MigrationFX
Administration Guide

VERSION: 1.2.0.158

Table of Contents

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 makes reference 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:
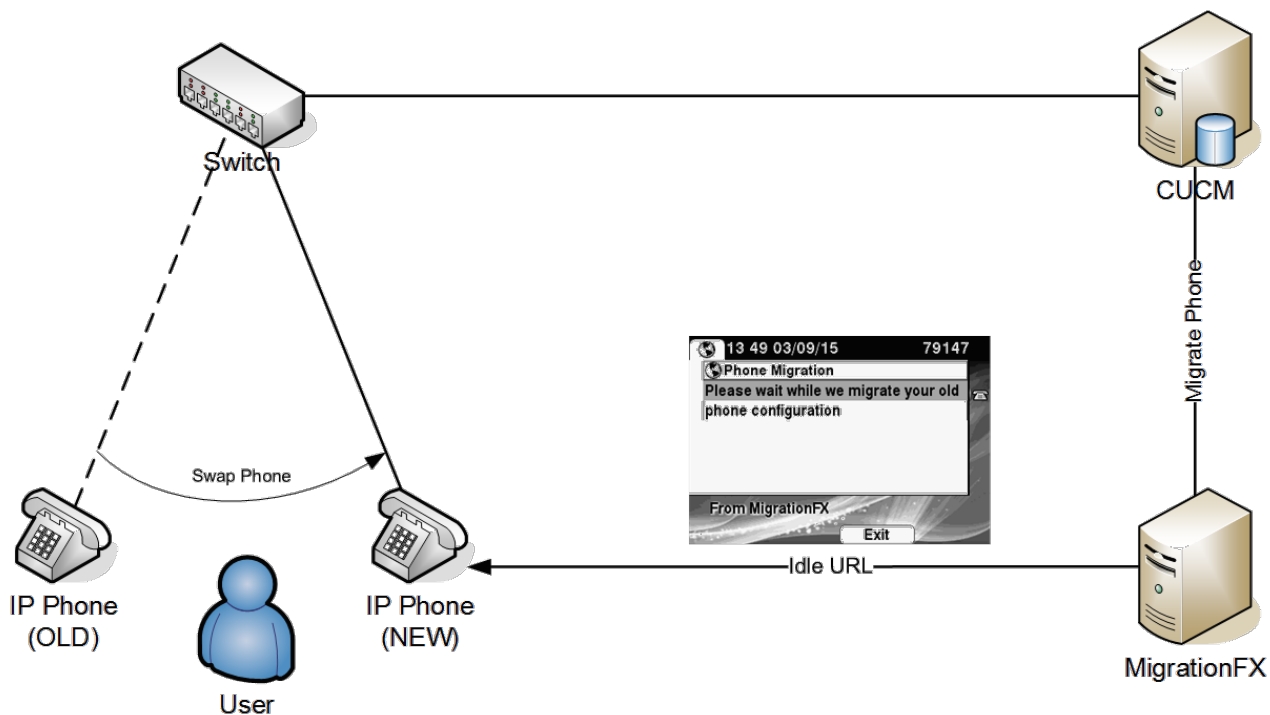
Requirements

Application

- Windows 7 (or Above) / Windows Server 2008 (or Above)
- Microsoft .Net Framework 4.5
- Dual Core CPU 2+ GHz / 2Gb Ram (or above)
- 250 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

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

Accounts & Permissions

Admin User Account

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

- Standard Tab Sync User
- Standard CCM Server Monitoring
- Standard CCMADMIN Administration
- Standard CCM Phone Administration
- Super Copy & Phone Migration Resource Access (Recommend adding to customer Role/Group)

Note: An 'Admin User' account will be required for each CUCM cluster, detailed steps are provided below.

