MigrationFX
Installation Guide

UnifiedFX

MigrationFX Installation & Admin Guide

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Table of Contents

MigrationFX
Installation Guide

Overview

MigrationFX makes the migration of Cisco IP Phones as simple as swapping the physical IP Phone by eliminating the need to manually re-configure devices within Cisco Unified Communications Manager.

MigrationFX is built using AutomationFX hence most of this document refers to AutomationFX as technically that is the application that is being installed. MigrationFX is the functionality enabled within the AutomationFX platform for migrating Cisco IP Phones. AutomationFX (hence MigrationFX) leverages existing technology from PhoneView, PhoneView is the premier Cisco Endpoint Management product from UnifiedFX and has been used by over 10,000 Cisco UC Engineers worldwide.

MigrationFX is in effect an XML Phone Service that is deployed to new IP Phones in order to allow the end user to migrate their old phone configuration to the new Cisco Endpoint eliminating hours of manual configuration typically required as part of the process. Instead an end user can 'upgrade' or 'swap' their Cisco IP Phone as easy as plugging in the new device and navigating one or more XML Pages on the new phone. MigrationFX takes care of all the reconfiguration automatically and seamlessly ensuring that the new device configuration mirrors the old configuration as close as technically possible.

The following diagram is a high-level overview of how MigrationFX works:
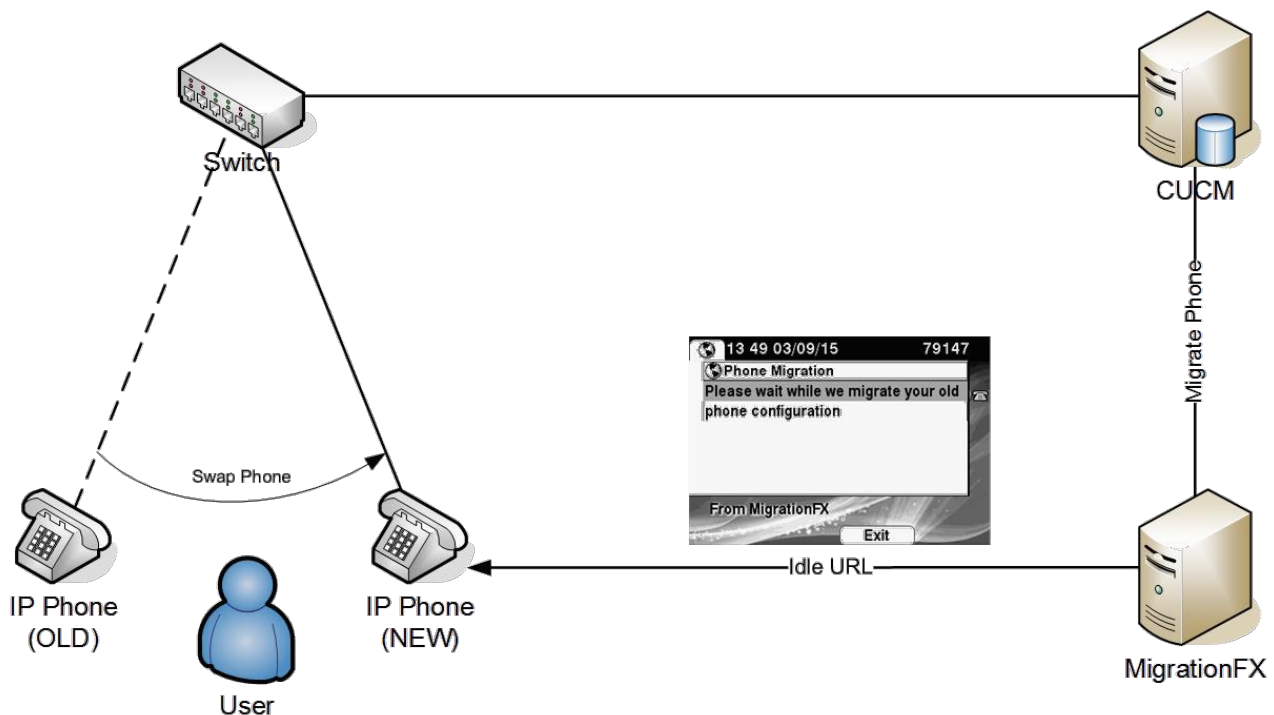
Requirements

System

- Windows 7 (or Above) / Windows Server 2008 (or Above)
- 64-bit OS
- Microsoft .Net Framework 4.5.
- Dual Core CPU 2+ GHz / 4Gb Ram (or above)
- 500 Mb free Hard Drive space
- VMWare Supported
- Modern web browser i.e. Chrome, Firefox, Safari, IE 10+
- Free TCP Port (8181 by default)

Note: If installing on Windows 7 or Windows Server 2008 then Windows Management Framework 3.0 is also required: https://www.microsoft.com/en-us/download/details.aspx?id=34595

Unified Communications Manager

- CUCM Version 8.0 (or above)
- Appropriate CUCM License capacity for new phones (if required)
- Phone Web Server Enabled (for gathering topology information)

Note: On some occasions a CUCM update or device pack may be required to support new phone models

MigrationFX
Installation Guide

Network Connectivity

The following tables details the TCP Port connectivity requirements of AutomationFX (and therefore MigrationFX)
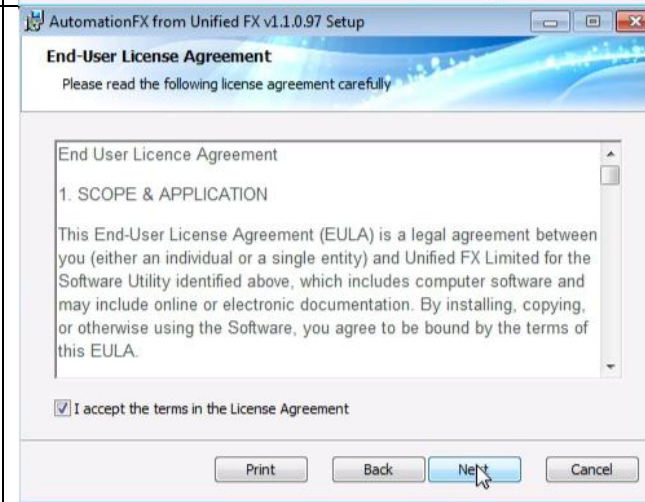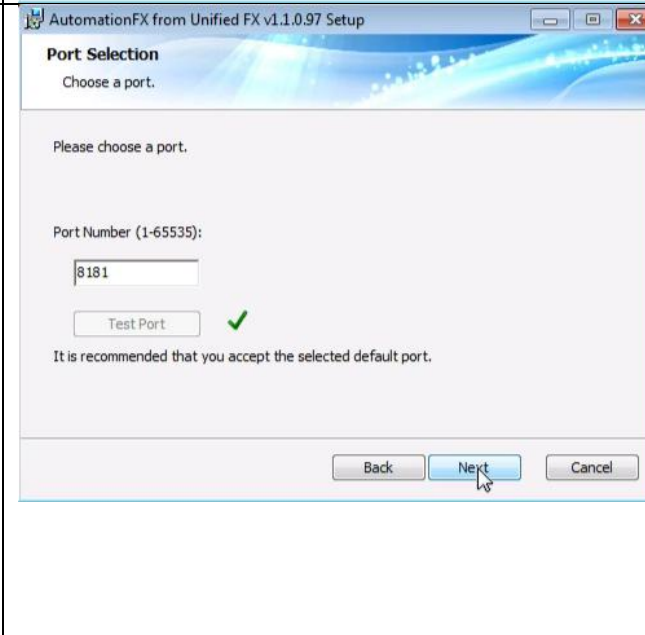
TCP Ports between AutomationFX and CUCM

From	To	Port	Purpose
AutomationFX	CUCM	80/TCP	HTTP API Interface
AutomationFX	CUCM	8080/TCP	HTTP API Interface
AutomationFX	CUCM	443/TCP	HTTPS API Interface
AutomationFX	CUCM	8443/TCP	HTTPS API Interface
AutomationFX	CUCM	6970/TCP	HTTP API Interface
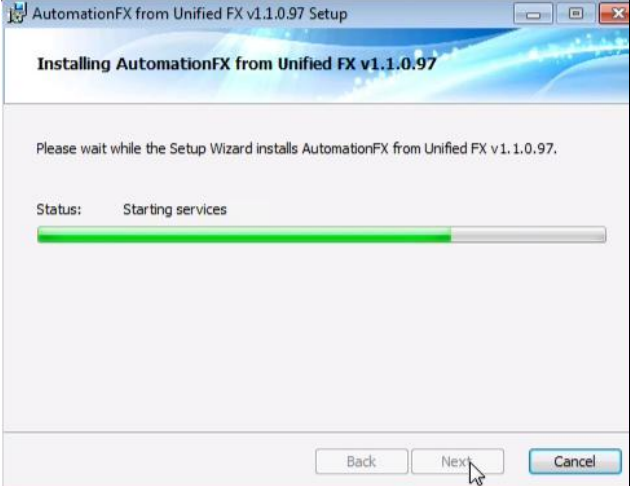
TCP Ports between AutomationFX and IP Phones

From	To	Port	Purpose
AutomationFX	IP Phone	80/TCP	HTTP API Interface
AutomationFX	IP Phone	443/TCP	HTTPS API Interface
IP Phone	AutomationFX	8181/TCP (Editable)	HTTP API Interface

AutomationFX Installation

Open the MSI Installer file and click 'Next' on the welcome page	Welcome to the AutomationFX from Unified FX v1.1.0.97 Setup Wizard
Review and accept the End-User License Agreement then click 'Next'	End-User License Agreement
Choose a local TCP Port to host the 'AutomationFX Web Application Platform'. • **Click 'Test Port'** to check that the chosen port is available on the local machine. • **Click 'Next'** to continue Note: **The default port is 8181**, this can be changed to port 80 as long as there are no other applications hosted on port 80 on the local machine. Note: This is saved to the following registry entry: • HKLM\Software\UnifiedFX\AutomationFX\PortNumber	Port Selection

**MigrationFX
Installation Guide**

All the required information has been captured, click 'Install' to start the installation.	AutomationFX from Unified FX v1.1.0.97 Setup **Ready to install AutomationFX from Unified FX v1.1.0.97** Click Install to begin the installation. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard. Back Install Cancel
All necessary files are copied to the local machine and the 'AutomationFX' Windows Service is installed and started.	AutomationFX from Unified FX v1.1.0.97 Setup **Installing AutomationFX from Unified FX v1.1.0.97** Please wait while the Setup Wizard installs AutomationFX from Unified FX v1.1.0.97. Status: Starting services Back Next Cancel
Once the installation is complete click 'Finish' to close the MSI Installer	AutomationFX from Unified FX v1.1.0.97 Setup Completed the AutomationFX from Unified FX v1.1.0.97 Setup Wizard Click the Finish button to exit the Setup Wizard. UnifiedFX Back Finish Cancel

After the MSI Installation is complete the application web interface is opened automatically (http://127.0.0.1:8181). The first step for a new installation is to install the license key. Enter the License Key and click 'Install', once installed user will see the license parameters on this page.
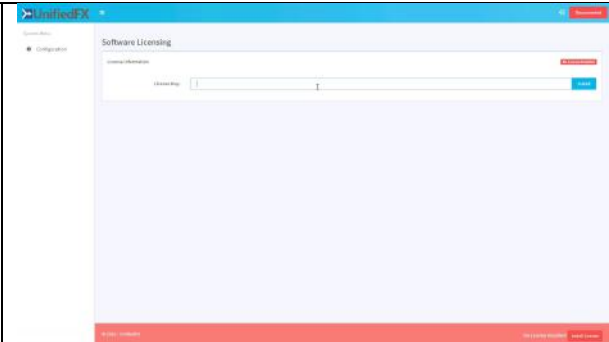
CUCM Integration

This section provides information on CUCM cluster integration MigrationFX phone service deployment and configuring the phones to use AutomationFX authentication service.

Cluster Setup in AutomationFX

Once the AutomationFX is installed and licensed, the first task is to add one or more CUCM clusters. Click 'Configuration' then 'Clusters' this will navigate user to cluster page.
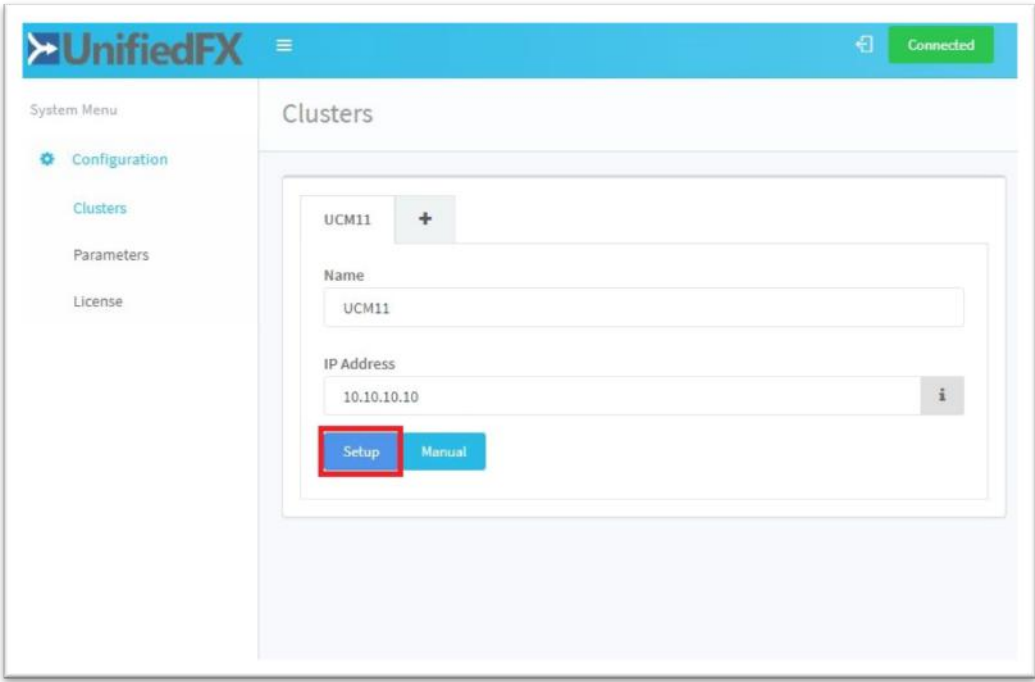
There are two methods users can add a cluster to AutomationFX.

1. Automatic Cluster Setup

When this method is used, application will automatically create an application user (AutomationFXUser) in CUCM with appropriate permission for AutomationFX.
Once the user account is created successfully, AutomationFX will use this credential to integrate with CUCM.

Enter the following and press "Setup" button.

