gateway will also be provisioned during resynchronisation (User only or User + Softphone).

The **Summary** tab of this menu gives a view of the list of roles.

Index	Names	CTI	Softphone
000	Basic		
001	Softphone	X	X
002	CTI	X	
003	All	X	X
004	CTI+Meeting	X	
005	Test	X	

Go to Menu **Telephony service>Subscribers>Characteristics**.

Assign the corresponding role for the subscriber concerned.

- If the subscriber exists, go directly to Menu **Subscribers>Characteristics**.
- If the subscriber must be created, go and create it in Menu **Telephony service>Subscribers>Subscription>Create**.

5.8 SYNCHRONISATION

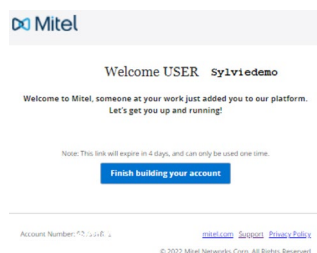
Go to Menu **CloudLink>Connection**, **Connection** tab.

Start an immediate synchronisation.

Once the synchronisation is completed, an e-mail is sent to the users concerned.

(E-mail address previously defined in the Cloud Link subscriber's characteristics).

Subscribers will receive the following e-mail:



Note: the account number is indicated at the bottom of the message.

Click **Finish building your account**.

In this window:

- Enter and confirm the new password.
- Tick the box **I agree to the Terms & Conditions**.
- Click **Complete**.

A confirmation message is sent to the users previously created in MiVoice 5000.

5.8.1 SYNCHRONISATION ERROR

If synchronisation fails, the causes are listed in Menu **CloudLink>Connection**, **Connection Error** tab.

Error message:

- Non-existent, incorrect or double e-mail address,
- Incorrect MD5 password.

The event is also recorded in the logbook.

5.9 VIEWING CLOUDLINK USERS IN MIVOICE 5000

Menu **Telephony service>Subscribers>Terminals and Applications>Applications>CloudLink>Users.**

Role users, role criterion: WITH ROLE

Telephony service>Subscribers>Terminals and applications>Applications>CloudLink>Users (1/6/3/3)

Directory	Name	Email	Role
2000	USER 2000	2000.cltestapi@mitel-test.com	Softphone
2001	USER 2001	2001.cltestapi@mitel-test.com	All
2002	USER 2002	2002.cltestapi@mitel-test.com	All
2003	USER 2003	2003.cltestapi@mitel-test.com	All
2004	USER 2004	2004.cltestapi@mitel-test.com	All
2005	USER 2005	2005.cltestapi@mitel-test.com	All
2006	USER 2006	2006.cltestapi@mitel-test.com	All
2007	USER 2007	2007.cltestapi@mitel-test.com	All
2008	USER 2008	2008.cltestapi@mitel-test.com	All
2009	USER 2009	2009.cltestapi@mitel-test.com	All
2100	USER 2100	2100.cltestapi@mitel-test.com	All
2101	USER 2101	2101.cltestapi@mitel-test.com	All
2102	USER 2102	2102.cltestapi@mitel-test.com	All
2103	USER 2103	2103.cltestapi@mitel-test.com	All
2104	USER 2104	2104.cltestapi@mitel-test.com	All
2105	USER 2105	2105.cltestapi@mitel-test.com	All
2106	USER 2106	2106.cltestapi@mitel-test.com	All
2107	USER 2107	2107.cltestapi@mitel-test.com	All
2108	USER 2108	2108.cltestapi@mitel-test.com	All
2109	USER 2109	2109.cltestapi@mitel-test.com	All
2110	USER 2110	2110.cltestapi@mitel-test.com	All
2111	USER 2111	2111.cltestapi@mitel-test.com	All

This menu allows you to view all users and their characteristics:

- Directory number
- Name
- E-mail address
- Role.

5.10 VIEWING USERS AND ASSIGNING CLOUDLINK ROLES FROM MIVOICE 5000 MANAGER

Menu Subscriber management



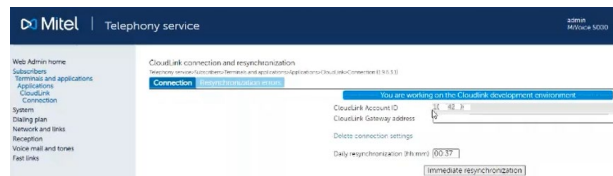
Lists available in MiVoice 5000 Manager:

- Content of the roles for an iPBX
- List of subscribers assigned to a role
- List of roles and their contents.