AutomationFX Web Interface Login

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:
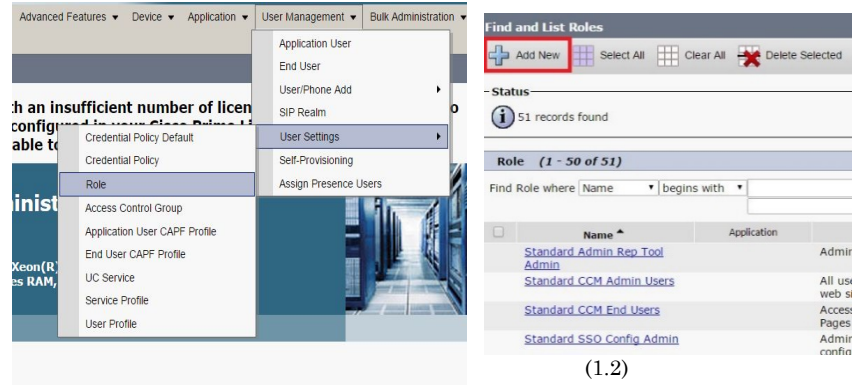
- Standard CCM Admin
- Standard Phone Administration

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.

Create a User for AutomationFX in CUCM

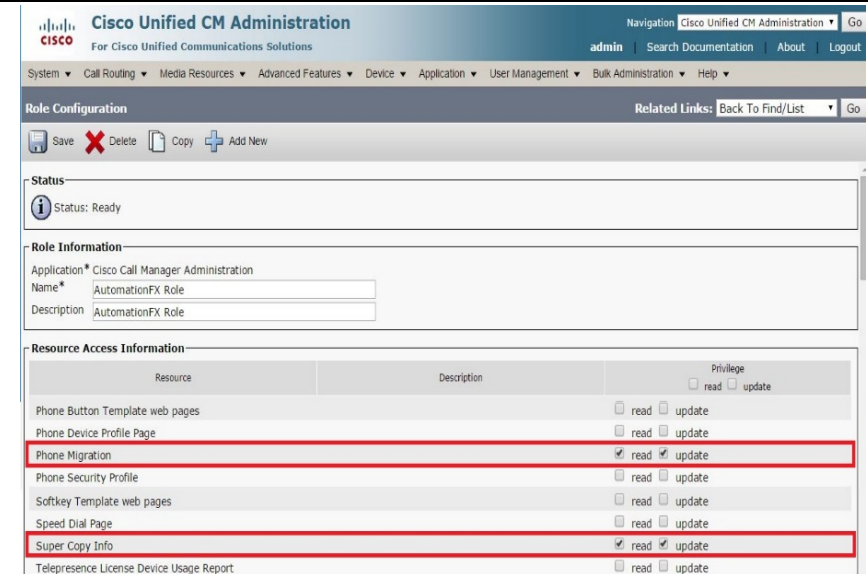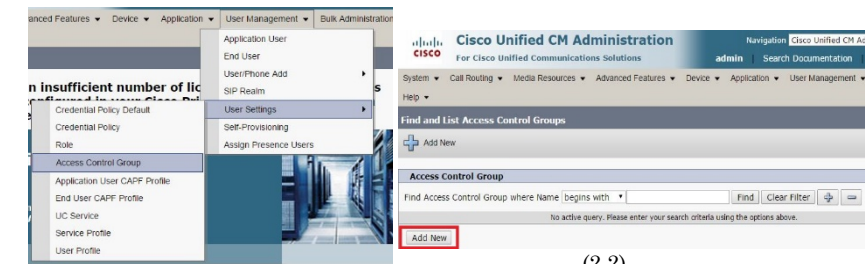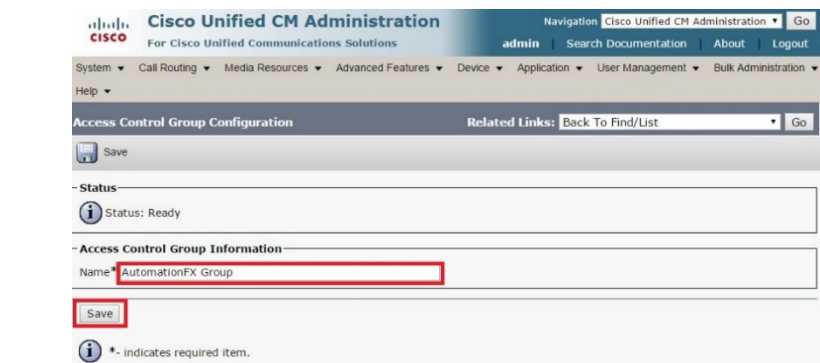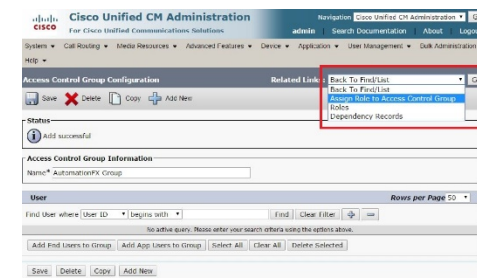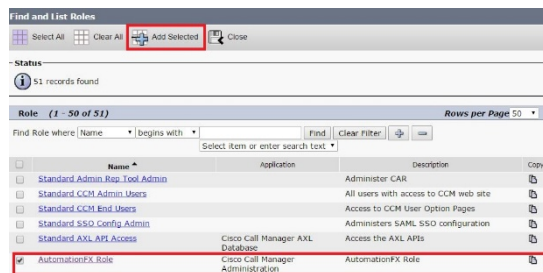|	
• Login to CUCM Admin Interface • Browse to the Role Page as shown in the image.**(User Management >> User Settings >> Role)** • Once directed to the Role page Click **'Add New'** button to create a new role. • The following page requires selecting an Application for the Role. • Select **Cisco Call Manager Administration** and click '**Next'**.	 <center>(1.1)</center> <center>(1.2)</center>
• Once directed to the Role Configuration page enter the following settings. **Name : AutomationFX Role** **Description : AutomationFX Role** **Phone Migration ☑ read ☑ update** **Super Copy Info ☑ read ☑ update** • Once the settings are assigned click '**Save'**.	 <center>(1.3)</center>
• Creating a Group and assigning the above created Role. • Browse to the Access Control Group Page as shown in image (2.1) **(User Management >> User Settings >>Access Control Group)** • Click **'Add New'** to Create a New Access Control Group. • Name it as **AutomationFX Group.** • Click '**Save'**.	 <center>(2.1)</center> <center>(2.2)</center> <center>(2.3)</center>