- Friendly Name
- Publisher IP Address

Enter a valid UCM user for this cluster with AXL Database access permissions (i.e. 'Standard TabSync User') The Setup User will be not be stored, it shall only be used to create an Admin User account 'AutomationFXUser' with associated permissions for AutomationFX to use Phoneuser
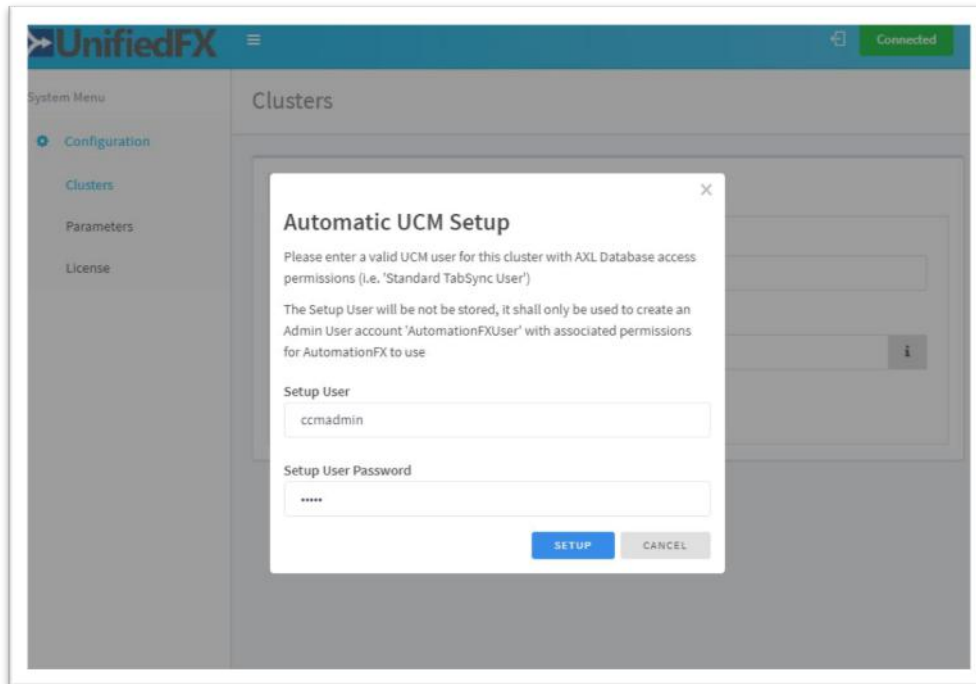
After adding the first cluster you are prompted to login with a CUCM user account from the newly added cluster. This is required in order to gain access all menu items within the web admin interface.
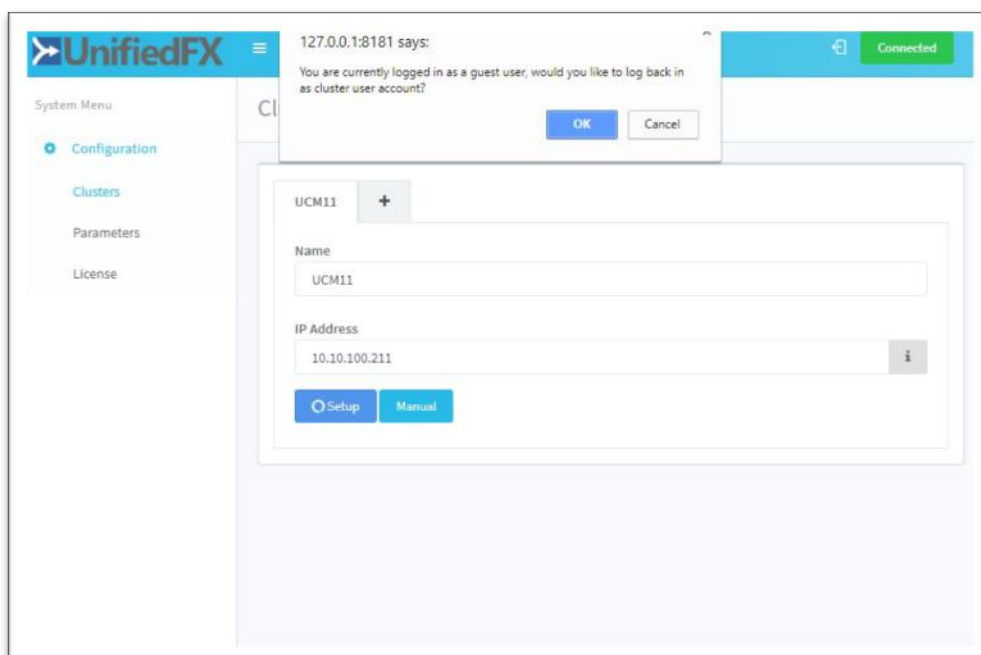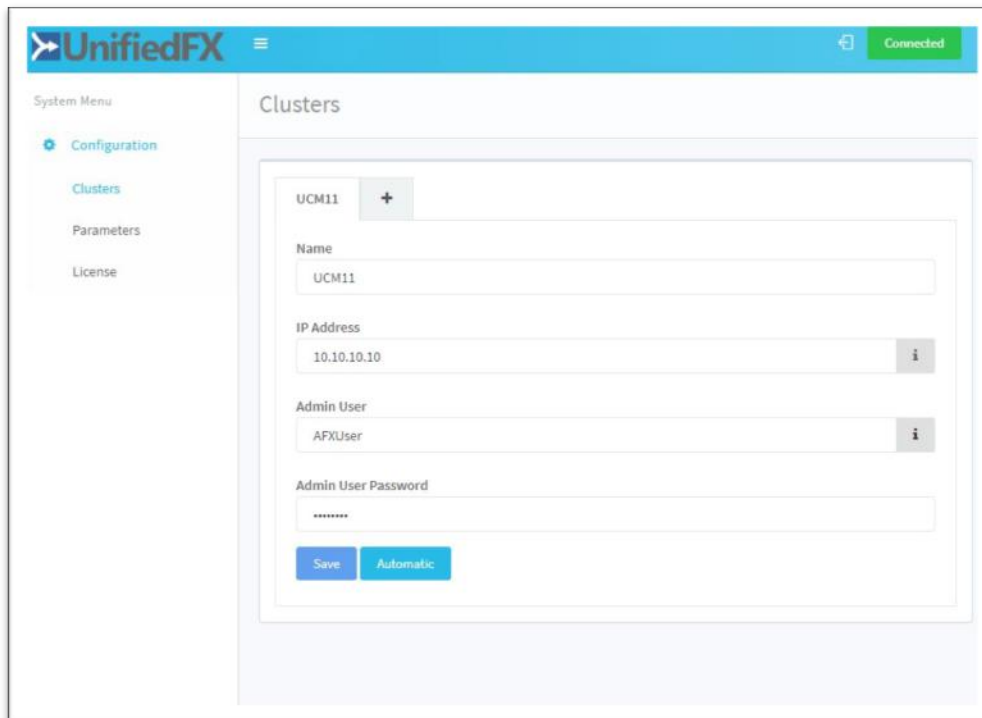
2. Manual Cluster Setup

AutomationFX requires a CUCM 'Application User' account to access the relevant CUCM API's and perform the required functionality. This 'Admin User' account requires the following permissions:

- Standard TabSync User
- Standard CCM Server Monitoring
- Standard CCM Phone Administration
- Standard CTI Enabled
- Standard CTI Allow Control of All Devices
- Standard CTI Allow Control of Phones supporting Connected Xfer and conf
- Standard CTI Allow Control of Phones supporting Rollover Mode
- Standard EM Authentication Proxy Rights
- AutomationFX Group (Custom Access Control Group)
  - AutomationFX Role (Custom Cisco Call Manager Administration Role)
    - Phone Migration (Resource - Read & Update)
    - Super Copy Info (Resource - Read & Update)]
    - Phone web pages (Resource - Read & Update)

Once the user is account is created in CUCM click "Manual" button on cluster page and enter the following:

- Friendly Name
- Publisher IP Address
- Username
- Password

**MigrationFX
Installation Guide**

CUCM Setup

This section provides information on CUCM changes required for Zero Touch Migration and eliminating device association for PhoneFX
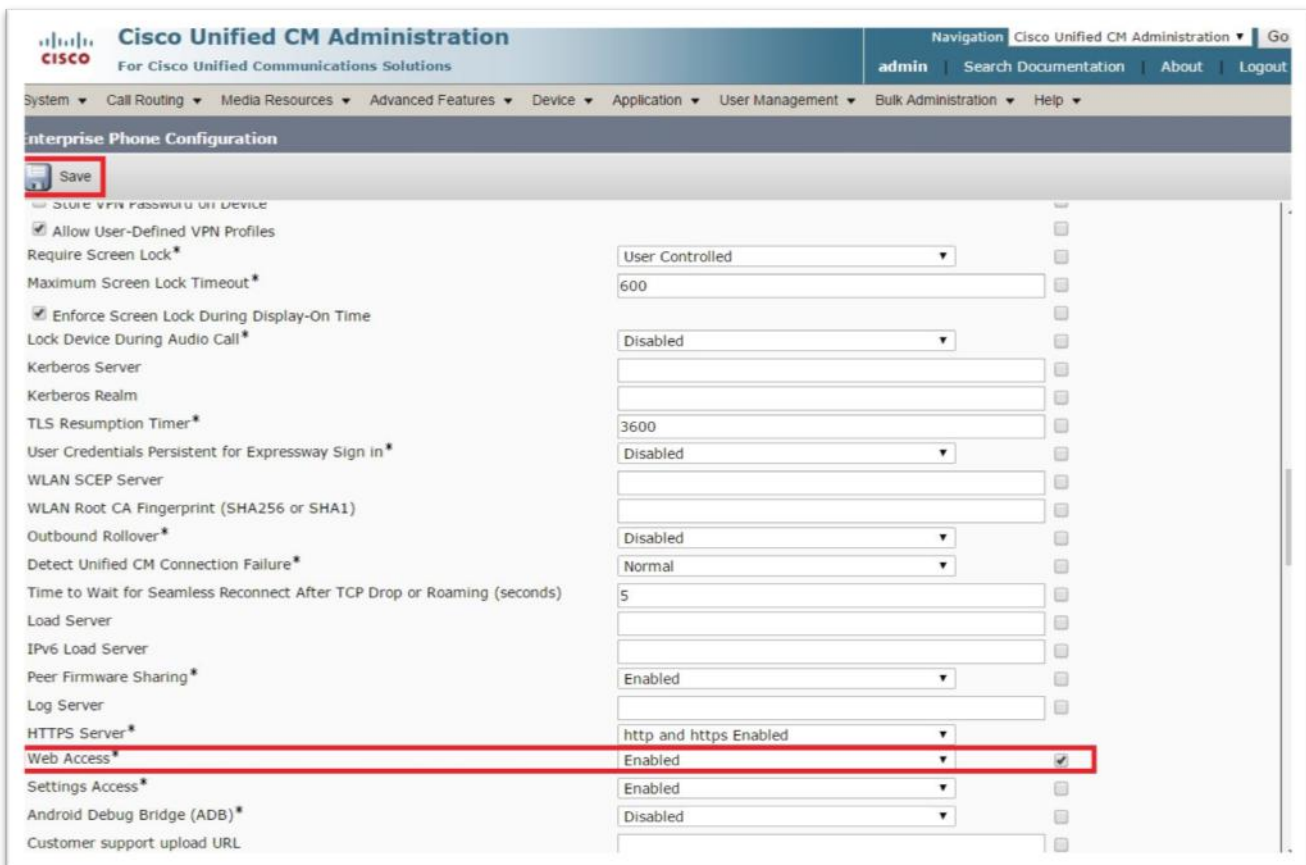
Enable web access on entire phone estate
NOTE: This change is required for Zero Touch Migration and PhoneFX Screenshots.

To utilize **zero touch** migration feature **both old and new phones web access** should be enabled. Enabling web access on entire phone estate can be achieved using Enterprise Phone Configuration feature in CUCM.

NOTE: Changing Enterprise Phone Configuration settings can cause phones to reboot or you may need to reboot the phones manually for the changes to take effect.

- **Step 1** - Browse to the "CUCM Admin Interface >>> System >>> Enterprise Phone Configuration" Page

- **Step 2** - Enable Web Access Property and Tick Override Common Settings check box for the same property.

- **Step 3** - Click Save

Change CUCM phone Authentication (Only applicable for PhoneFX)

To use the AutomationFX based authenticate service with CUCM, it is necessary to update the "URL Authentication" & "Secured Authentication URL" within Enterprise Parameters with the following URL.

- http://[AutomationFX_IP]:8181/ccmcip/authenticate.jsp

NOTE: Changing Enterprise Phone Configuration settings can cause phones to reboot or you may need to reboot the phones manually for the changes to take effect.

Note: Using this configuration AutomationFX will provides an authentication service to IP Phones. This eliminates the need to associate phones with a user account in CUCM as would previously be required for PhoneView. The AutomationFX authentication service will check if the credentials match the Phone User/Password configured for the cluster, if they do not match the request will be forwarded to the publisher to complete the authentication request as normal.

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AutomationFX Web Interface Login

This section provides information on AutomationFX web interface login requirements, customising the login permissions and update/recover CUCM cluster credentials.

Requirements

The web interface for AutomationFX requires authentication once the first CUCM cluster has been added. AutomationFX uses the existing Application and End User accounts on CUCM to provide authenticated access to the AutomationFX web interface, hence the requirement for at least one CUCM cluster to be added before CUCM authentication is possible.
The CUCM Application or End User account requires one of the following permissions:

- Standard CCM Admin
- Standard Phone Administration

NOTE: Before the first CUCM cluster has been added the AutomationFX admin interface can be accessed in 'guest mode' automatically if accessed from the local machine (i.e. http://127.0.0.1:8181). However, if it is necessary to access the AutomationFX web interface remotely before the first CUCM cluster has been added the following hard-coded guest account can be used:

- **Username: guest**
- **Password: ufx12345**

Important: The guest login is disabled when one or more CUCM clusters have been configured, from that point onward only a valid CUCM login can be used to login.

Restrict Web Interface Login (Custom Permissions)

By Default, AutomationFX allows login to the Admin for any Application or End User account with following permissions:

• Standard CCM Admin
• Standard Phone Administration

However there maybe scenario where the login permission to AutomationFX admin interface needs changed. To restrict access to AutomationFX admin interface, admin can allow login to users with a custom/specific permission in CUCM.

- Step 1 - Stop the "AuotomationFX" windows service

- Step 2 – Open the following file in any text editor (notepad etc.)

  C:\Program Files\UnifiedFX\AutomationFX\UFX.AppHost.exe.config

- Step 3 – Edit the xml element <add key="UCMAdminGroup" value=""/> with the appropriate Group name (Custom or a Built-in Group in CUCM)

- Save the file (You would need to open the file with admin privileges)

- Start the "AutomationFX" windows service

Cluster credentials reset/recovery

There may be a scenario where the credentials used to integrate CUCM cluster with AutomationFX has been changed. In this case users with appropriate permission can login to the admin interface and update the cluster password.

By default, the admin login permission will stay the same as web interface login mentioned in the previous sections, however if the permissions were customised, user will require the custom permission/group configured in AutomationFX.

Phone Service Deployment

The XML Phone Service that users interact with needs to be deployed and available to the newly connected IP Phones. Also, the new IP Phone needs to register to CUCM temporarily with a basic non-user specific configuration in order to present the XML Phone Service to the end user and initiate the migration from the old phone configuration.
MigrationFX works with Auto-Registered devices or pre-imported via BAT with a basic non-user specific configuration.

There are two ways to deploy the XML Phone Service to newly connected IP Phones:

- **Idle URL**
- **Enterprise Phone Service**

Note: Using the Idle URL with Auto-Registered phones is only possible with CUCM Version 10.0 (or above) by leveraging the Universal Phone Template feature.

