Configure Self-Provisioning Feature on CUCM (URL Based)

Contents

Introduction

This document describes how to configure Self-Provisioning Feature on Cisco Unified Communications Manager (CUCM) (URL Based).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco Unified Communication Manager.
- Voice over Internet Protocol (VoIP)
- Phone Registration Process.

Components Used

The information in this document is based on Cisco Unified Communications Manager 10.5

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.
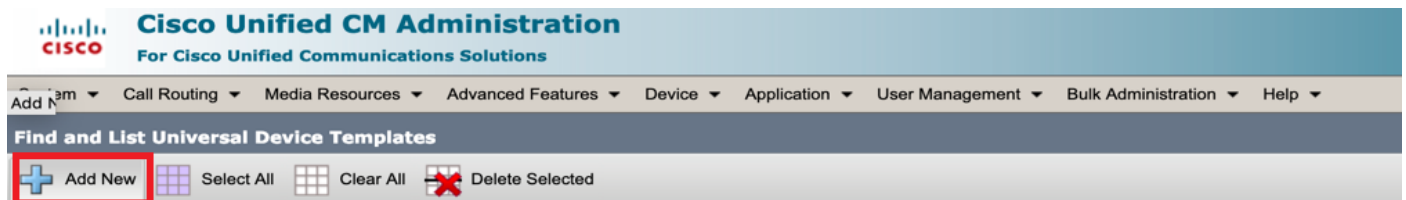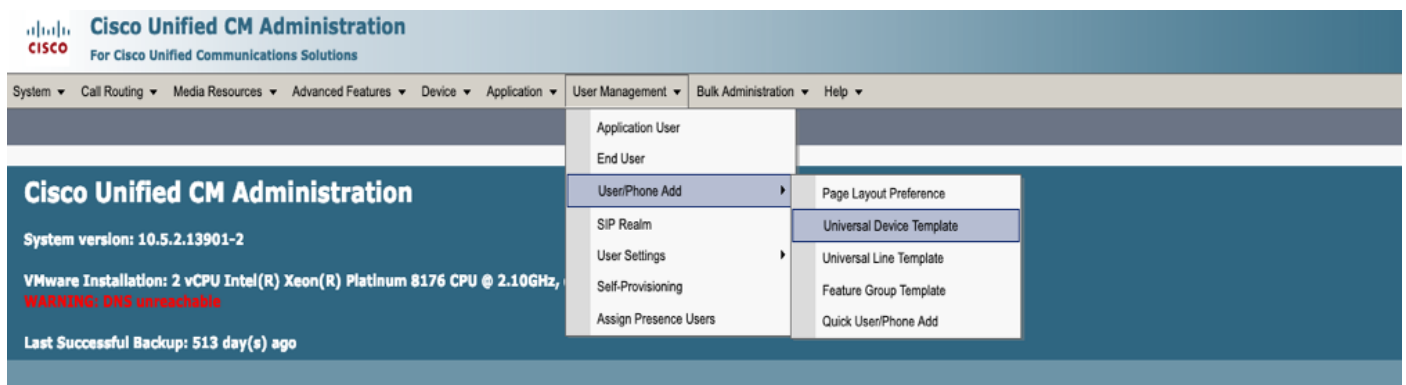
What is Self-Provisioning?

Self-Provisioning is a feature introduced in the 10.x release of Cisco's Unified Communications Manager (CUCM). It provides a **plug and play** type of functionality that simplifies the phone deployment process. Using **auto-registration**, some template and profile configurations, along with an IVR service, CUCM administrators have the ability to deploy phones with minimal upfront configuration.

Note: Self-Provisioning works only for the Auto-Registered Phones.
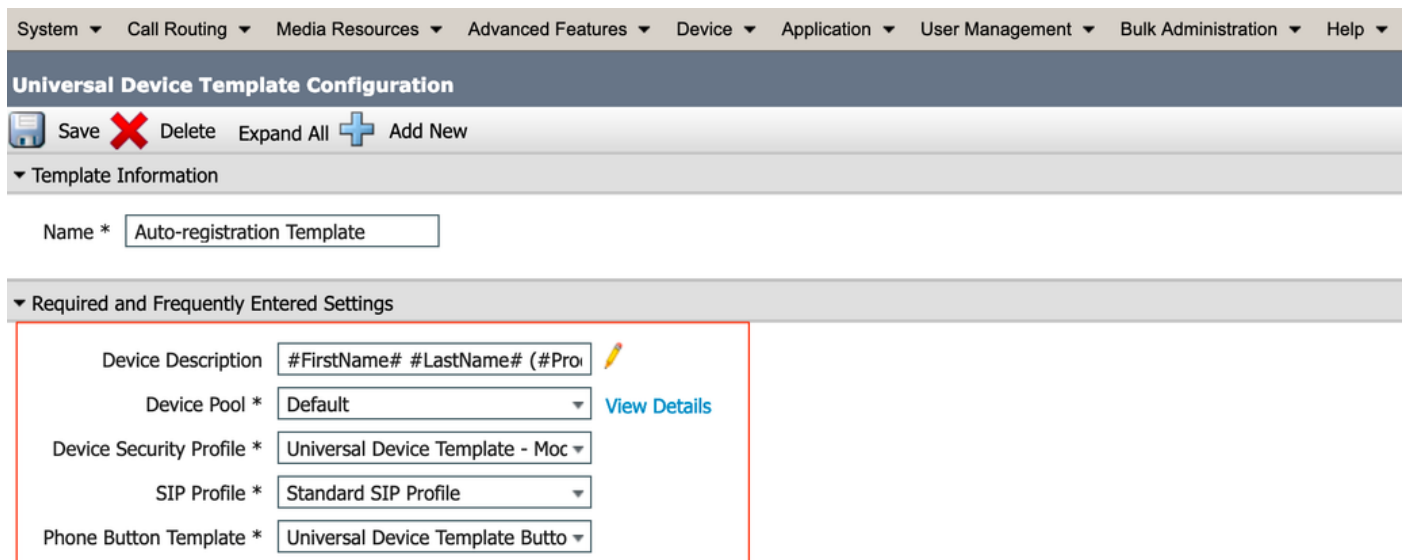
Configure