5.11 DELETING THE CONNECTION TO CLOUDLINK IN MIVOICE 5000

Menu **Telephony service>Subscribers>Terminals and Applications>Applications>CloudLink>Connections.**

The **Delete connection settings** link allows you to delete the connection to CloudLink provided there are no more subscribers using the CloudLink role.



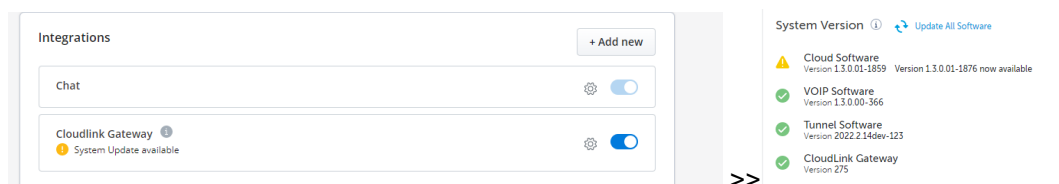
The **Delete connection settings** link is displayed:

- If no resynchronisation is in progress,
- If there are no longer any users synchronised between the iPBX and CloudLink Platform and CloudLink Gateway i.e. there are no longer any roles assigned to the subscriptions => Delete subscriptions on CloudLink Platform CloudLink Gateway.
- If there is a problem with authentication to CloudLink Platform (Client ID and or iPBX Secret Client, this link provides a way out of this situation).

Clicking this link takes you back to the procedure for logging in as an Admin, from MiVoice 5000 to CloudLink Platform. Refer to Section 5.3 Connecting MiVoice 5000 to CloudLink Platform.

5.12 UPDATING CLOUDLINK GATEWAY RELEASES FROM CLOUDLINK PORTAL

If new CloudLink Gateway versions are available, they are indicated in CloudLink Portal in the **Integration** area.



Refer to the following link [CloudLink Gateway User Guide \(mitel.com\)](https://mitel.com/cloudlink-gateway-user-guide) in the section **Gateway Appliance Software Update.**

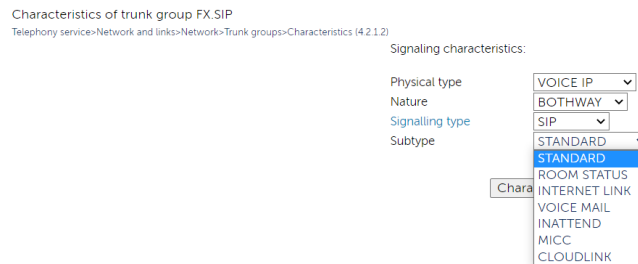
Update may be automatic, immediate or deferred.

5.13 CONFIGURING CLOUDLINK SIP TRUNK IN MIVOICE 5000 (RESERVED FOR FUTURE RELEASES)

This feature will give access to services such as IVR, etc. in CloudLink when they become available. Refer to MiV5000 Release Notes, Product Guide or Product Bulletin for availability.

In Menu **Telephony service>Network and links>Network>Trunks>Names**:

- Add a new trunk name for CloudLink.
- Click the corresponding link on the left side of the newly created name.
- Select **Trunks>Characteristics** which redirects directly to the configuration of the trunk signalling characteristics.



- Select **CLOUDLINK**.
- Click the **Characteristics** button.

- Enter the IP address of CloudLink Gateway (**Proxy No. 1**).
- Enter the corresponding port which must be different from 5070.
- In the **Authentication** line, select **SIP CLIENT**.

The proxy check must be set on the IP address of CloudLink Gateway:

- On the **Proxy Check** line, select **IP ADDRESS**.

For **authentication**, the login must be **officelinkmv5000** relative to the **SIP CLIENT** type. The user can choose any password.

- Then start a resynchronisation from the Connection tab of Menu **Subscribers>Terminals and Applications>Applications>CloudLink>Connection**.