The XML Phone Service URL to configure:

http://SERVER:PORT/AutomationFX/trigger/Migration?name=#DEVICENAME#

- SERVER: The IP Address of the machine AutomationFX was installed on
- PORT: The TCP Port chosen to host AutomationFX (8181 by default)

Deployment Method 1 - Universal Device Template with Idle URL
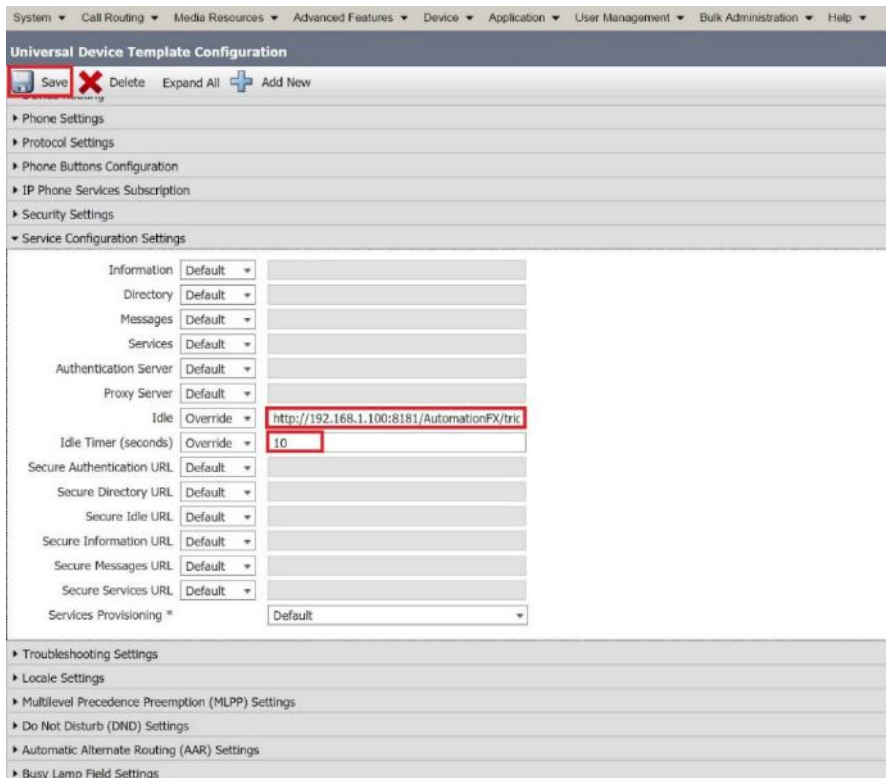
NOTE: This feature is only available on CUCM version 10.0 and above, follow enterprise phone service method for below CUCM version 10.0.

- Login to CUCM Admin Interface.
- Browse to **User Management >>>User/Phone Add >>> Universal Device Template.**
- Open your Auto-Registration Template.
- Under **Service Configuration Settings** Change the **Idle** Field to the MigrationFX Server.

E.g. If the IP Address of the PC you installed MigrationFX is 192.168.1.100 and the chosen port number was 8181, URL will be as follow:

http://192.168.1.100:8181/AutomationFX/trigger/Migration?name=#DEVICENAME#

- Change the **Idle Timer (seconds)** field to 60.

Once these parameters are configured all the auto registered phones will inherit the above settings which will initiate the Migration Service Automatically and prompt user to confirm the migration if topology data is available and found. However, it is possible that topology data may not be available or found, in this case the user will be prompt to login or enter the search pin/extension depending on the fallback parameter on "Parameters" page under "Configuration" menu in MigrationFX admin interface.

Deployment Method 2 - Enterprise Phone Service

- Login to CUCM Admin Interface.
- Browse to **Device >>> Device Settings >>> Phone Services>>> Click Add New**.
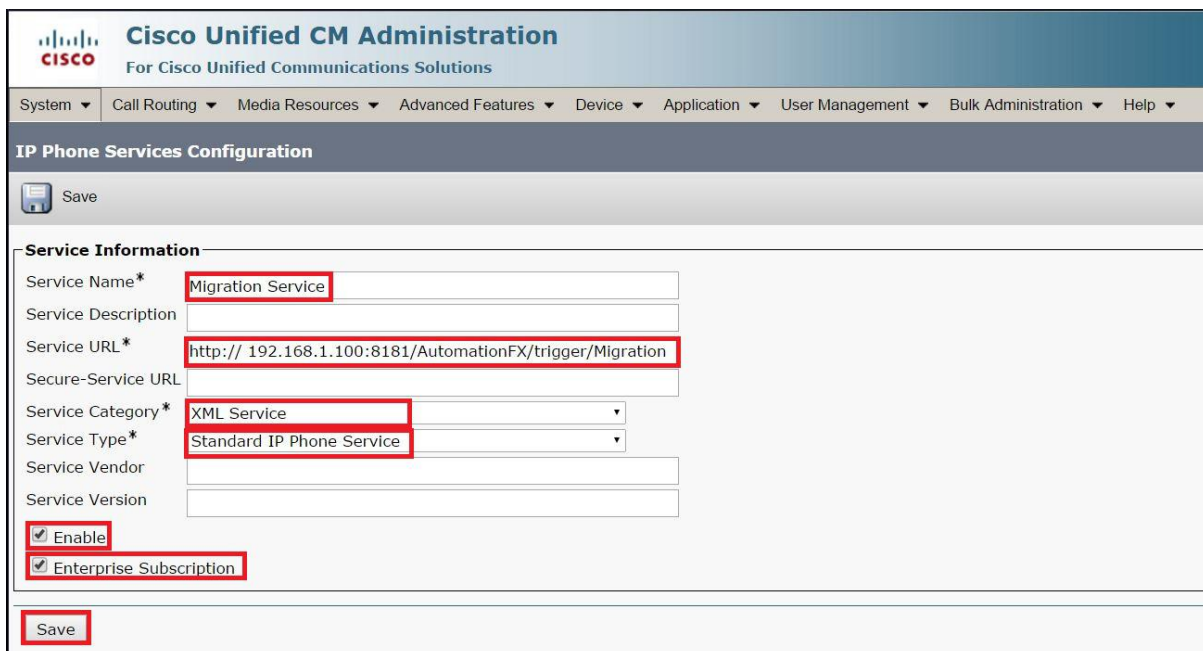
Creating a New Enterprise Service. (see image for more details)

- o **Service Name : Migration Service**

E.g. If the IP Address of the PC you installed MigrationFX is 192.168.1.100 and the chosen port number was 8181, URL will be as follow:

http://192.168.1.100:8181/AutomationFX/trigger/Migration?name=#DEVICENAME#

- o **Service URL: http://
  192.168.1.100:8181/AutomationFX/trigger/Migration?name=#DEVICENAME#**
- o **Service Category: XML Service**
- o **Service Type: Standard IP Phone Service.**
- o **Tick Enable and Enterprise Subscription Checkboxes and Click Save.**

To migrate, plug in the new phone, open the Migration Service using the Services or Applications button. Once the Migration service is initiated the service will prompt user to confirm the migration if topology data is available and found. However, it is possible that topology data may not be available, in this case service will prompt user to login or enter the search pin/extension depending on the fallback parameter on "Parameters" page under "Configuration" menu in MigrationFX admin interface.

Zero Touch Migration

This is the simplest method of migration as the old and new phone are identified automatically once the user swaps the phones using the same cable. In order for this to happen MigrationFX regularly gathers topology information from the web server of all IP Phones in each configured cluster.

The topology information enables the tracking of phone movements, in particular when the new phone is plugged in. When the Migration Phone Service opens on the new phone the service determines all previous phones plugged into the same port. The Migration Phone Service then presents the user with the last phone plugged into the same cable and asks them to confirm the migration from that phone to the newly connected device.

If for any reason the Migration Phone Service is unable to determine the last phone connected on the same port, it will 'fall-back' to Self Service or Search by extension depending on Fallback parameter under Configuration >> Parameters page in MigrationFX admin interface.

Note: The topology data is gathered from the phones web server, therefore if the phone web server is disabled it will not be possible to use the Zero Touch Migration approach.

Search by extension Migration

This method requires the engineer to provide the extension number to identify their existing phone. The Migration Phone Service queries entire phone estate and presents all devices with the provided extension/directory number. If there is only one phone with the provided extension the Migration Phone Service presents that device information to the user and asks them to conform the migration from that device. If there are multiple devices with the extension (shared line scenario) is presented with a list of the devices (up to a limit of 5) and asked to choose the device to migrate.

Self Service Migration

This method requires the end user to login to the Migration Phone Service to authenticate who they are and identify their existing phone associated to their user account. The Migration Phone Service queries all associated devices with the authenticated user account. Therefore, there needs to be at least one phone associated in order to determine the old phone configuration to migrate. If there is only one phone associated to the user account the Migration Phone Service presents that device information to the user and asks them to conform the migration from that device. If there are multiple devices associated the user is presented with a list of the devices (up to a limit of 5) and asked to choose the device to migrate.

Note: The Migration Phone Service checks for device owner (set on the device page) and associated devices (set on the users page) to determine associated phones to the user account.

Migration Operation Details

There are a number of key steps involved in the migration of a phone configuration from the old to the new device. The primary CUCM feature used by MigrationFX is the 'Phone Migration' option listed on the top right drop down list on each device page within the CUCM Admin web interface.

CUCM 'Phone Migration' Feature

MigrationFX automates the submission of the CUCM 'Phone Migration' feature on demand as each user migrates their own phone. By providing a simple and secure process for end users to identify the old and new device and then initiate the migration. As powerful as the CUCM 'Phone Migration' feature is, it does not handle phone button templates, so if the old phone has a unique button template or there is a different number of buttons between the old and new phone model this requires additional processing by MigrationFX which is described below.

Migration Phone Templates

The CUCM 'Phone Migration' Feature requires a Bulk Admin Tool (BAT) 'Phone Template' to specify the model of the new device as well as providing any missing device fields that the old model may not contain. For example, when migrating a SCCP phone to SIP based model, the SCCP device configuration does not have any SIP specific fields to migrate. In this scenario the missing SIP fields are obtained from the specified Phone Template. MigrationFX can dynamically generate individual Phone Templates during each migration, however there may be scenarios when it is necessary to override the default behavior of MigrationFX. Overriding the default behavior of MigrationFX is based on creating Phone Templates with specific names that MigrationFX can use instead of creating new templates.

Migration Button Templates

In order to handle the migration of phone button templates MigrationFX can dynamically create a 'Button Template' for each migration. Creating a Button Template for the new phone model is based on copying each button from old phone, however any button type not supported on the new phone model is excluded.
In some scenarios some phones may have 'Individual' button templates when an end user makes changes to their button layout. By default, if the old device has an 'Individual' button template then MigrationFX will dynamically create a new 'Individual' button template and use that for the migrated device. This ensures that any unique button layouts are maintained as close to the original as possible.
In other scenarios when the old phone has a button template that is 'Shared' with other phones (i.e. the old phone's button template name does not include the words 'Individual Template') MigrationFX will create a new button template that is 'Shared' between migrated phones of the same new model type.
This default behavior can be overridden for situations where the generated button template does not have the desired layout. Overriding the default behaviour is performed by creating button templates with specific names, MigrationFX
checks if a specifically named button template exists and uses it instead of dynamically creating a new one.

Because MigrationFX checks for the existence of these named Phone and Button Templates during migration it provides the ability to define templates before the migration happens. This provides the ability to be in full control the migration process before any migration occurs rather than editing the device\button configuration afterwards maximising the user migration experience.

Override Default MigrationFX Behavior

MigrationFX can dynamically generate individual Phone and button Templates during each migration, however there may be scenarios when it is necessary to override the default MigrationFX behavior.

There are multiple ways to override the default Migration behavior:

1) **Device Specific Phone/Button Template**
2) **Naming Convention**
3) **Migration Profiles**

Device Specific Phone/Button Template

From the Phones page of the AutomationFX admin interface select one or more phones then click the 'Edit' button. Within the phone edit dialog, user can specify a Migration Phone and /or button template that corresponds to the new phone model that this phone will be migrated too.
This has the advantage of providing granular control at the device level for the migration, however it is necessary to know the correct model of phone that will be used, or the migration will fail.

- Browse to phones page and Select the appropriate phones. (Ctrl + Click and Ctrl +Shift + Click options are available for multiple selection)
- Click "Edit" button on toolbar.
- Select the appropriate Phone/Button Template
- Click "Update" Button to save.
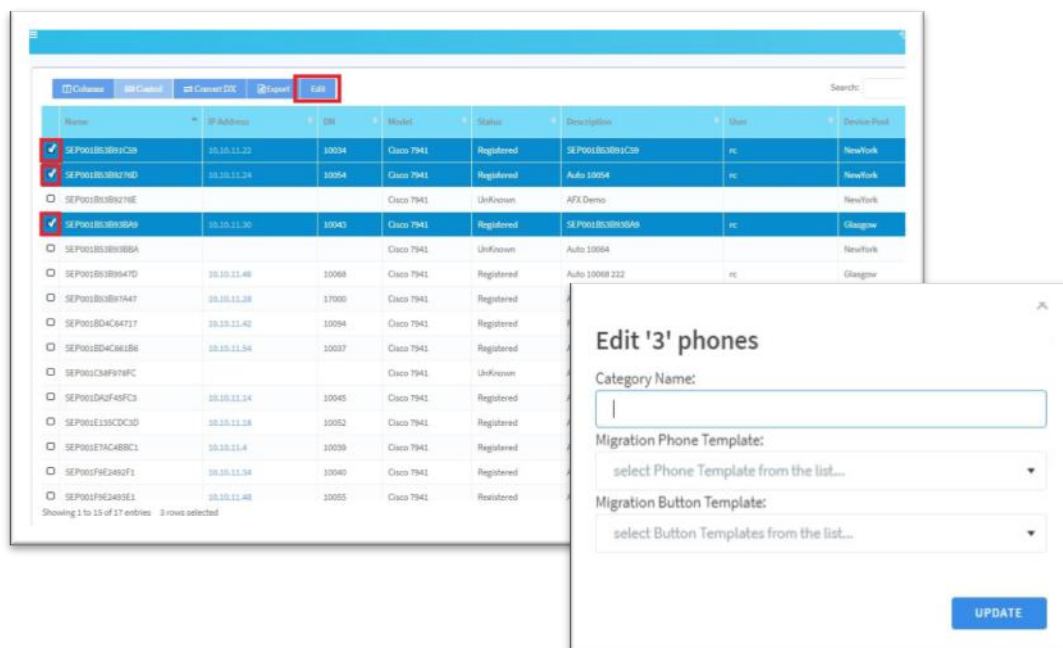
Naming Convention

MigrationFX has always provided a simple naming convention for Phone and Button templates that can be used automatically if the corresponding template name exists. Naming convention is useful for specific or simplistic scenarios, but has short-comings for more complex use-cases. For detail on the naming convention please see MigrationFX Template Naming Convention section below.

Migration Profiles

Migration Profiles provide the most flexible way to override the default migration behavior and to cater for almost any scenario from the simplest to the most complex. The key benefit of Migration Profiles is not having to know which model a specific phone will be replaced with before the migration. This allows the creation of some simple 'rules' (Migration Profile) based on the new phone models that will be deployed.

A Migration Profile has a one to one mapping with a Phone Template (Part of the Bulk Admin Tool). The Phone Template is for a specific cluster (if multiple clusters are configured in AutomationFX). In addition, the Migration Profile has a number of 'Overrides' for the Phone Template fields. The overrides provide additional benefit beyond the Phone Template mapping as they can be used to take values from the Phone Template instead of the old phone. In effect you can use a Migration Profile to 'merge' certain fields form the Phone Template during a migration, this can reduce or eliminate post migration updates by incorporating those updates as part of the migration.

When any phone is migrated a Migration Profile is chosen based on the following criteria (in order):

1) **Cluster/New Phone Model**
2) **Filter (Applied against the old phone)**
3) **Priority (only used if multiple Profiles match)**

The first criteria (Cluster/New Phone Model) ensures that only Migration Profiles (if any) with a corresponding Phone Template that is valid for the migration are considered. A filter can be set against a Migration Profile to provide a flexible way to map Migration Profiles to the corresponding group of 'Old Phones'.

Ideally the filter should be defined in a way that does not overlap with other potential Migration Profiles matches, however if there are multiple Migration Profiles that still match at this stage then the Priority of the Migration Profile is then used (highest match) to select the Migration Profile.

Note: Migration Profiles with a Filter defined will be evaluated first, if no match then Migration Profiles with 'No Filter' will then be considered.