1. Create a **Universal Device Template** (UDT)

Step 1. Navigate to **User management > User Phone add > Universal Device Template** and Add New Template.

Step 2. Apply the Configuration that you expect the phones to take after auto registration, to the new UDT, (Device pool/Sip Profile/Device security profile/Phone Button Template)

Step 3. Add The Self Provisioning URL to CUCM, as shown in the image.

Note: Self Provisioning URL Format is, https://<callManager>/cucm-uds/private/selfProvision

2. Create **Universal LineTemplate** (ULT)

Step 1. Navigate to **User management >> User/Phone Add >> User Line Template**.
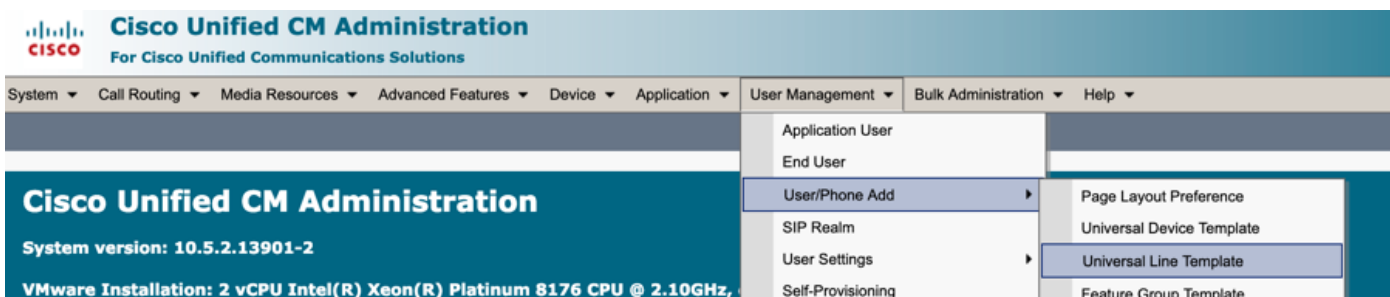
Step 2. Add the Route partition and CSS that is expected on the Phone after Auto Registration.

Universal Line Template Configuration

💾 Save ❌ Delete   Expand All ➕ Add New

▾ Template Information

Name *   [Sample Line Template with TA]   ☐ Urgent Priority

▾ Required and Frequently Entered Settings

|	
Line Description:	#FirstName# #LastName# (# ✏
Route Partition:	PT-Intra ▾
Voice Mail Profile:	▾
Calling Search Space:	CSS-Inter ▾
Alerting Name:	#FirstName# #LastName# ✏
External Call Control Profile:	▾

Step 3. This Universal Device Template and Universal Line Template should be linked with Auto-registration so that the Phones can take the Configuration when Auto-Registered.

3. Add the Templates to CUCM node for **Auto-registration** Configuration and navigate to **System > Cisco Unified CM**, as shown in the image.
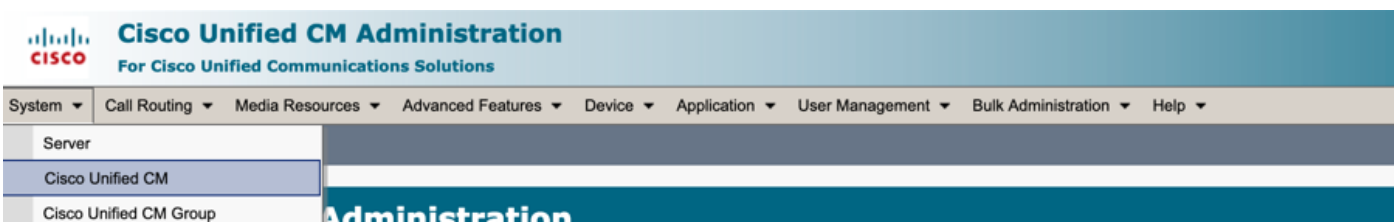
Cisco Unified CM Administration
For Cisco Unified Communications Solutions