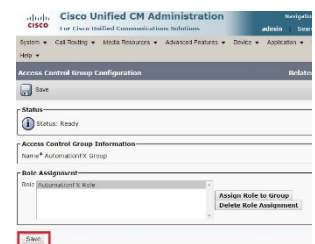|	
• Select **Assign Role to Access Control Group** from the drop down menu and Click '**Go'.** • User will be directed to Access Control Group Configuration Page. • Click '**Assign Role to Group'.** • User will be redirected to Find and List Roles • Tick (select) **AutomationFX** Role from the list and click **'Add Selected'.** • Will be directed to the Access Control Group Configuration. • Click **'Save'.**	 (2.4) (2.5) (2.7) (2.6)
• Create an Application User and assign the required Access Control Groups. • Browse to Application User Page. (**User Management >> Application User**). • Click **'Add New'** to create a New Application User. • Once directed to the Application User Configuration page. • Enter the following settings. **User ID : AutomationFX Admin** **Password : **************** • Assign a password of your choice • Click **'Add to Access Control Group'.**	 (3.1) (3.2)

(3.3)
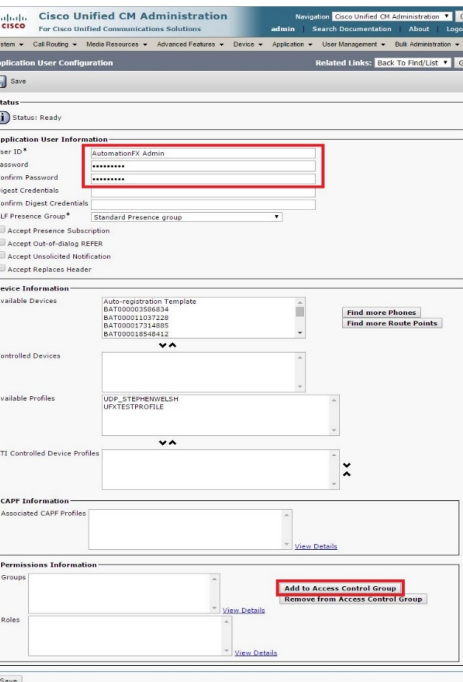
- Tick (select) the following Access Control Groups as shown in image 3.3