Override Recommendations

- Try to ensure the filter applied to each Migration Profile does not overlap, this will eliminate the need to use the Priority to choose the Migration Profile.

- Although both Device Specific & Naming Convention features are still available in this version of MigrationFX, it is recommended to use Migration Profiles for all customization of Migration behavior.

Phone Filters

Filter Menu is shown at the bottom of the AutomationFX navigation sidebar section when user navigates to the phones page. Users can create filters to group devices using built in summary options or custom grouping/tagging. These filters can be applied to Migration Profiles or can be used as a destination filter for notification.

![UnifiedFX logo]

Create/Save a Filter

- To create a filter **tick/apply the appropriate filter rules.**

- Type an appropriate name and **press Enter or click on the on the name typed**.

- If the provided name is added to the filter list**, save button will be highlighted with a red overlay** to notify the user there is a save operation pending.

- **Click Save button** to persist the created filter.

Edit/Delete Filter

User can alter filter rules, set a description to the filter or delete.

- To edit a filter, **load the appropriate filter and click "Edit" Icon**

- **Change filter rules if necessary**

- Entre an appropriate description.

- Click **"Save" or "Delete"**
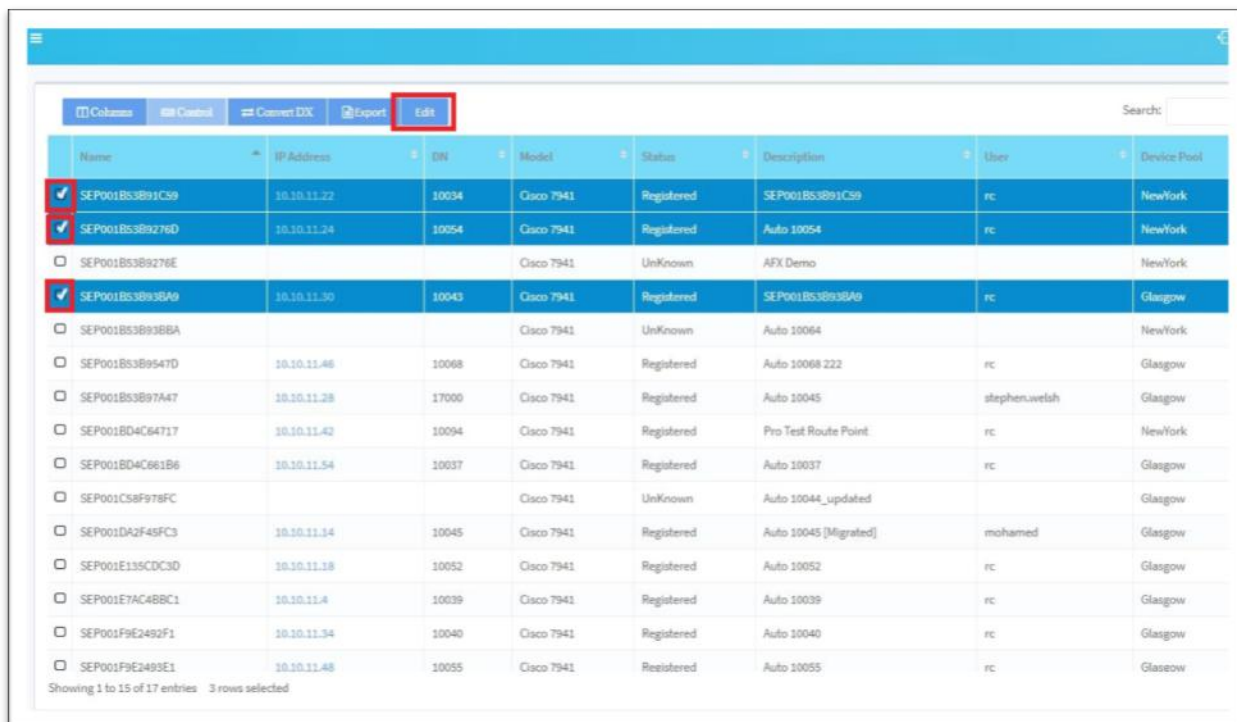
Custom Group (Custom Category)

In most cases the built-in summary filters are appropriate, however there maybe scenarios where a custom group (subset of phones) is required for more granular control. user can tag phones to a category (custom group).

- Browse to phones page and Select the appropriate phones. (Ctrl + Click and Ctrl +Shift + Click options are available for multiple selection)

- Click "Edit" button on toolbar.

- Provide an appropriate name in the category filed.
- Click Update button to save
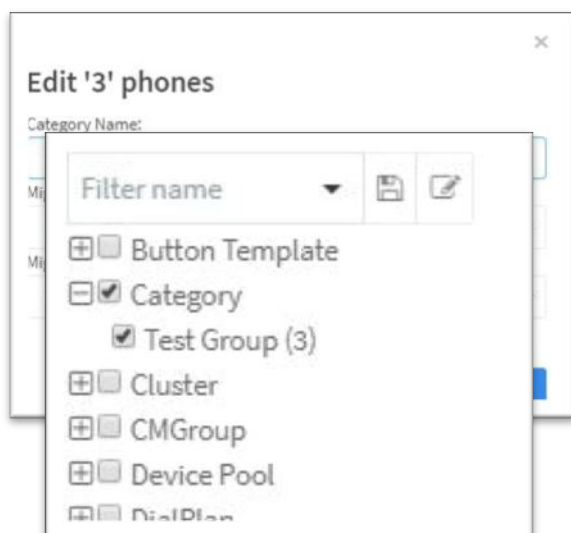
- Once this is saved user can find the created categories under category node in filter menu as shown in the below image.

Migration Profile

Migration profiles allow users to dynamically Map Phone/Button Template related settings and override (copy) specific fields from Phone Template instead of Old Phone during migration

- Sample Scenarios:
    - Consolidate button templates (i.e. reduce the number of button templates as part of the migration)
    - Migrate Side Cars
    - Control button template mappings (i.e. 6 > 5 buttons)
    - Move Phones between sites during migration (i.e. change Device Pool & Device CSS)

Creating a Migration Profile

User should have the appropriate Phone Template/s created in CUCM prior following step
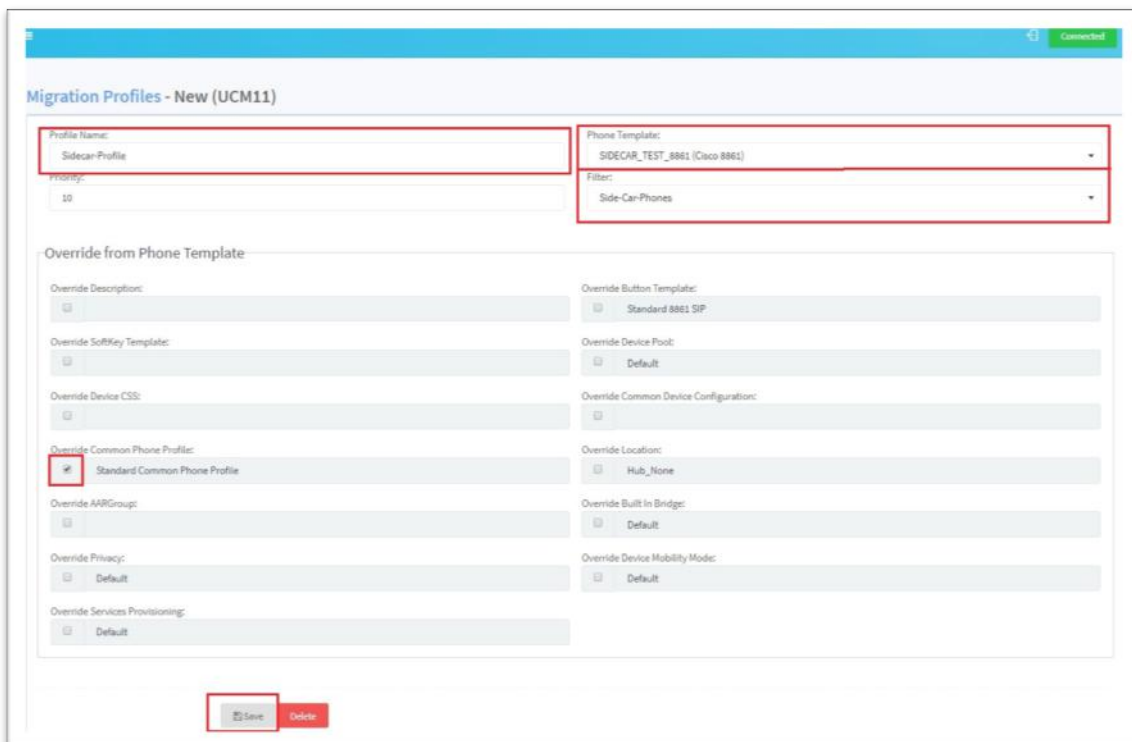
- **Navigate to "Profiles" page** in AutomationFX admin interface.

- **Click "New" button** as shown in the following image.
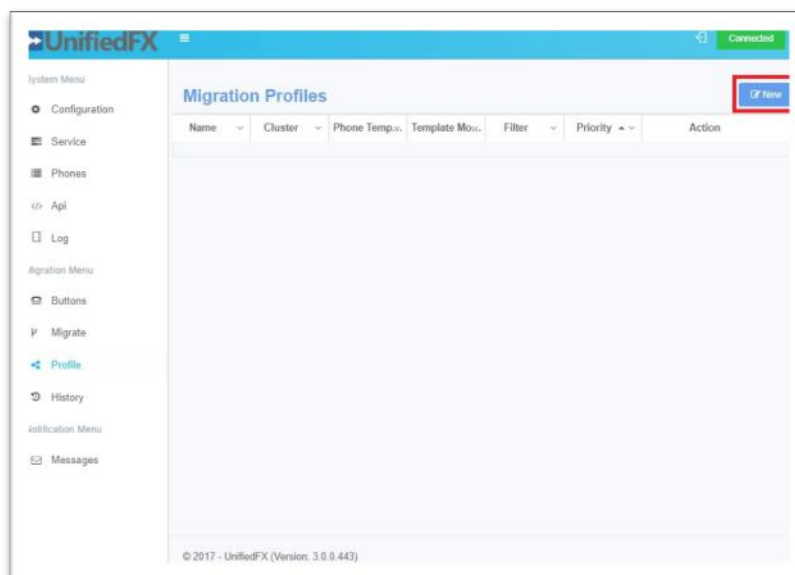
- **Choose the cluster** for the profile and **click "Next"**

- **Enter an appropriate Name** for the Profile
  Migration Profile has a one to one mapping with a phone template, it is good practice to name it with template name with "-profile" suffix

- **Choose appropriate Phone Template**
  usually this will be a template matching potential new phone model.

- **Tick/select the appropriate fields to be overridden**

  NOTE: When the override box is ticked, these fields will be copied from Phone Template (the value shown in the profile) instead of Old Phone during migration.

If the button template is not ticked(overridden) in Profile, MigrationFX will automatically generate a Button Template to match the old phones Button Template. If the old phone has more button than the new phones, MigrationFX will automatically drop the additional buttons to match the new phone model.

- **Choose a Filter (Optional)**

  Choose a filter created from dropdown to apply the profile to the subset of phones. (If the filter contains the old phone, profile will be applied when migrating to profile phone model)

  NOTE: If a filter is not defined in the profile, the profile will be automatically applied to all new phones with matching profiles Cluster and Model.

- **Priority(Optional)**
  If there are multiple matching Migration Profiles, this field value is used (highest match) to select the Migration Profile.

- **Click Save** to store the profile.

TIP - Try to ensure the filter applied to each Migration Profile does not overlap, this will eliminate the need to use the Priority to choose the Migration Profile.

MigrationFX Template Naming Convention

The default behavior in most situations should be all that is required, however as outlined above the default behavior can be overridden by creating Phone and/or Button Templates with specific names. The 'Migration Template Flow Chart' below details the steps for generating or using Phone and Button Templates during a migration. MigrationFX uses a naming convention for Phone and Button Templates and either uses existing templates or dynamically creates them using the following naming convention.

Naming Convention for Phone Templates

TARGET-MODEL-PROTOCOL-Migration Template

- **Target** - one of the following: ALL, SOURCE or the old device name (i.e. SEP123456789012) for an INDIVIDUAL template.
- **Model**: is the new phone model name (i.e. 8841)
- **Protocol**: is the new phone protocol (i.e. SCCP or SIP)

Example Phone Template Name	Description
ALL-8841-SIP-Migration Template	Use this Phone Template for any migration where the new model is a 8841 (SIP)

Example Phone Template Name	Description
SOURCE-8841-SIP-Migration Template	Create a new INDIVIDUAL Phone Template based on this SOURCE Phone Template
SEP123456789012-8841-SIP-Migration Template	Use/Create this INDIVIDUAL Phone Template when migrating from SEP123456789012 to a 8841 (SIP) device

Naming Convention for Button Templates

TARGET-MODEL-PROTOCOL-MFX

- **Target** is the old device name (i.e. SEP123456789012) for an INDIVIDUAL Button Template or the old Button Template name (i.e. Standard 7961) for SHARED Button Templates.
- **Model**: is the new phone model name (i.e. 8841)
- **Protocol**: is the new phone protocol (i.e. SCCP or SIP)

Example Button Template Name	Description
SEP123456789012-8841-SIP-MFX	Use/Create this INDIVIDUAL Button Template when migrating from SEP123456789012 to a 8841 (SIP) device
SEP112233ABCDEF-7841-SIP-MFX	Use/Create this INDIVIDUAL Button Template when migrating from SEP112233ABCDEF to a 7841 (SIP) device
Standard 7941-8841-SIP-MFX	Use/Create this SHARED Button Template for any old phone using the 'Standard 7941' Button Template that is migrating to a 8841 (SIP) device

Migration Template Flow Chart

```
                    START
                      │
                      ▼
              ┌──────────────┐      Yes    ┌──────────────────┐
              │  ALL Phone   │───────────▶│  Migrate using ALL│──────────────────────┐
              │Template Exists│            │  Phone Template   │                      │
              └──────────────┘            └──────────────────┘                      │
                      │ No                                                          │
                      ▼                                                             │
              ┌──────────────┐      Yes                                            │
              │INDIVIDUAL Phone│──────────────────────────────────────┐            │
              │Template Exists │                                       │            │
              └──────────────┘                                         │            │
                      │ No                                             │            │
                      ▼                                                │            │
              ┌──────────────┐      Yes    ┌──────────────────┐       │            │
              │SOURCE Phone  │───────────▶│ Create INDIVIDUAL │       │            │
              │Template Exists│            │Phone Template from│       │            │
              └──────────────┘            │      SOURCE       │       │            │
                      │ No                └──────────────────┘       │            │
                      ▼                            │                  │            │
         ┌──────────────────┐                     ▼                  │            │
         │Create INDIVIDUAL │    ┌──────────────────┐  Yes ┌──────────────────┐   │
         │Phone Template    │───▶│INDIVIDUAL Button │─────▶│Assign INDIVIDUAL │──┐│
         └──────────────────┘    │Template Exists   │      │Button Template to│  ││
                                 └──────────────────┘      │INDIVIDUAL Phone  │  ││
                                         │ No              │    Template      │  ││
                                         ▼                 └──────────────────┘  ││
                              ┌──────────────────┐  Yes    ┌──────────────────┐  ││
                              │Old Button        │────────▶│Create INDIVIDUAL │──┘│
                              │Template name     │         │Button Template   │   │
                              │contains          │         └──────────────────┘   │
                              │'Individual Template'│                              │
                              └──────────────────┘                                │
                                      │ No                                        │
                                      ▼                                           │
                              ┌──────────────────┐  Yes                          │
                              │SHARED Button     │────────┐                       │
                              │Template Exists   │        │                       │
                              └──────────────────┘        │                       │
                                      │ No                ▼                       │
                         ┌──────────────────┐  ┌──────────────────┐  ┌──────────────────┐  ┌──────┐
                         │Create SHARED Button│─▶│Assign SHARED Button│▶│Migrate using   │─▶│ END  │
                         │Template          │  │Template to INDIVIDUAL│ │INDIVIDUAL Phone│  └──────┘
                         └──────────────────┘  │Phone Template      │  │Template        │
                                               └──────────────────┘  └──────────────────┘
```

Example Migration Scenarios

Here are a number of example scenarios for when and how to override the default Device and Button Template generation of MigrationFX.