System ▾   Call Routing ▾   Media Resources ▾   Advanced Features ▾   Device ▾   Application ▾   User Management ▾   Bulk Administration ▾   Help ▾

Server

Cisco Unified CM

Cisco Unified CM Group   **Administration**

System ▾   Call Routing ▾   Media Resources ▾   Advanced Features ▾   Device ▾   Application ▾   User Management ▾   Bulk Administration ▾   Help ▾

Cisco Unified CM Configuration

💾 Save   🔄 Reset   ✏ Apply Config

Status

ℹ️ Status: Ready

Cisco Unified Communications Manager Information

Cisco Unified Communications Manager: CM_UCM-PUB10 (used by 74 devices)

Server Information

CTI ID   1
Cisco Unified Communications Manager Server* 10.106.114.151
Cisco Unified Communications Manager Name*   [CM_UCM-PUB10]
Description   [10.106.114.151]
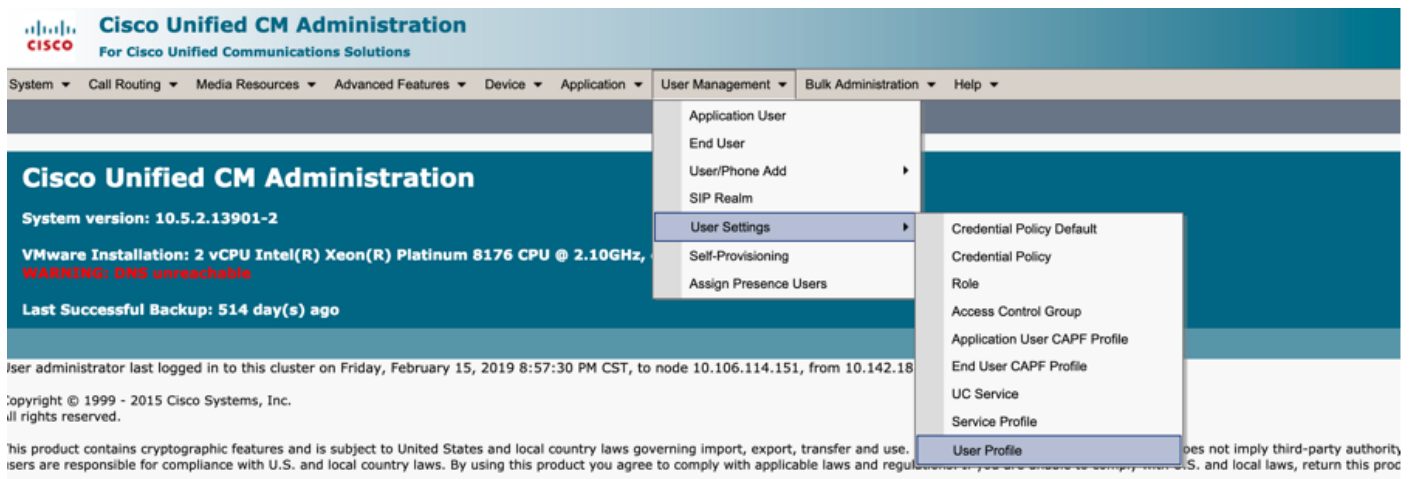Location Bandwidth Manager Group   [< None >]