☑ **AutomationFX Group**
☑ **Standard CCM Server Monitoring**
☑ **Standard CCM Phone Administration**
☑ **Standard TabSync User**

- Once the above Access Control Groups are selected Click **'Add Selected'**
- Confirm the Permission Information match as image 3.4.
- Click **'Save'**
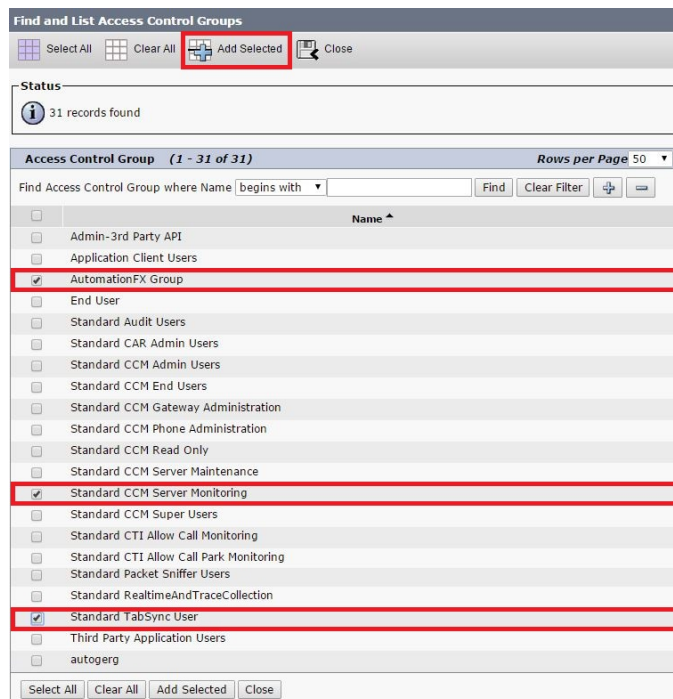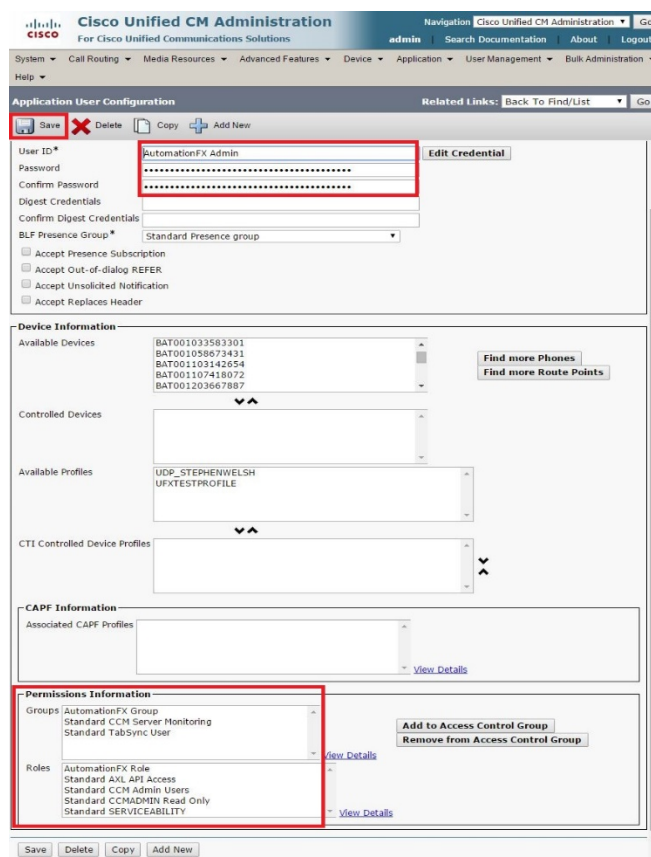
(3.4)