Note: It may be convent to migrate one or more phones and let MigrationFX create the relevant template names dynamically then edit/copy/rename the templates from there. This ensures that the naming convention is correct as MigrationFX will be creating the template.

Scenario 1: Using the ALL Phone Template

Typically required if there is a desire to normalise a number of 'Individual' Button Templates to shared Button Templates instead of mapping old to new individual button templates one too one.

Old Name: SEP123456789012
Old Model: 7941
Old Protocol: SCCP
Old Button Template: Standard 7941 SCCP
New Model: **8841**
New Protocol: **SIP**

Create a Phone Template with the name:
**ALL-8841-SIP-Migration Template**
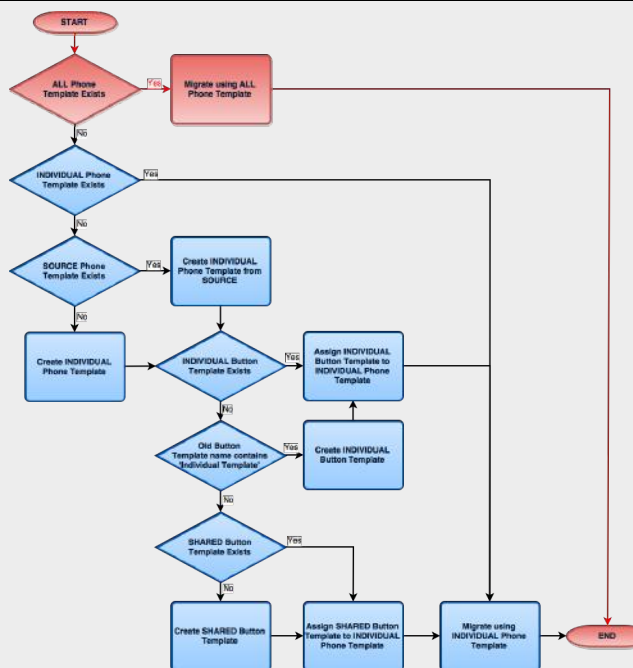
Scenario 2: Using the SOURCE Phone Template

Typically required if using non-default SIP device settings and migrating from SCCP to SIP based models.

Old Name: SEP123456789012
Old Model: 7941
Old Protocol: SCCP
Old Button Template: Standard 7941 SCCP
New Model: **8841**
New Protocol: **SIP**

Create a Phone Template with the name:
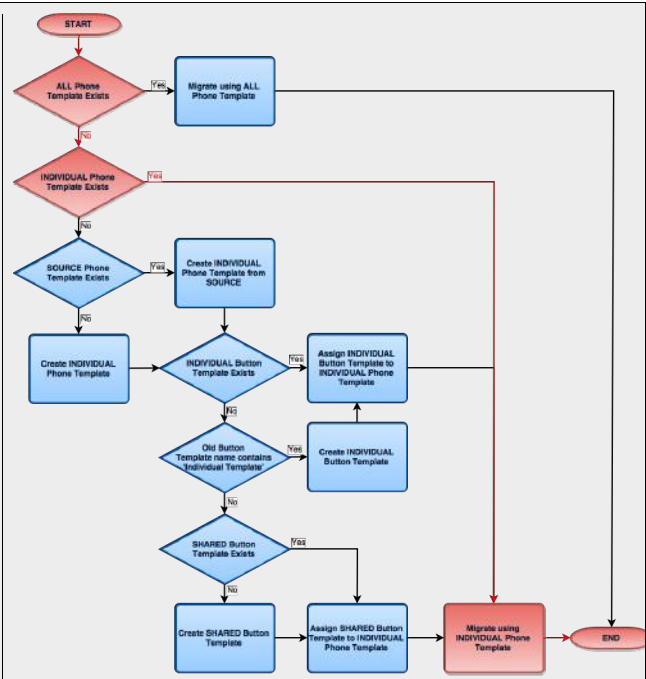**SOURCE-8841-SIP-Migration Template**
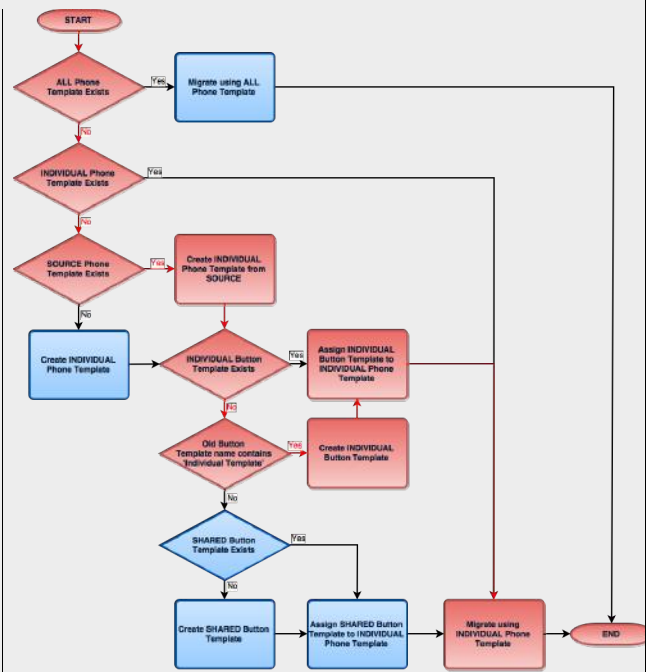
Scenario 3: Using the INDIVIDUAL Phone Template

Typically required if full control of all device and button configuration for specific device(s), i.e. a complex phone configuration such as a manager/secretary.

Old Name: **SEP123456789012**
Old Model: 7941
Old Protocol: SCCP
Old Button Template: Standard 7941 SCCP
New Model: **8841**
New Protocol: **SIP**

Create a Phone Template with the name:
**SEP123456789012-8841-SIP-Migration
Template**

Scenario 4: Using the INDIVIDUAL Button Template

Typically required if full control of the button configuration for specific device(s), i.e. a complex phone configuration such as a manager/secretary.

Old Name: **SEP123456789012**
Old Model: 7941
Old Protocol: SCCP
Old Button Template: Standard 7941 SCCP
New Model: **8841**
New Protocol: **SIP**

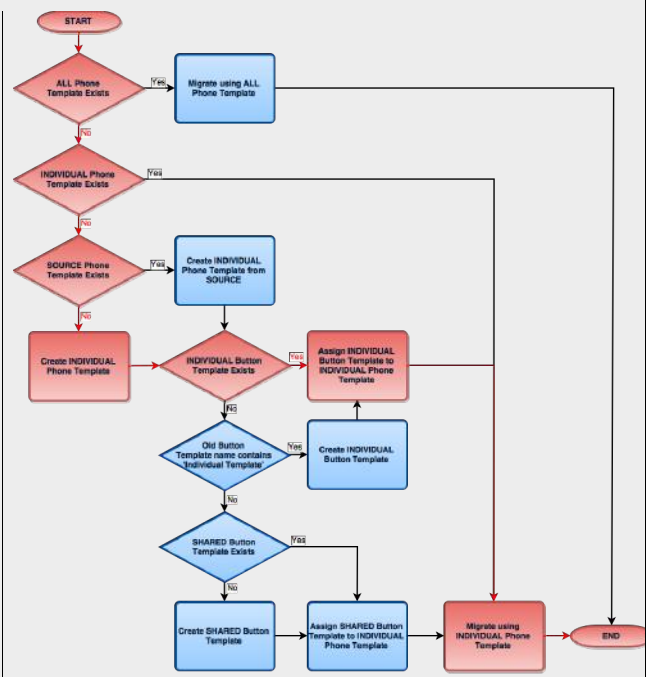Create a Button Template with the name:
**SEP123456789012-8841-SIP-MFX**

Scenario 5: Using the SHARED Button Template

Typically required if the 'Shared' Button Template for the new phone model requires customisation beyond the dynamically generated Button Template.

Old Name: SEP123456789012
Old Model: 7941
Old Protocol: SCCP
Old Button Template: **Standard 7941 SCCP**
New Model: **8841**
New Protocol: **SIP**

Create a Button Template with the name:
Standard 7941 SCCP-8841-SIP-MFX

Note: Due to the limited length of the Button Template name it is not possible to use the Shared Button Template naming convention when the length of the old phone Button Template name is longer than 35 characters. If the Button Template name of the old phone is longer than 35 characters then an Individual Template will be used instead.
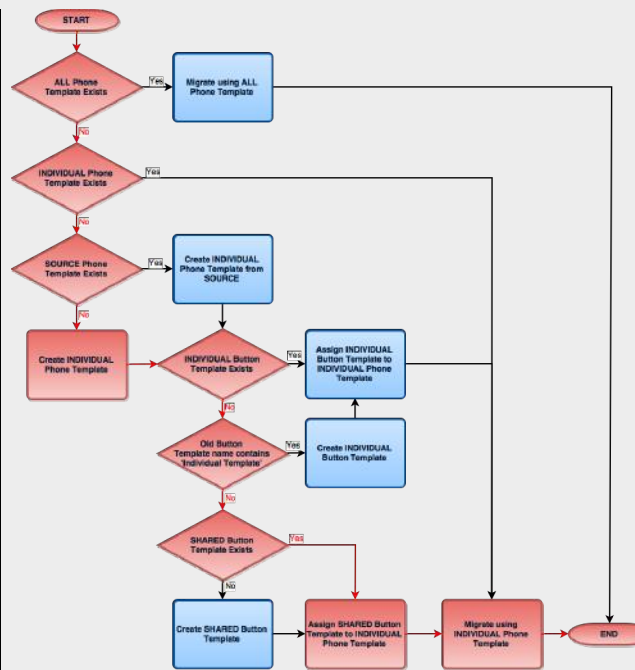
Migration Phone Field Mapping

When migrating Cisco IP Phones most of the information from the 'old phone' is copied across to the new phone model. However, there are a small number of phone fields that are populated from the Phone Template used for the migration or in some cases are blank/default.

This is typically because the field does not exist on the old phone therefore there is no information to migrate. For most fields that do not exist on the old phone this information is populated from the Phone Template.

One of the most common situations where the new phone has fields that do not exist on the old phone is when migrating from SCCP to SIP based models. For most fields that are present on a SIP based model but not SCCP the field is populated from the Phone Template. Scenario 2 above provides an example of how to specify the SIP specific fields for all migrations to a specific phone model therefore providing the ability to control those settings.

The following table details each phone field and migration type (i.e. to/from protocol type) and indicates where the migrated phone field is populated from.

Phone Field	Protocol Specific	SCCP to SCCP	SCCP to SIP	SIP to SCCP	SIP to SIP
Device Information					
MAC Address		Old Phone	Old Phone	Old Phone	Old Phone
Description		**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**
Device Pool		**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**
Common Device Configuration		**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**
Phone Button Template		**Template or Profile**	**Template or Profile**	**Template or Profile**	**Template or Profile**
Softkey Template		**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**
Common Phone Profile		**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**
Calling Search Space		**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**
AAR Calling Search Space		Old Phone	Old Phone	Old Phone	Old Phone
Media Resource Group List		Old Phone	Old Phone	Old Phone	Old Phone
User Hold MOH Audio Source		Old Phone	Old Phone	Old Phone	Old Phone
Network Hold MOH Audio Source	SCCP Only	Old Phone	N/A	Default	N/A
Location		**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**
AAR Group		**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**
User Locale		Old Phone	Old Phone	Old Phone	Old Phone
Network Locale		Old Phone	Old Phone	Old Phone	Old Phone
Built In Bridge		**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**

Phone Field	Protocol Specific	SCCP to SCCP	SCCP to SIP	SIP to SCCP	SIP to SIP
Privacy		**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**
Device Mobility Mode		**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**
Owner		Old Phone	Old Phone	Old Phone	Old Phone
Owner User ID		Old Phone	Old Phone	Old Phone	Old Phone
Phone Personalization		Old Phone	Old Phone	Old Phone	Old Phone
Services Provisioning		**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**	**Old Phone or Profile**
Phone Load Name		Template	Template	Template	Template
Single Button Barge	SCCP Only	Old Phone	N/A	Template	N/A
Join Across Lines	SCCP Only	Old Phone	N/A	Template	N/A
Use Trusted Relay Point		Old Phone	Old Phone	Old Phone	Old Phone
BLF Audible Alert Setting (Phone Idle)		Old Phone	Old Phone	Old Phone	Old Phone
BLF Audible Alert Setting (Phone Busy)		Old Phone	Old Phone	Old Phone	Old Phone
Always Use Prime Line		Old Phone	Old Phone	Old Phone	Old Phone
Always Use Prime Line for Voice Message		Old Phone	Old Phone	Old Phone	Old Phone
Geolocation		Old Phone	Old Phone	Old Phone	Old Phone
Retry Video Call as Audio	SCCP Only	Old Phone	N/A	Template	N/A
Ignore Presentation Indicators (internal calls only)		Old Phone	Old Phone	Old Phone	Old Phone
Allow Control of Device from CTI		Old Phone	Old Phone	Old Phone	Old Phone

Phone Field	Protocol Specific	SCCP to SCCP	SCCP to SIP	SIP to SCCP	SIP to SIP
Logged Into Hunt Group		Old Phone	Old Phone	Old Phone	Old Phone
Remote Device		Old Phone	Old Phone	Old Phone	Old Phone
Protected Device		Old Phone	Old Phone	Old Phone	Old Phone
Hot line Device		Old Phone	Old Phone	Old Phone	Old Phone
Require off-premise location		Old Phone	Old Phone	Old Phone	Old Phone
Number Presentation Transformation					
Caller ID For Calls From This Phone					
Calling Party Transformation CSS		Old Phone	Old Phone	Old Phone	Old Phone
Use Device Pool Calling Party Transformation CSS (Caller ID For Calls From This Phone)		Old Phone	Old Phone	Old Phone	Old Phone
Remote Number					
Calling Party Transformation CSS		Old Phone	Old Phone	Old Phone	Old Phone
Use Device Pool Calling Party Transformation CSS (Caller ID For Calls From This Phone)		Old Phone	Old Phone	Old Phone	Old Phone
Protocol Specific Information					

Phone Field	Protocol Specific	SCCP to SCCP	SCCP to SIP	SIP to SCCP	SIP to SIP
Packet Capture Mode		Old Phone	Old Phone	Old Phone	Old Phone
Packet Capture Duration		Old Phone	Old Phone	Old Phone	Old Phone
BLF Presence Group		Old Phone	Old Phone	Old Phone	Old Phone
SIP Dial Rules	SIP Only	N/A	Template	N/A	Old Phone
MTP Preferred Originating Codec	SIP Only	N/A	Default	N/A	Old Phone
Device Security Profile		Template	Template	Template	Template
Rerouting Calling Search Space	SIP Only	N/A	Default	N/A	Old Phone
SUBSCRIBE Calling Search Space		Template	Template	Template	Template
SIP Profile	SIP Only	N/A	Template	N/A	Old Phone
Digest User	SIP Only	N/A	Default	N/A	Old Phone
Media Termination Point Required	SIP Only	N/A	Default	N/A	Old Phone
Unattended Port		Old Phone	Old Phone	Old Phone	Old Phone
Require DTMF Reception		Old Phone	Old Phone	Old Phone	Old Phone
RFC2833 Disabled	SCCP Only	Old Phone	N/A	Default	N/A
Certification Authority Proxy Function (CAPF) Information					
Certificate Operation		Old Phone	Old Phone	Old Phone	Old Phone
Authentication Mode		Old Phone	Old Phone	Old Phone	Old Phone