Auto-registration Information

Universal Device Template* [Auto-registration Template]
Universal Line Template*   [Sample Line Template with TAG usage examples]
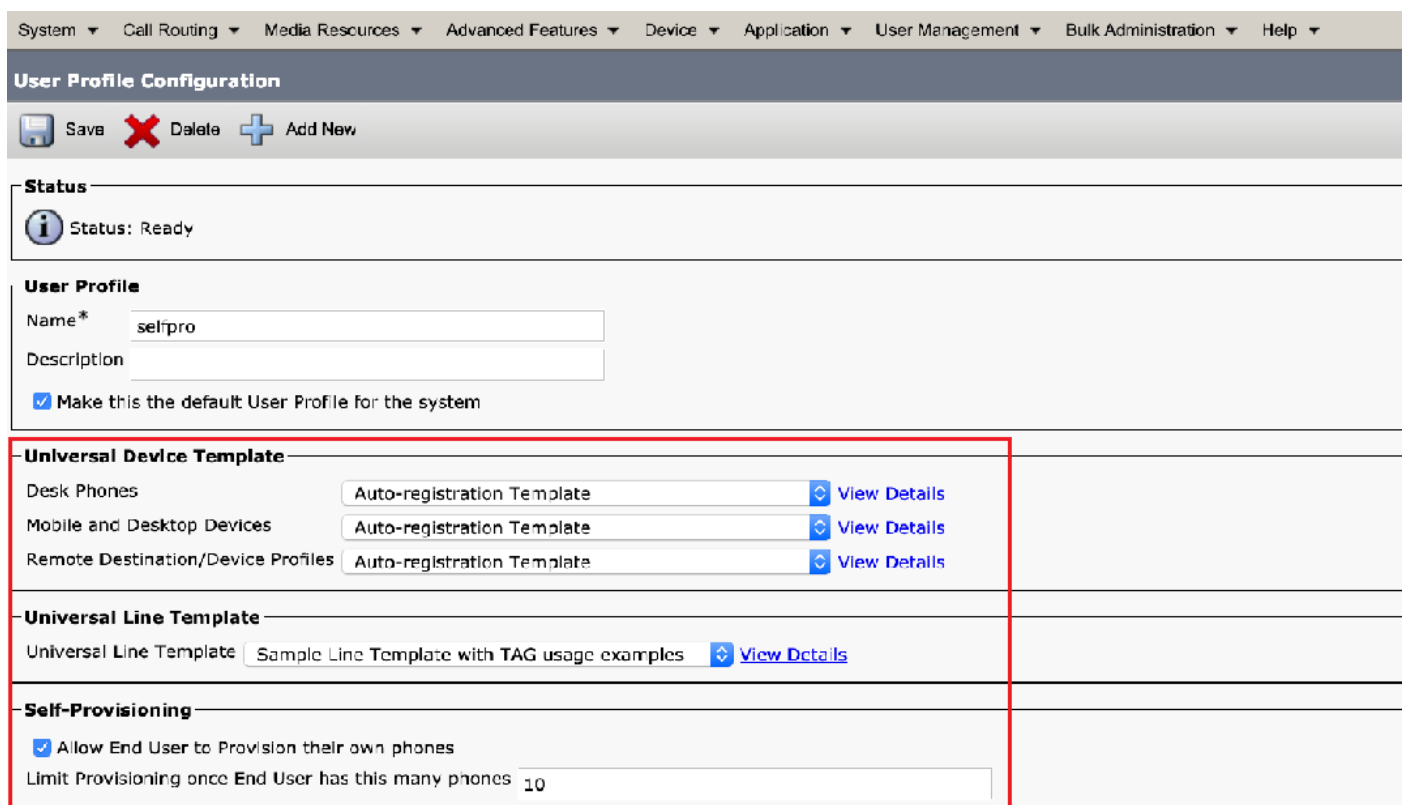Starting Directory Number* [1000]

4. Add a New **User Profile** for Self Provisioning.

Step 1. Navigate to **User Management > User Settings > User Profile**, as shown in the image.

Step 2. Add the **User Device Template**, **User Line Template** and Check the **Allow End User to Provision their Own Phone** CheckBox.


Note: These Setting Are Applied When the Users try to Self-Provision the Devices with Their own Extensions.

Note: You Can Also set a Maximum Limit to Users for Number of Devices After Which the Self Provisioning would not work for Users.
E.g.: if User has 9 devices assigned already Since the Maximum limit in Above screenshot is set to 10, User can self-provision only one Device.

Note: If the **Allow End User to Provision their Own Phone** Check-box is left unchecked. Self-Provisioning would not work for Users.