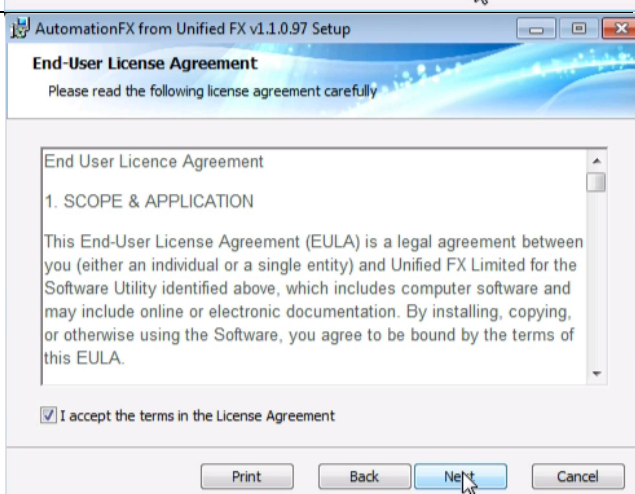**NOTE: The following Instruction are based on CUCM 10.5.1, instruction may differ according to CUCM version**

AutomationFX Installation

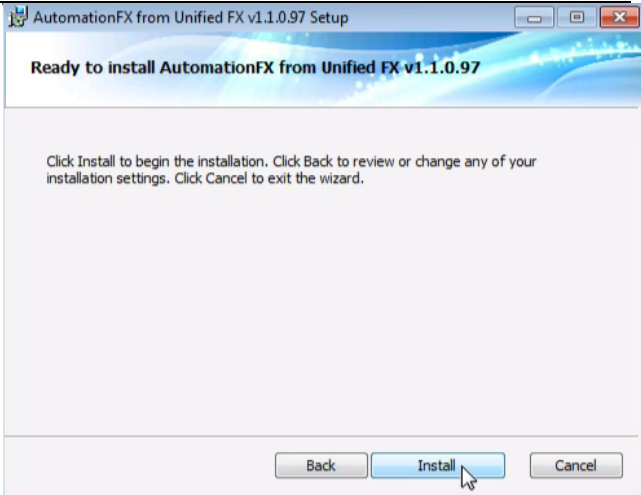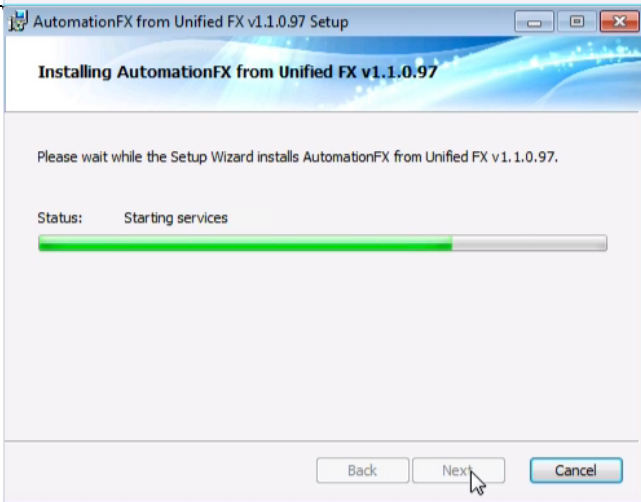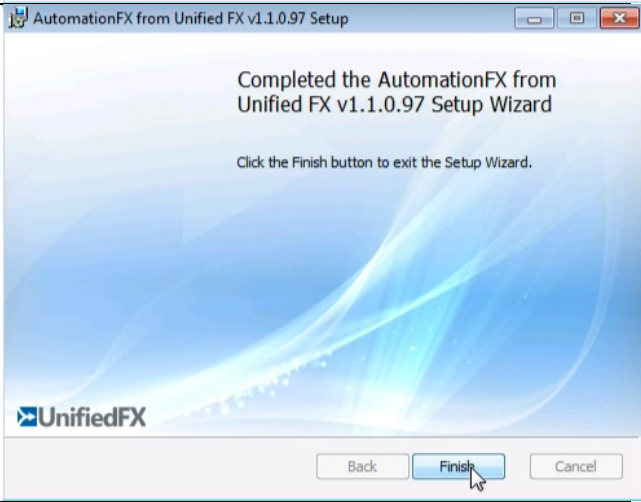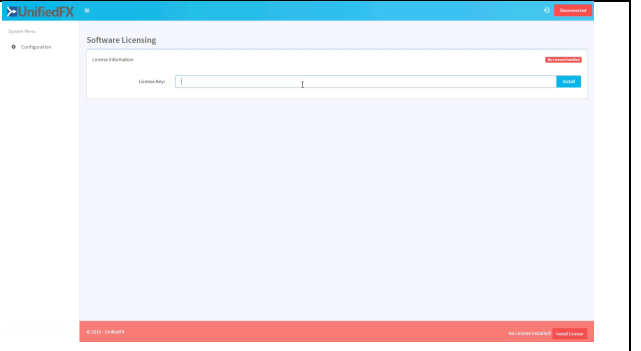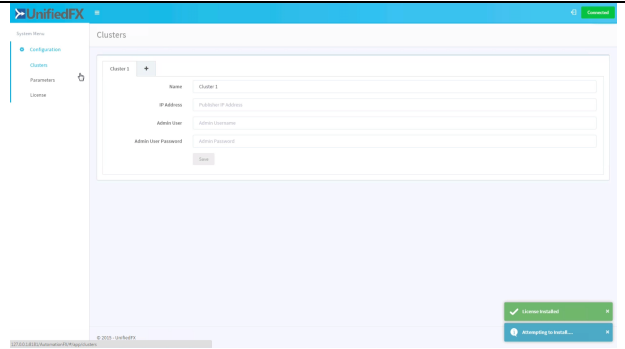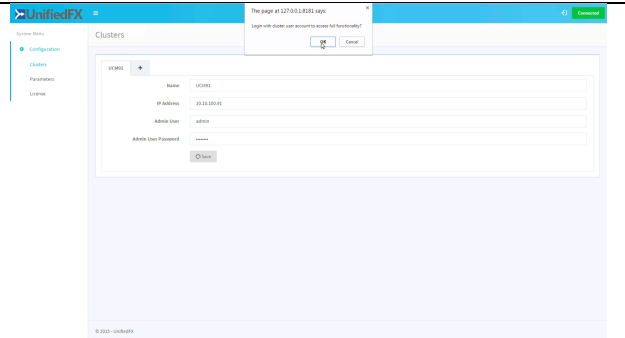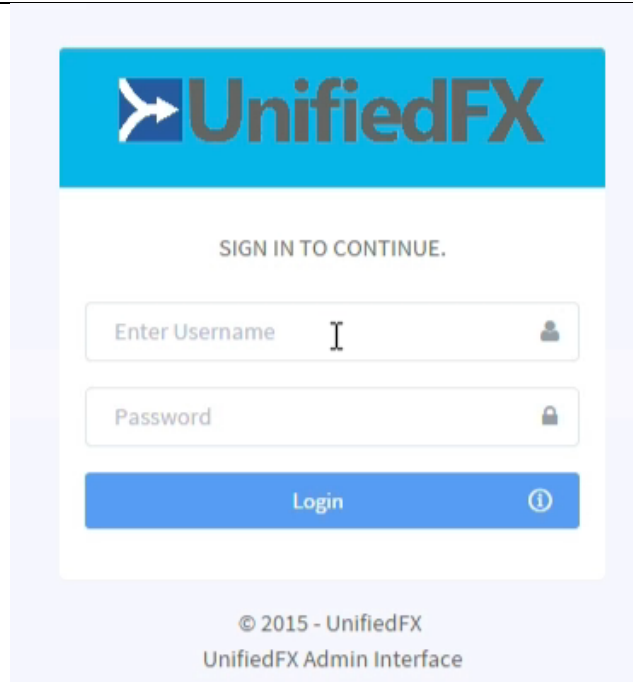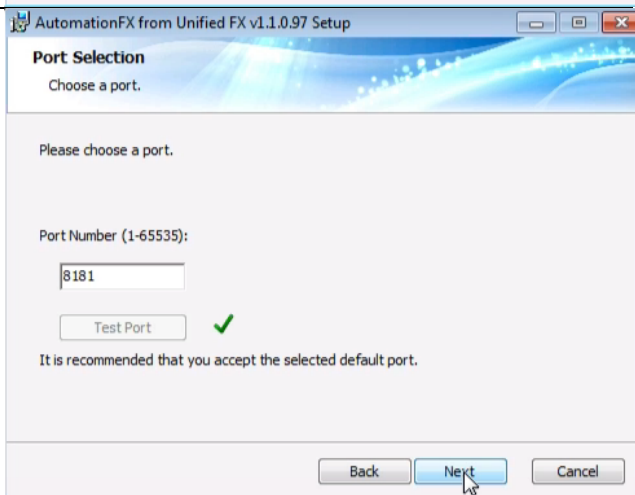|	
Open the MSI Installer file and click 'Next' on the welcome page	*AutomationFX from Unified FX v1.1.0.97 Setup* Welcome to the AutomationFX from Unified FX v1.1.0.97 Setup Wizard The Setup Wizard will install AutomationFX from Unified FX v1.1.0.97 on your computer. Click Next to continue or Cancel to exit the Setup Wizard. **UnifiedFX** Back Next Cancel
Review and accept the End-User License Agreement then click 'Next'	*AutomationFX from Unified FX v1.1.0.97 Setup* **End-User License Agreement** Please read the following license agreement carefully End User Licence Agreement 1. SCOPE & APPLICATION This End-User License Agreement (EULA) is a legal agreement between you (either an individual or a single entity) and Unified FX Limited for the Software Utility identified above, which includes computer software and may include online or electronic documentation. By installing, copying, or otherwise using the Software, you agree to be bound by the terms of this EULA. ☑ I accept the terms in the License Agreement Print Back Next Cancel
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 (32 bit systems) • HKLM\Software\Wow6432Node\UnifiedFX\AutomationFX\PortNumber (64 bit systems)	*AutomationFX from Unified FX v1.1.0.97 Setup* **Port Selection** Choose a port. Please choose a port. Port Number (1-65535): 8181 Test Port ✔ It is recommended that you accept the selected default port. Back Next Cancel