Phone Field	Protocol Specific	SCCP to SCCP	SCCP to SIP	SIP to SCCP	SIP to SIP
Authentication String		Old Phone	Old Phone	Old Phone	Old Phone
Key Size (Bits)		Old Phone	Old Phone	Old Phone	Old Phone
Operation Completes By		Old Phone	Old Phone	Old Phone	Old Phone
Expansion Module Information					
Module 1		Template	Template	Template	Template
Module 1 Load Name		Template	Template	Template	Template
Module 2		Template	Template	Template	Template
Module 2 Load Name		Template	Template	Template	Template
External Data Locations Information					
Information		Old Phone	Old Phone	Old Phone	Old Phone
Directory		Old Phone	Old Phone	Old Phone	Old Phone
Messages		Old Phone	Old Phone	Old Phone	Old Phone
Services		Old Phone	Old Phone	Old Phone	Old Phone
Authentication Server		Old Phone	Old Phone	Old Phone	Old Phone
Proxy Server		Old Phone	Old Phone	Old Phone	Old Phone
Idle		Old Phone	Old Phone	Old Phone	Old Phone
Idle Timer (seconds)		Old Phone	Old Phone	Old Phone	Old Phone
Secure Authentication URL		Old Phone	Old Phone	Old Phone	Old Phone
Secure Directory URL		Old Phone	Old Phone	Old Phone	Old Phone
Secure Idle URL		Old Phone	Old Phone	Old Phone	Old Phone

Phone Field	Protocol Specific	SCCP to SCCP	SCCP to SIP	SIP to SCCP	SIP to SIP
Secure Information URL		Old Phone	Old Phone	Old Phone	Old Phone
Secure Messages URL		Old Phone	Old Phone	Old Phone	Old Phone
Secure Services URL		Old Phone	Old Phone	Old Phone	Old Phone
Extension Information					
Enable Extension Mobility		Old Phone	Old Phone	Old Phone	Old Phone
Log Out Profile		Old Phone	Old Phone	Old Phone	Old Phone
MLPP and Confidential Access Level Information					
MLPP Domain		Old Phone	Old Phone	Old Phone	Old Phone
MLPP Indication		Old Phone	Old Phone	Old Phone	Old Phone
MLPP Preemption		Old Phone	Old Phone	Old Phone	Old Phone
Confidential Access Mode		Old Phone	Old Phone	Old Phone	Old Phone
Confidential Access Level		Old Phone	Old Phone	Old Phone	Old Phone
Do Not Disturb					
DND Option		Old Phone	Old Phone	Old Phone	Old Phone
DND Incoming Call Alert		Old Phone	Old Phone	Old Phone	Old Phone
Secure Shell Information					
Secure Shell User		Old Phone	Old Phone	Old Phone	Old Phone

Phone Field	Protocol Specific	SCCP to SCCP	SCCP to SIP	SIP to SCCP	SIP to SIP
Secure Shell Password		Old Phone	Old Phone	Old Phone	Old Phone
Product Specific Configuration Layout	All fields that exist on old phone are migrated to new phone, all product specific Phone Template fields are ignored. Use Common Phone Profile and/or Enterprise Phone Configuration to specify fields that exist on new phone but not the old phone				

UnifiedFX

MigrationFX Phone Service Instructions

Following is the official documentation for MigrationFX XML phone service.
There are three ways a phone migration can be initiated through the MigrationFX Phone Service, they are as follow

1. Zero Touch Migration
2. Search by extension Migration
3. User Self Service Migration – (User name Password)

Once the CUCM is configured with appropriate settings MigrationFX Service will be launched with the following page/state.

1. Zero Touch Migration
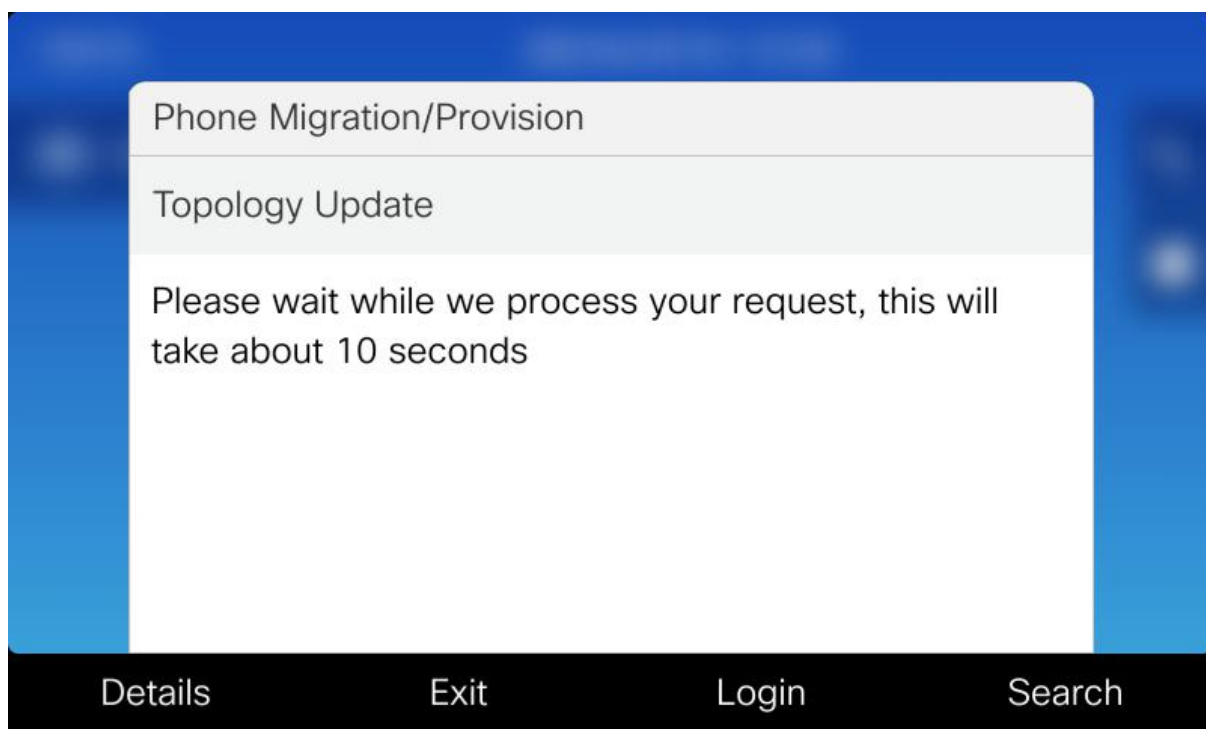
FIGURE 1 – PLEASE WAIT (TOPOLOGY DATA SCAN)

At this point the service will pause for 10 seconds and perform the topology update and gathers the required information for zero touch migration.
User Can check the topology data by simply clicking the Details Soft Key 3 in above page/state (Figure 1 - Please wait) See Details Button Section for further details.
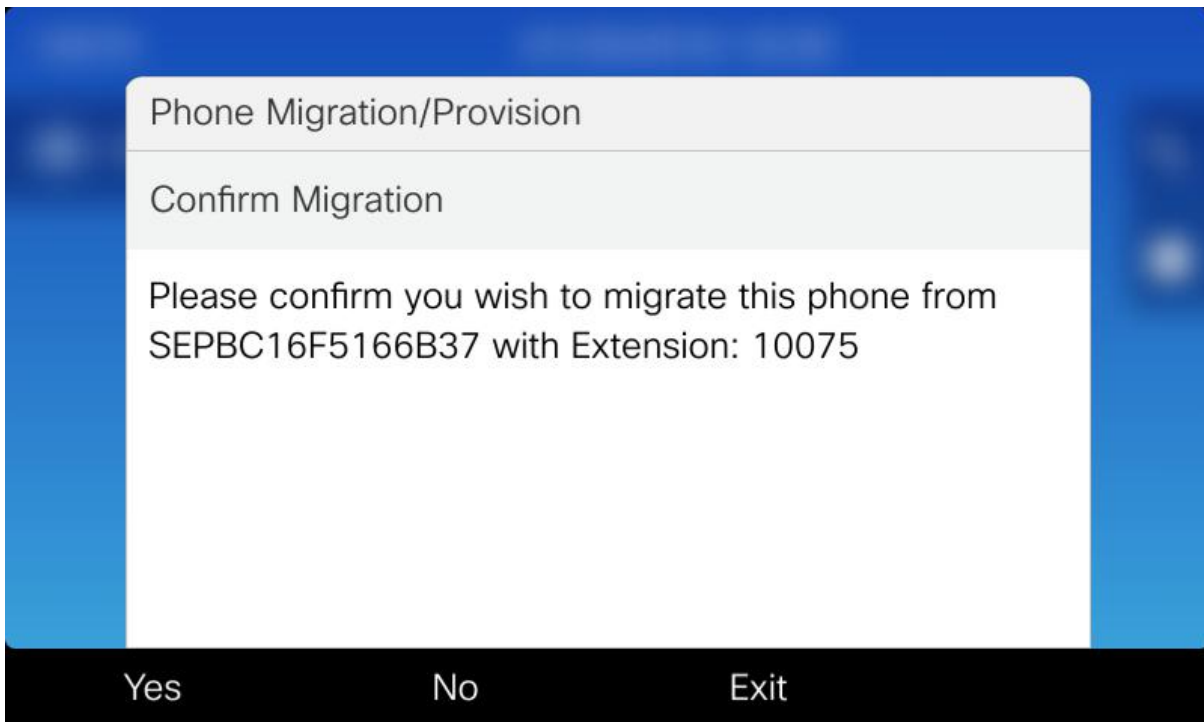
FIGURE 2 – CONFIRM MIGRATION

If topology data has been found the service will proceed to the next state asking user to confirm the previous device on the same port(wire) with mac address and extension number.

User confirms the migration by selecting the yes option soft key 1. (Figure 2)
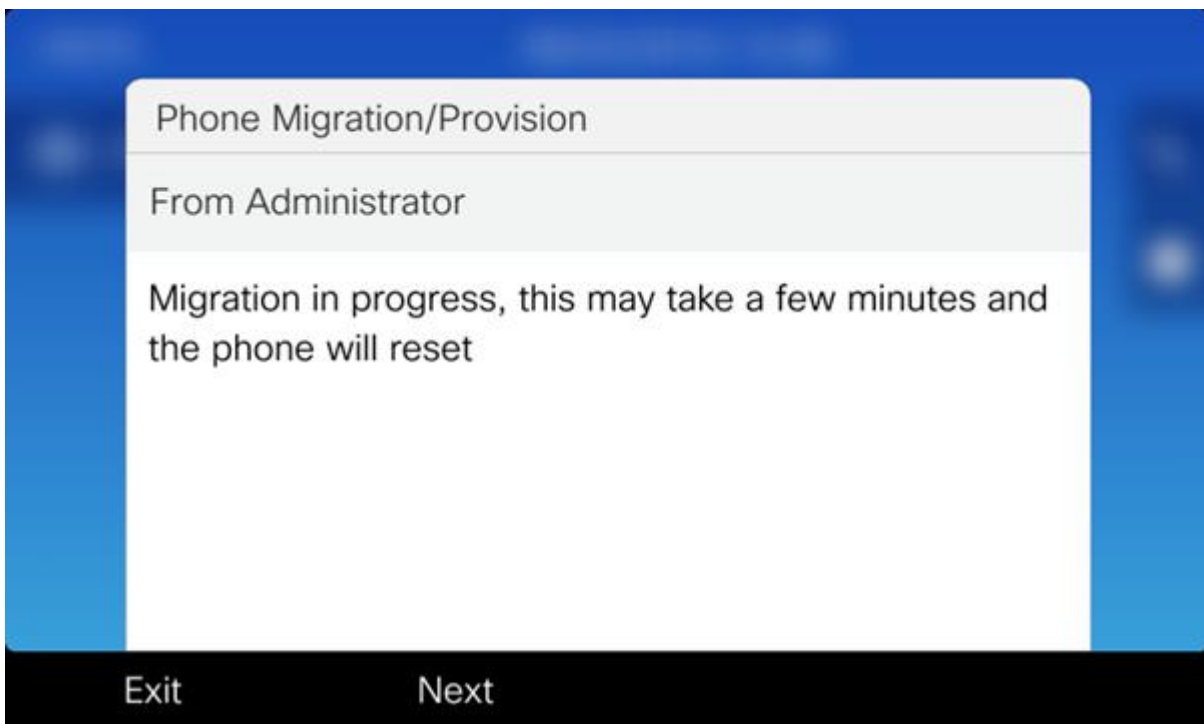
FIGURE 3 – MIGRATION IN PROGRESS

Once the user confirms the Migration, "Migration in progress" (Figure 3) page will be displayed and the phone will be migrating to the Detected/Chosen device.

Details Soft Key (Button)

SEP74A02FC108F5 Topology

Port: FastEthernet0/13

SEP74A02FC108F5:10.10.11.127 (9s)
SEPBC16F5166B37:10.10.11.65 (89d19h27m)

Exit   Refresh   Migrate
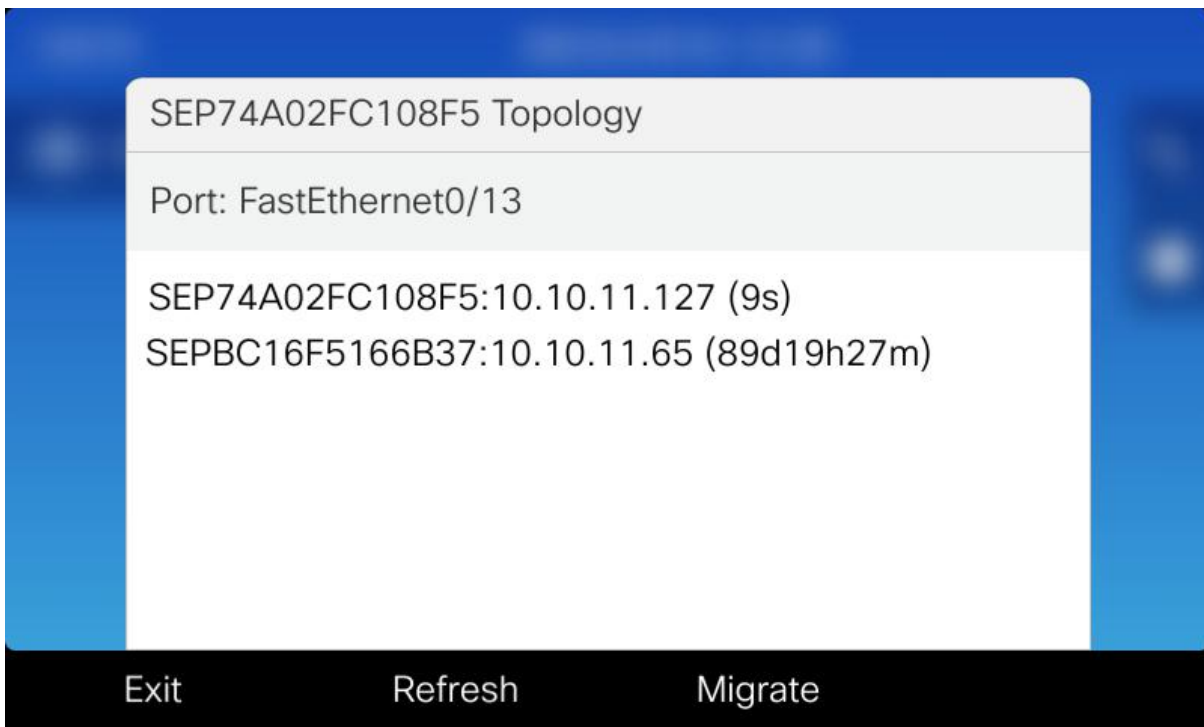
FIGURE 4 – SAMPLE TOPOLOGY DATA – DETAILS PAGE

Details soft key in the Please Wait page will show user the topology information for the port/wire the current phone is plugged in. (Figure 1 – Please wait)

To perform a Zero Touch Migration, topology data should be available for both old and new phones.