5. Create a **Feature Group Template** and Assign the **User Profile**. Navigate to **User Management > User/Phone Add > Feature Group Template**, and click on **Add New**.
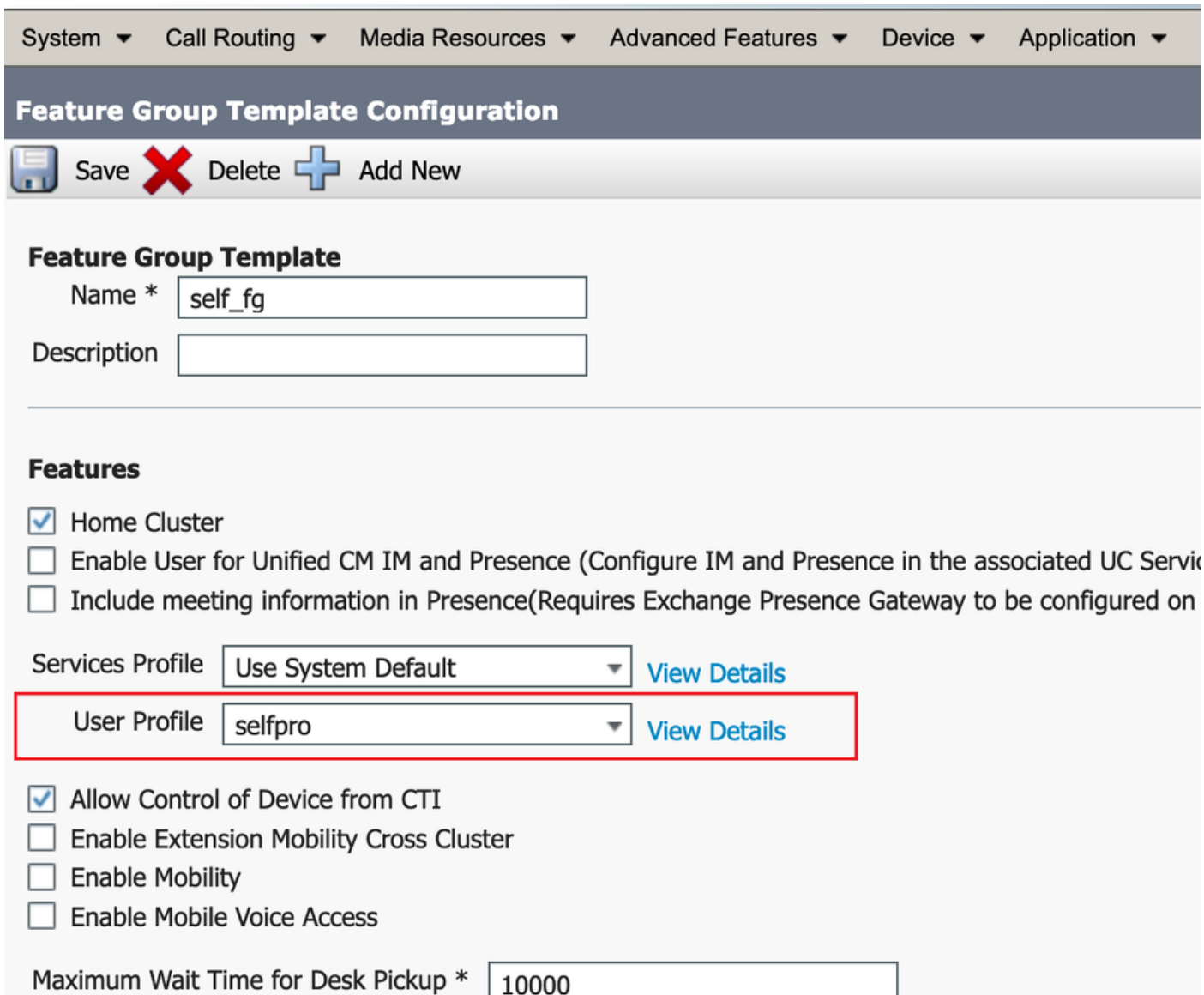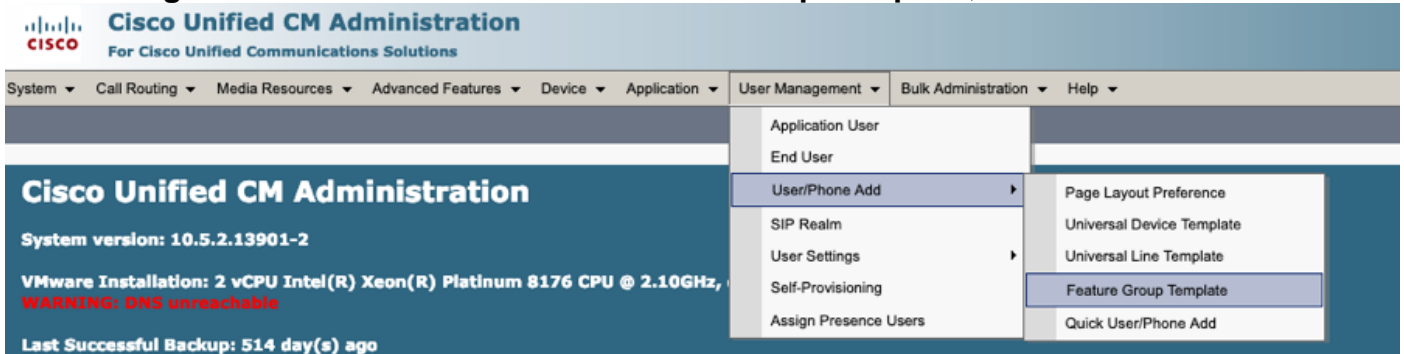
6. Create a user from **Quick user/phone add** page, and Add the **Feature Group Template**.

Step 1. Navigate to **User management > User Phone Add > Quick User /Phone Add**, as shown in the image.

Step 2. Add the **Standard CCM End Users** under Access Control Group membership.

Step 3. Add an extension in the extension field to the User, click on **+** Icon under Action to enable the Field.

Step 3. If a New Extension is to be created Click on **New** and Add a New DN. (As Shown in the image option 1). If the Extension already Exists on CUCM and is to be assigned to User, Choose that from Dropdown menu shown in option 2 of the image here.

Note: Once the User is Created, it Takes Primary Line as Self-Service User ID by default.

7. Verify the End User has received the **primary Extension**, **Self-service User ID,User Profile** and **Standard CCM End User Role**. Navigate to **User Management > End User** and Access the newly Created User, as shown in the image.

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> Application User
> End User
> User/Phone Add ▶

Cisco Unified CM Administration

System ▼ | Call Routing ▼ | Media Resources ▼ | Advanced Features ▼ | Device ▼ | Application ▼ | User Management ▼ | Bulk Administration ▼ | Help ▼

End User Configuration

💾 Save   ✖ Delete   ➕ Add New

User Information

User Status	Enabled Local User
User ID*	aksethi
Password	••••••••••••••••••••••••••••••••••• Edit Credential
Confirm Password	••••••••••••••••••••••••••••••••••
Self-Service User ID	1004
PIN	•••••••••••••••••••••••••••••••• Edit Credential
Confirm PIN	••••••••••••••••••••••••••••••••
Last name*	sethi
Middle name	
First name	akash
Title	

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End User Configuration

💾 Save   ✖ Delete   ➕ Add New

User Locale	< None >
Associated PC	
Digest Credentials	••••••••••••••••••••••••••••••••••••••
Confirm Digest Credentials	••••••••••••••••••••••••••••••••••••••
User Profile	selfpro View Details
Name Dialing	sethiakash
Number of Digits needed for the Unique AA Name	2

Note: User Must have a Primary Extension and Self-Service User ID, **Standard CCM End Users** role, for Self-provisioning to work.