All the required information has been captured, click 'Install' to start the installation.	
All necessary files are copied to the local machine and the 'AutomationFX' Windows Service is installed and started.	
Once the installation is complete click 'Finish' to close the MSI Installer	
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 you will see the license parameters on this page.	

The first task once the system is licensed is to add one or more CUCM clusters. Click 'Configuration' then 'Clusters' and enter the following: • **Friendly Name** • **Publisher IP Address** • **Username** • **Password** Then Click 'Save' Note: The Admin User used to access CUCM API's requires the following permissions: • **Standard Tab Sync User** • **Standard CCM Server Monitoring** • **Standard CCM Phone Administration**	
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.	
Once the first cluster is added it is necessary to login to the AutomationFX web interface using a CUCM user account. The CUCM account can be an Application User or an End User and requires one of the following permissions: Standard CCM Admin Users Standard CCM Phone Administration.	

Phone Migration Methods

We expect the user installing AutomationFX, have server **IP Address** and the **Port Number** available at this point. In order to start a Migration, the new phones should Initiate the MigrationFX service automatically when using Idle Url. Alternatively if using an Enterprise Phone Service the user should initiate the Migration Service manually using the Service/Application button on the new phone.

Migration Service can be deployed in 2 different methods.

Migration Method 1 - Configure the Universal Device Template with MigrationFX Trigger Idle URL. (Zero Touch – CUCM 10 or Above).

- 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

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

NOTE: In order to use this feature, Auto Registration should be enabled in CUCM.
http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucm/admin/7_1_2/ccmcfg/bccm-712-cm/b02autor.html#wp1049119

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 in order to detect any phones associated to his profile and continue the migration.

Migration Method 2 - Create an Enterprise Service.

- Login to CUCM Admin Interface.
- Browse to **Device >>> Device Settings >>> Phone Services>>> Click Add New**.

  Creating a New Enterprise Service.
  Use the following settings (see image for more details).

  - **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

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

In order 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 in order to detect any phones associated to the user profile and continue the migration.

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 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

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

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 automatically 'fall-back' to Self Service Migration and prompt the user to authenticate in order to identify the user and their old phone.

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.

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.