User should see minimum of two unique entries to perform zero touch Migration feature. (Figure 4 – Sample Topology data)

NOTE: In order to deploy zero touch migration feature both old and new phones web server should be enabled. Addition to this, the old phone needs to be plugged in for 30 minutes as MigrationFX Default cluster update interval is set to 30 minutes. (This can be eliminated by setting the cluster update interval to a preferred duration or by restarting the cluster update service from Service Page in MigrationFX admin interface).

2. Search by Extension Migration

If topology data has not been found for either new phone or the old phone, MigrationFX default fall back is set to this method (Search by Extension).
This method is intended to be used by IPT engineer to migrate phones where the engineer does not use zero touch feature, or the migrating phone/s does not provide topology data for zero touch migration.
This migration method requires the engineer to provide a search pin, **PIN can be found in MigrationFX admin interface under "Configuration >> Parameters" page.**

FIGURE 5 – ENTER SEARCH PIN

The search pin can be removed by simply updating the search pin value to a null(empty) value in MigrationFX admin interface.
The search by extension method is pin protected by default in order to restrict end users migrating phones to an unauthorised extension/directory.
 (Figure -5- Entre Search Pin)

FIGURE 6 - ENTER EXTENSION NUMBER

Once the search pin is validated the user will be navigated to the Extension page. User is required to provide minimum of three digits to search for existing extension/directory numbers.

FIGURE 7 - SELECT DEVICE

Once the filtered devices are shown, user can choose the appropriate Device/Extension and migrate the phone.
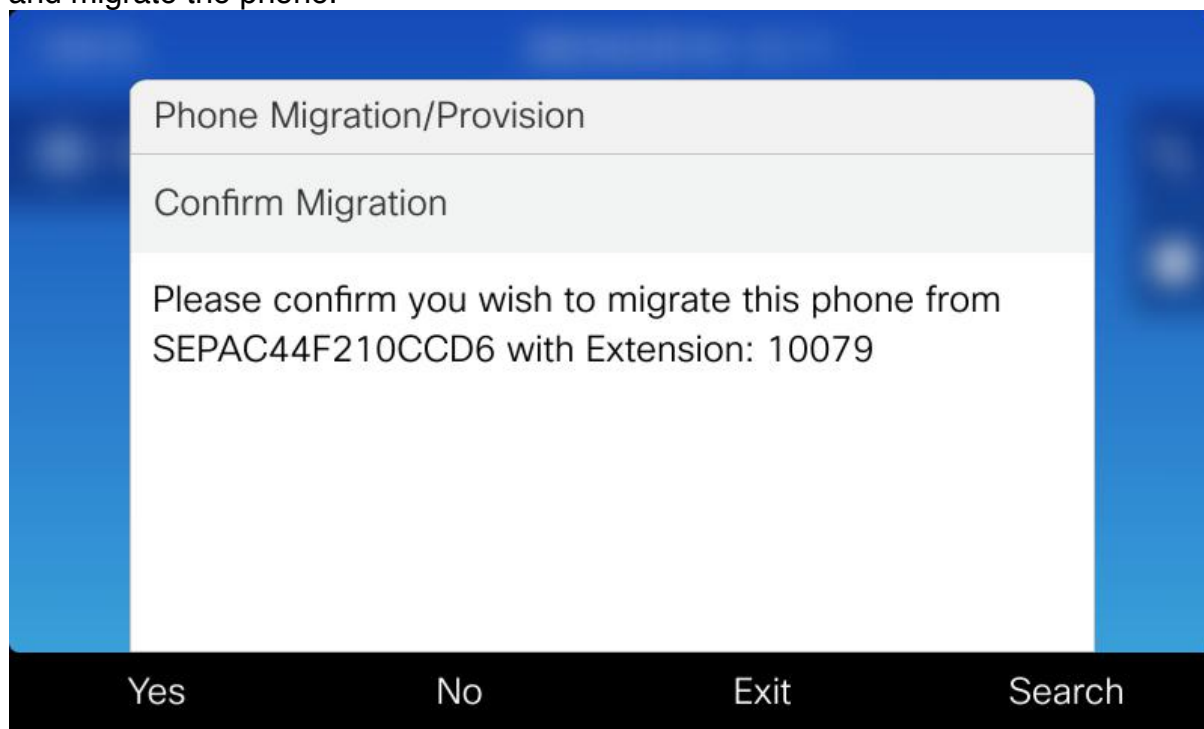
FIGURE 8 -CONFIRM MIGRATION

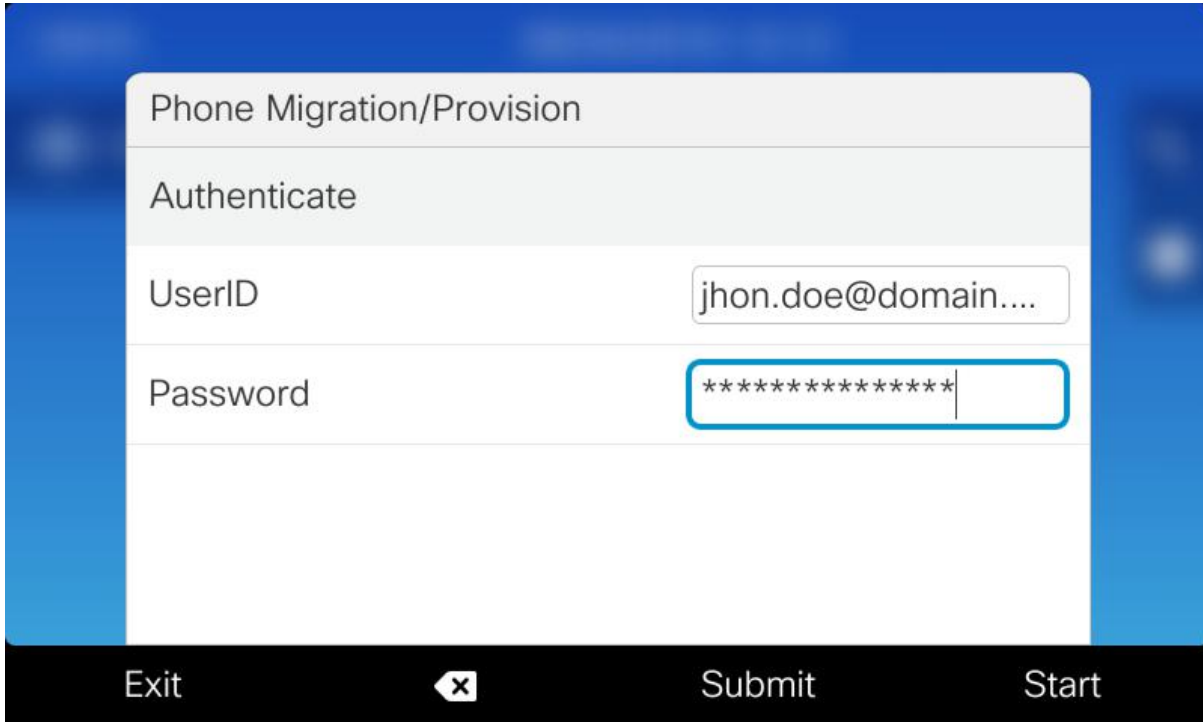Once the user selects appropriate device/extension, user will be prompted to confirm the migration.

FIGURE 9 - MIGRATION IN PROGRESS
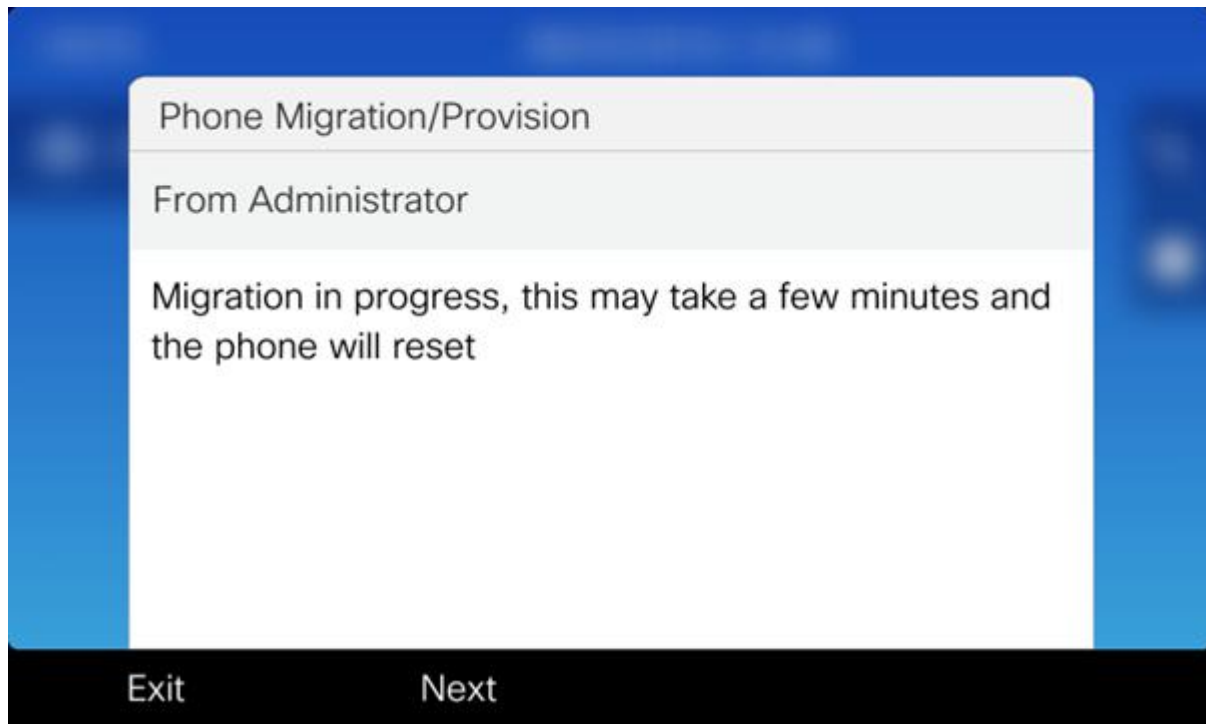
Once the Migration is confirmed user will be shown the above screen followed by a reboot and finally the device will migrate.

3. Self Service Migration

FIGURE 10 - SELF SERVICE

This Migration method is intended to be used by the end user where the user provides appropriate network credentials which will detect the phones associated to the user. (Figure 10 – Self Service)

Phone Migration/Provision

Confirm Migration

Please confirm you wish to migrate this phone from
SEP001D45439399 with Extension: 10036

Yes   No   Exit   Search
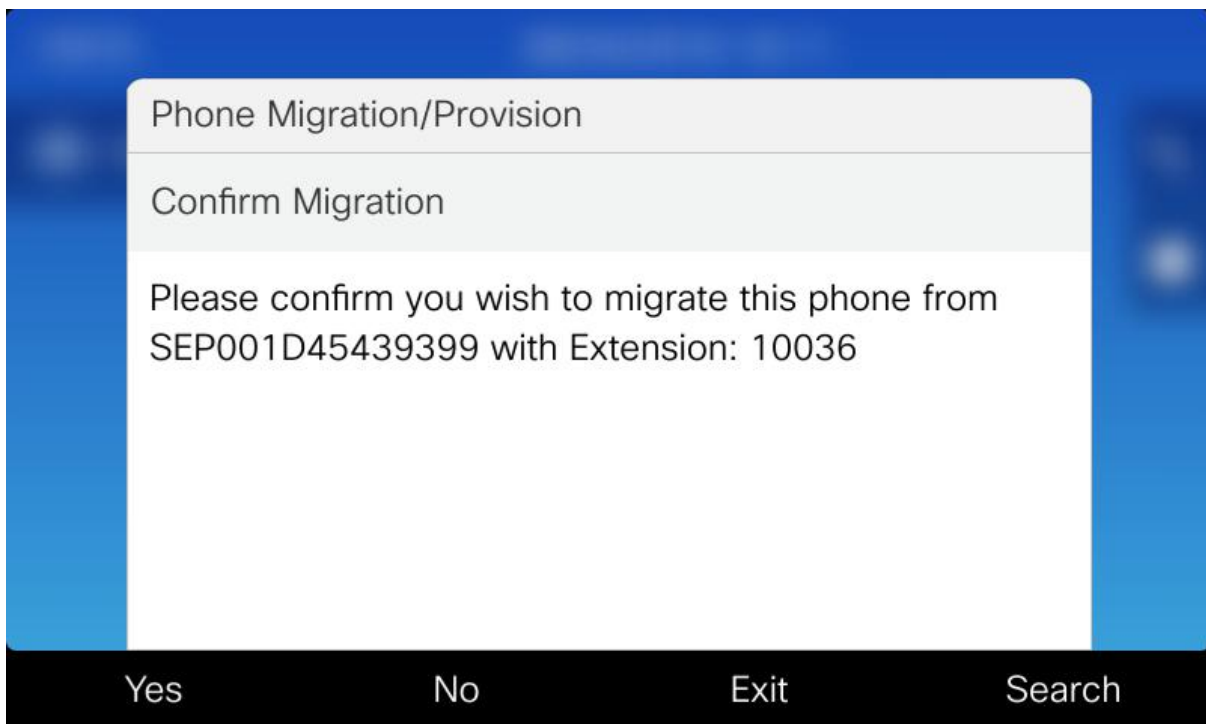
FIGURE 11 - CONFIRM MIGRATION

If valid credentials are provided and user has device/s associated. User will be prompted to select or confirm the device.
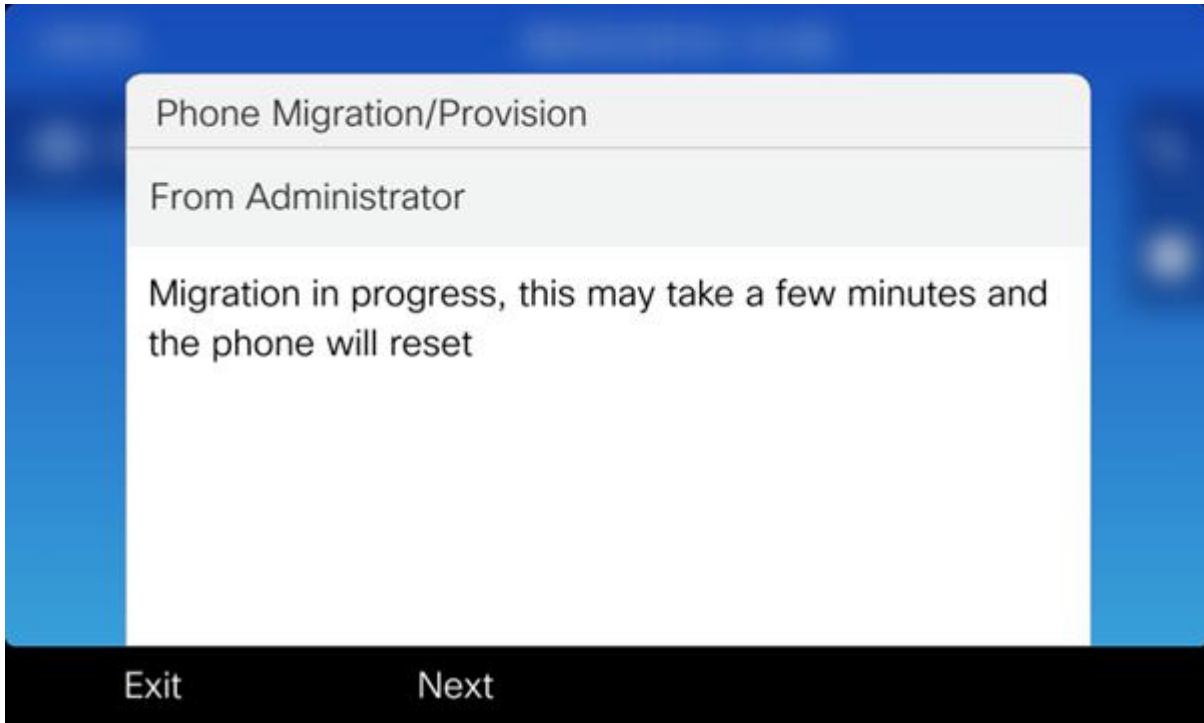
FIGURE 12 - MIGRATION IN PROGRESS