8. Self-Provisioning Service Can be Set up at the System Level to Use Secure mode and a Password can be set.

This feature is set to **Non Authentication Required** Mode, which does **not** Require any PIN to Use Self Provisioning. Navigate to **User Management > Self-Provisioning**

Note: Even if the Step 8 is not configured, self-provisioning would still work, as it chooses Default value at No Authentication required.

Services Associated with Self-Provisioning

- Cisco Call Manager

This Service is associated with the Phone registration and Must be enabled on the Node to which registration is attempted.
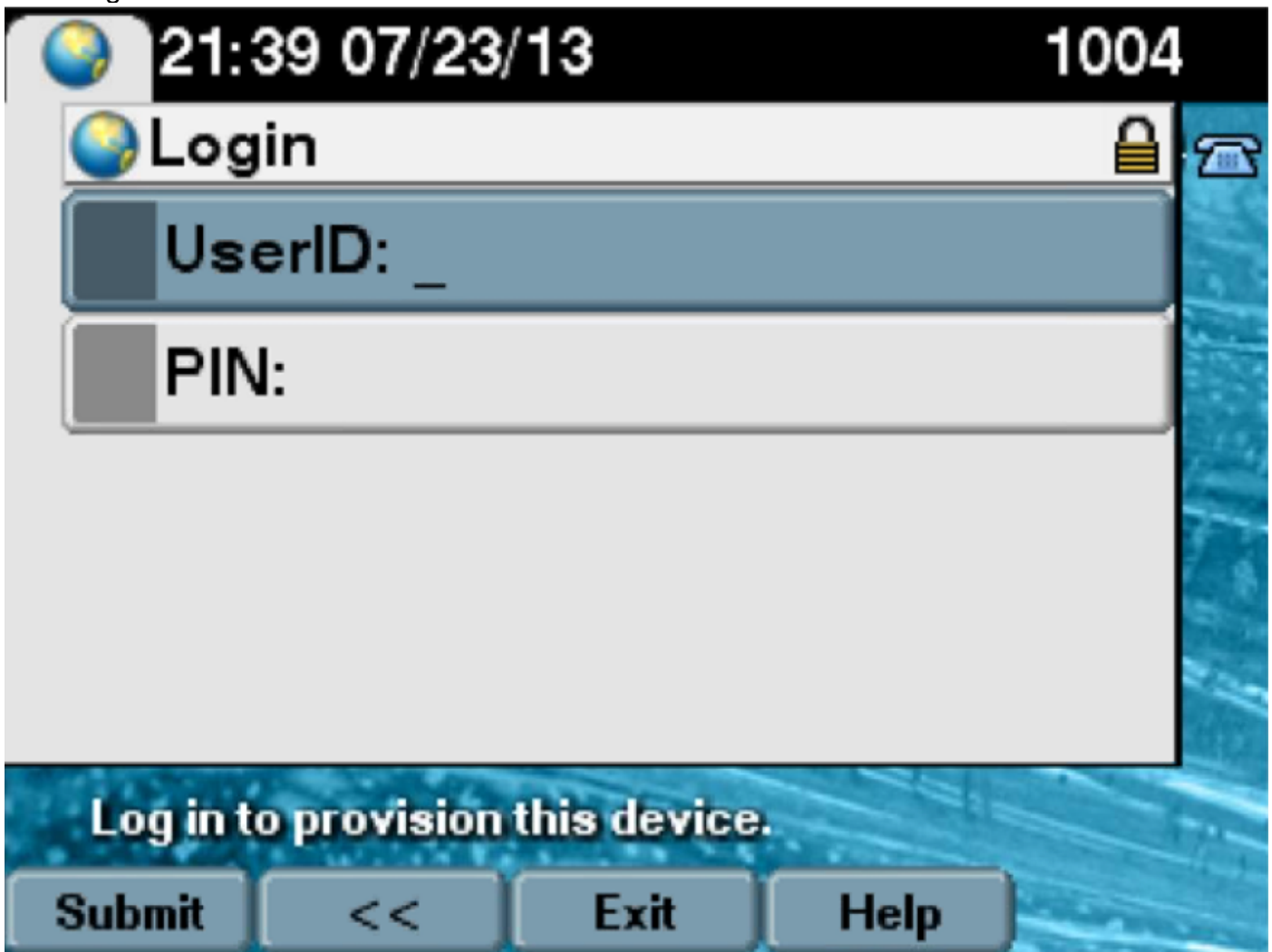
- Cisco User Data Services

This Service is enabled by Default and cannot be disabled.