Once the user confirms the Migration, "Migration in progress" (Figure 3) page will be displayed and the phone will be migrating to the Detected/Chosen device.
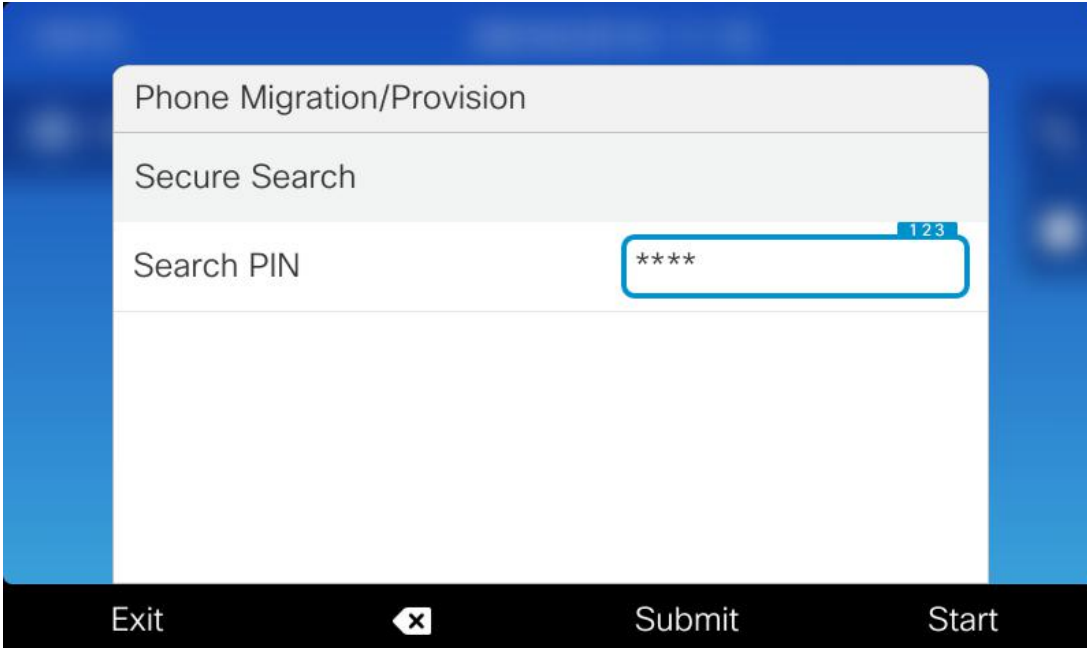
Using MigrationFX Phone Service Provisioning.

MigrationFX XML service can be used to provision preconfigured and bulk imported(BAT) phones. Migration FX enables BAT prefix device visibility in order leverage phone provisioning feature.
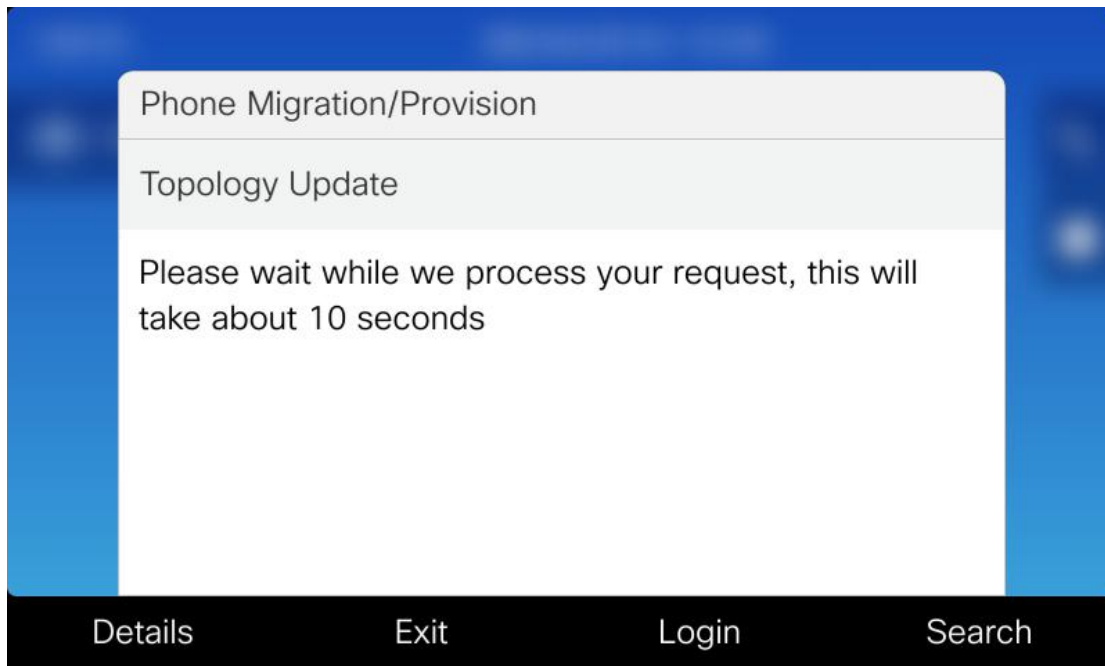
FIGURE 13 - PLEASE WAIT (TOPOLOGY DATA SCAN)

To use the phone provisioning service, select the search option from MigartionFX XML "Please wait" page/state (Press Soft Key 4).

FIGURE 14 - ENTER SEARCH PIN

User will be prompted to provide a pin to access the service, **PIN can be found in MigrationFX admin interface under "Configuration >> Parameters" page.** The search pin can be removed by simply updating the search pin value to a null(empty) value in MigrationFX admin interface.

The search by extension method is pin protected by default in order to restrict end users provisioning phones to an unauthorized extension/directory. (Figure -14- Entre Search Pin)
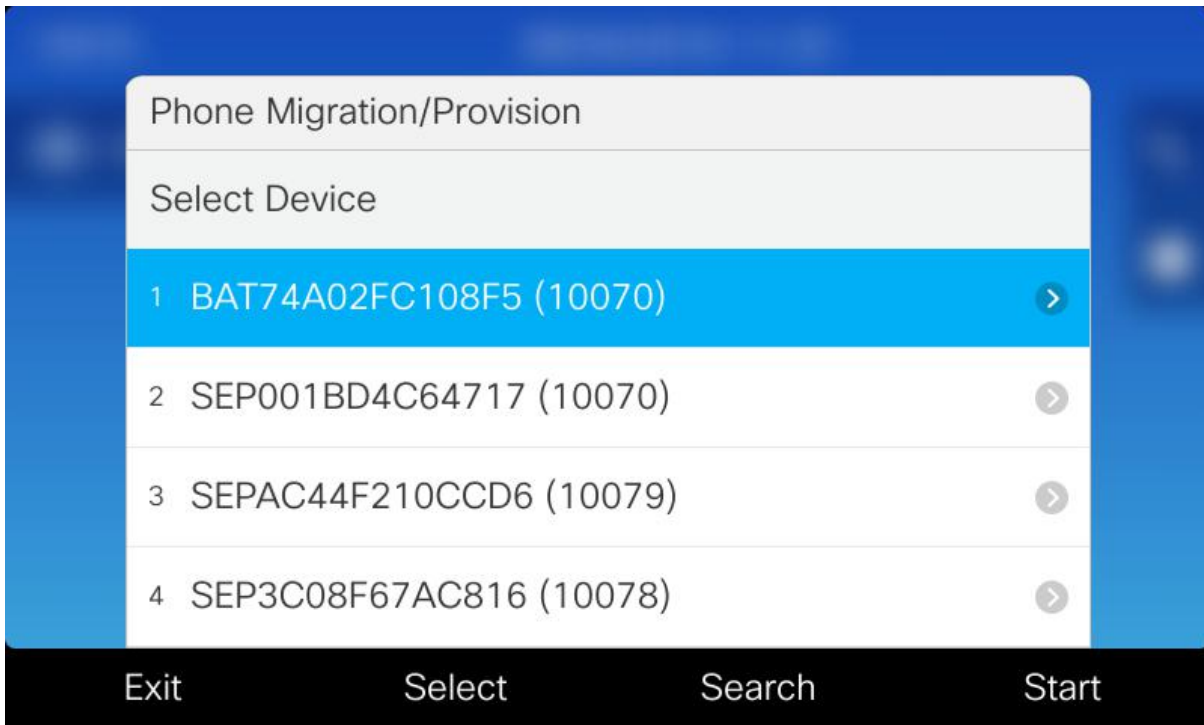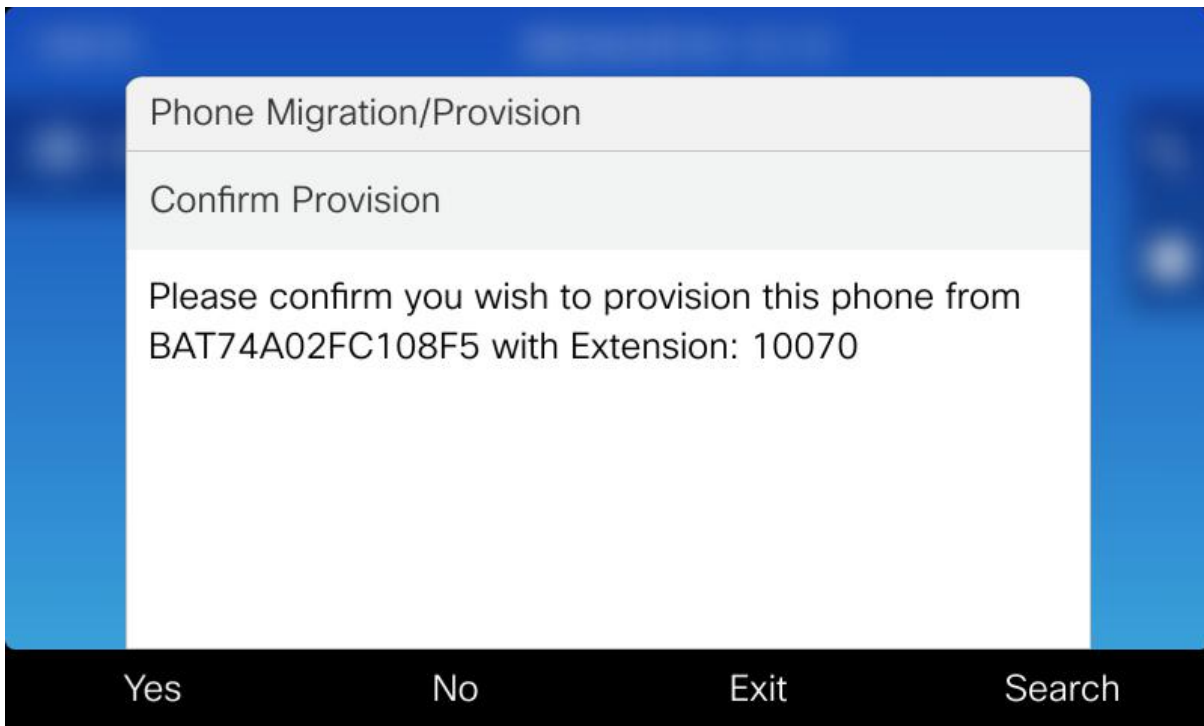
FIGURE 15 - ENTER EXTENSION

Once the search pin is validated the user will be navigated to the Extension page. User is required to provide minimum of three digits to search for existing extension/directory numbers.
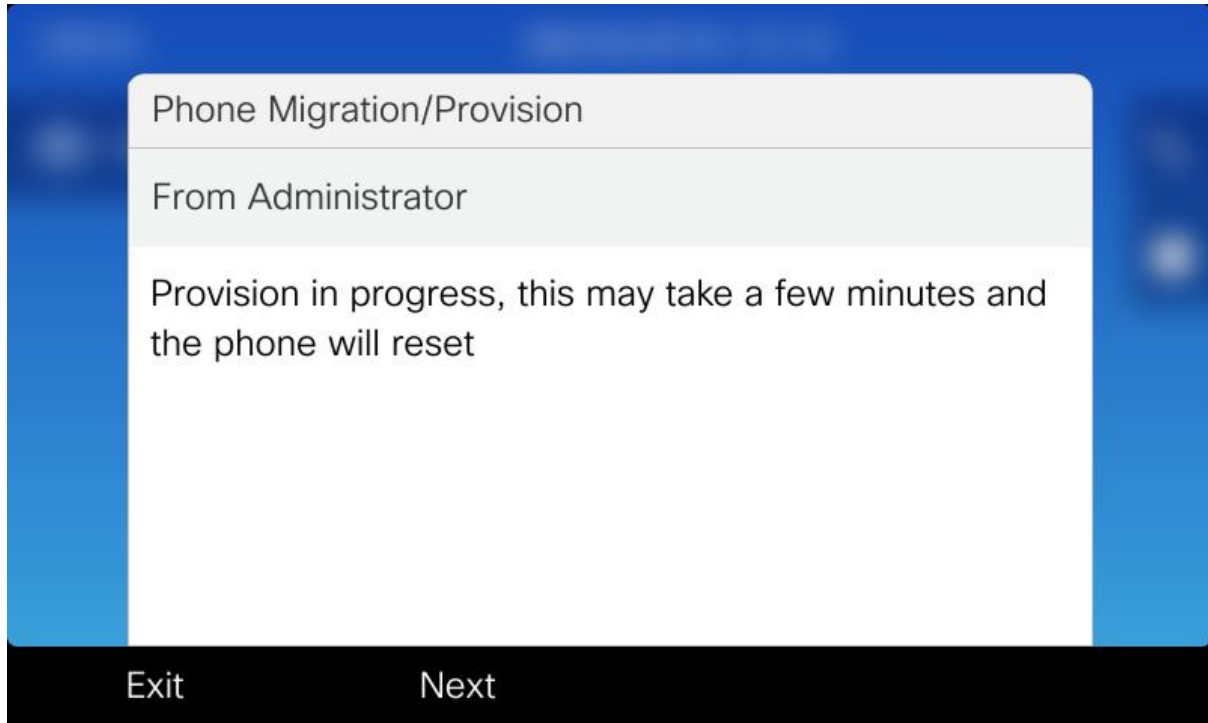
FIGURE 16 - SELECT DEVICE

Once the filtered devices are shown, user can choose the appropriate Device/Extension and migrate the phone.

FIGURE 5 – CONFIRM PROVISION

Once the user selects appropriate device/extension, user will be prompted to confirm the migration.

FIGURE 18 – PROVISION IN PROGRESS

Once the Provision is confirmed user will be shown the above screen followed by a reboot and finally the device will be provisioned.