This Service can be found under **CM services** on **Network Services** Page In **Cisco Unified Serviceability.**

End User experience on the Phone

1. After a timeout of 1 second, the phone would access the IDLE URL, which would prompt the Login window.

2. User Enters User ID and PIN (**Not Password**).

21:42 07/23/13   1004

🌐 Login   🔒 ☎

UserID: colreyna

PIN: *****

Log in to provision this device.

| Submit | << | Exit | Help |
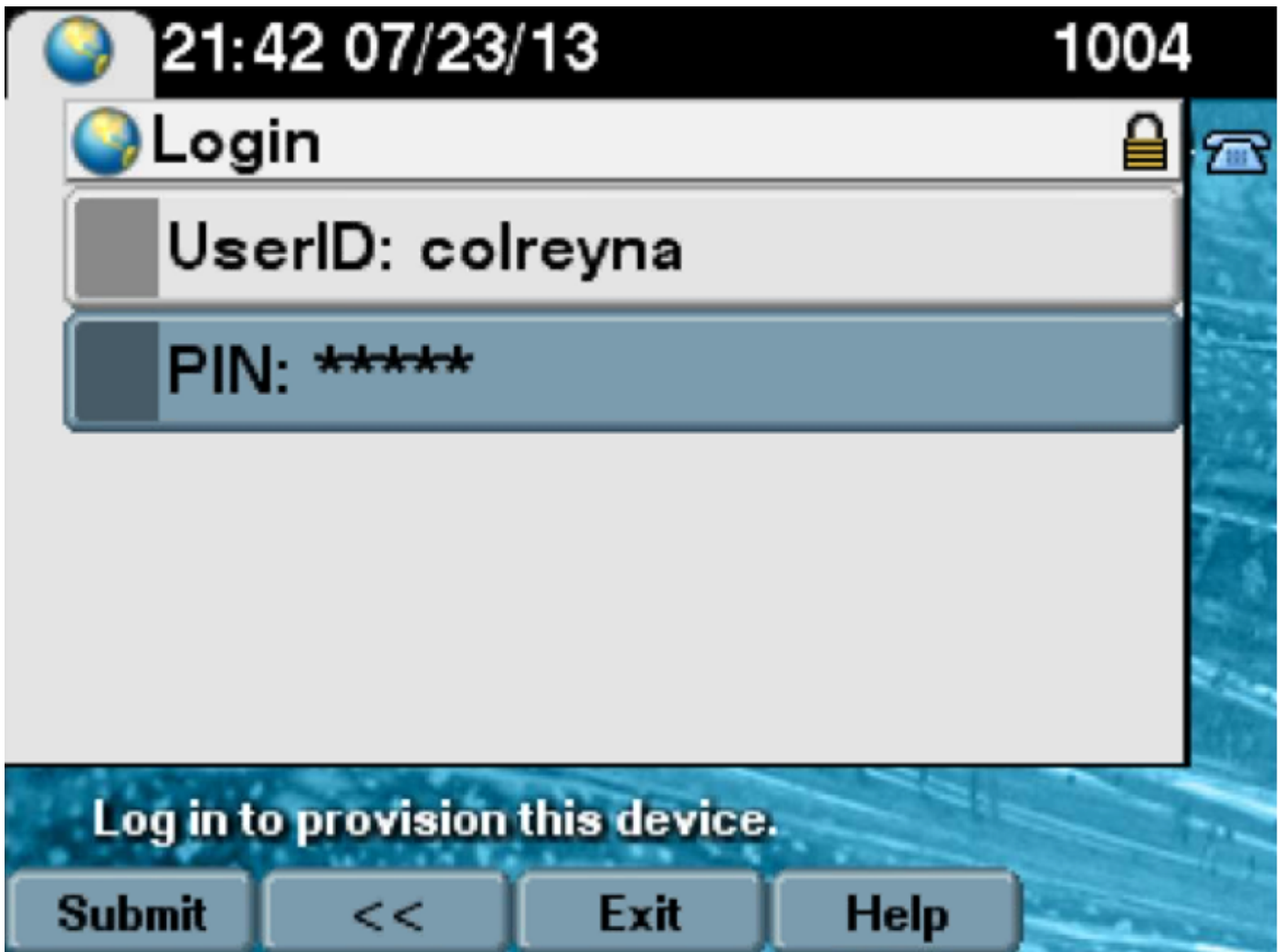
3. The user is Shown the Login Success screen and the number that would be provisioned, which would be the primary line added to the User.
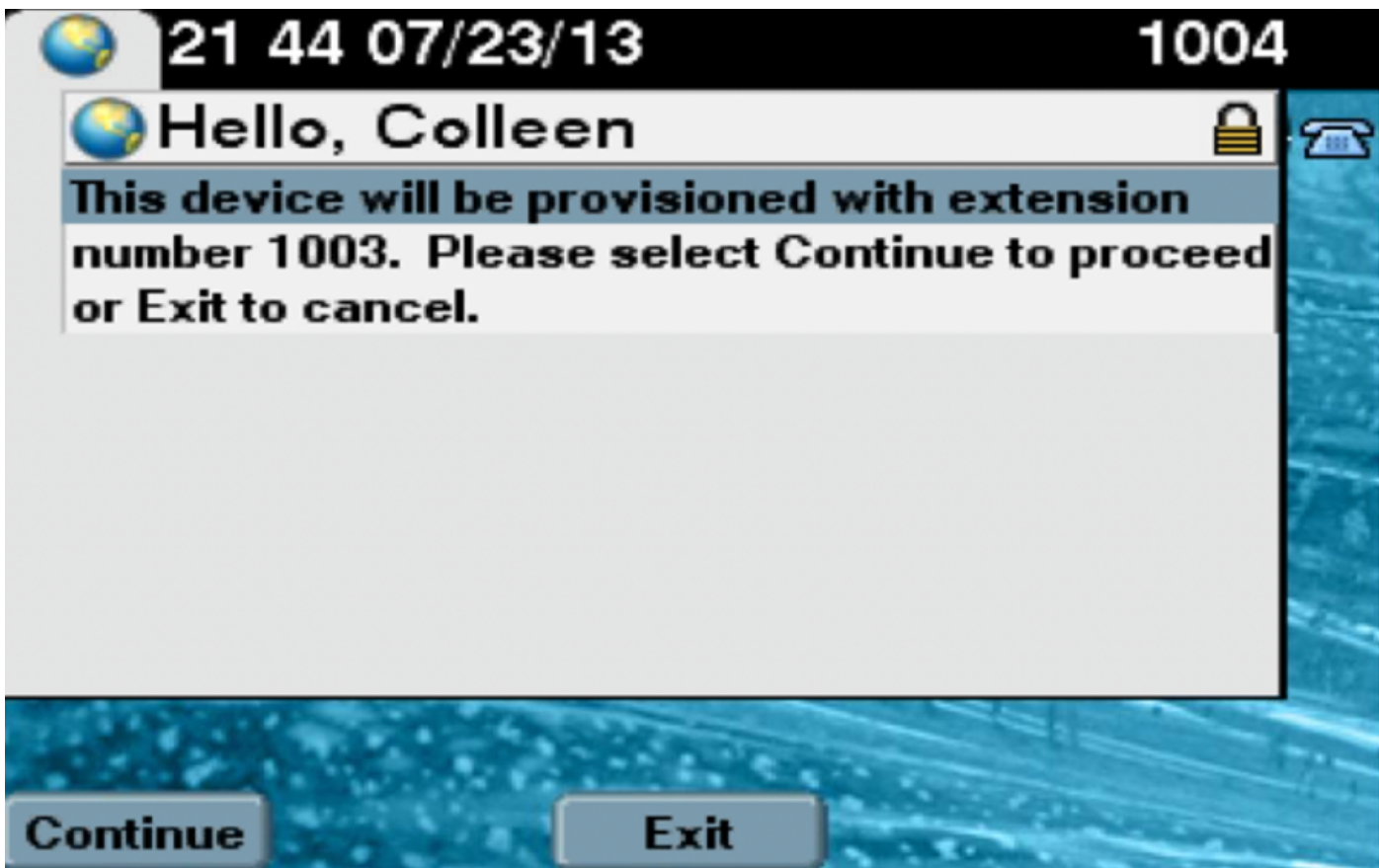
After continue is clicked device would go for a Reboot and Come-up with the Settings Specified in Template and with the primary line associated with the User.

Troubleshoot

Here are few of the common error messages returned by the Phone client:

Error Code	Solution/Cause
SELFPROV_NOT_ALLOWED	Check whether the Self-Provisioning checkbox is checked user's User Profile.
SELFPROV_DEVICE_LIMIT	The user's owned device already reached the limit.
INVALID_DEVICE_MODEL	The provided device model is not valid.
MODEL_PHONETEMPELATE_NOT_FOUND	The required UDT is not configured.

Logs to be Collected

In order to further troubleshoot the UDS (User Data Service), Collect the "**Cisco User Data Services**" Log from RTMT.

File names are of format cucm-uds####.log. (# represents number.)

The Traces are Set to Info Level by Default.

The maximum file size is 1 MB by default. The maximum number of stored files defaults to 250.

Note: When you change either the Maximum No. of Files or the Maximum File Size settings in the Trace Configuration window, the system deletes all service log files except for the

current file, that is, if the service runs.

If the service has not been activated, the system deletes the files immediately after you activate the service.

Common Errors seen in UDS logs and their solutions:

2013-07-23 23:47:43,016 ERROR [http-bio-443-exec-177] handlers.SelfProvisionHandler - Model phone template is not available.

> Solution: Ensure the User Profile has a UDT assigned (the default sample is fine)

2013-07-23 23:48:25,852 ERROR [http-bio-443-exec-181] handlers.SelfProvisionHandler - Device Self-Provision is not allowed.

> Solution: Ensure the User Profile has "Allow End User to Provision their own phones" checked.

2013-07-23 23:54:06,039 ERROR [http-bio-443-exec-220] handlers.SelfProvisionHandler - Device Self-Provision has reached its device limit.

> Solution: Ensure the Usure Profile has a non-zero value in "Limit Provisioning once End User has this many phones" field.

Known Defects

- CSCuq00358
- CSCve52657
- CSCun77515
- CSCun13382

Related Information

- **Technical Support & Documentation - Cisco Systems**