



Background Deployment 3.1 (1003) Installation and Administration Guide

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Product Overview

VoIP Integration Background Deployment is a utility which allows you to deploy background images to Cisco phones from anywhere with network connectivity.

The Background Deployment Tool provides the ability to create groups of phones to receive images, groups can encompass individual devices, device pools, locations, partitions, calling search spaces and extensions or extension ranges.

A simple image editing interface lets you crop and zoom, flip and rotate any image to the correct file format and dimensions for the different phone models. Easily integrate your images into the server list.xml file with the ability to upload the list and images built into Background Deployment.

An advanced scheduling engine allows you to deploy the image to thousands of phones as fast as your network will allow.

Personalization

The personalization method is a non-intrusive method that forces the IP phones to request a background image from the HTTP server that runs in Background Deployment. This means that the IP Phones must have network connectivity to the PC running Background Deployment to download the new image. Using the personalization method, the background images do not need to be uploaded to the TFTP server, this means that you can test images that other users can not deploy to their phones.

The personalization method is the recommended method to use with Background Deployment for Call Manager servers starting at version 6.0(1)

Key Press

The key press method is a slightly more intrusive method that imitates a user pressing the required keys on the phone to change the background image. The images must be placed on the TFTP server before using this method as the phones get the image directly from the Call Manager server. This method can be interrupted if a user presses any keys while the image is being deployed.

The key press method is the recommended method for deploying background images before Call Manager 6.0(1)

Requirements

Application Requirements

- Windows PC with Microsoft Dot Net 3.5 or greater

Note: Windows on VM Ware in not supported

Call Manager

- Call Manager 5+ (Tested on Call Manager 5 through 8)
- Call Manager user with AXL, RIS and User Admin permissions
- AXL Service activated and running on Call Manager Server.

Network Connectivity

The PC running Background Deployment must be able to connect to the phone on a TCP 80.

The PC running Background Deployment must be able to connect to the Call Manager on TCP port 8443

The phone must be able to reach its Authentication URL and the PC running Background Deployment on a port that the user can choose. The default port is 80
(See the troubleshooting section for more information)

Background Deployment should work through NAT and over VPN. If using NAT you must know your NAT address the phones can reach your PC.

Installation Process

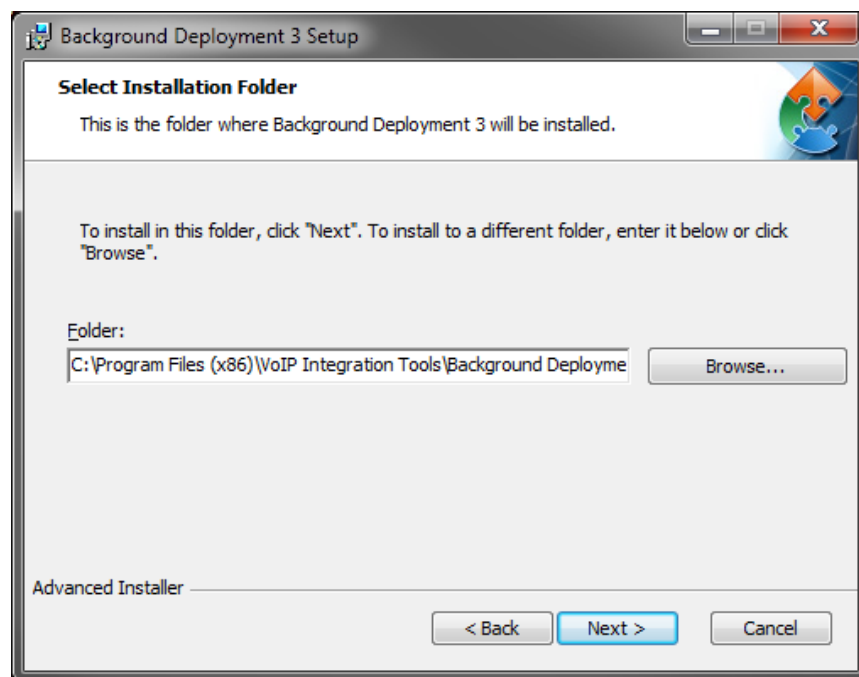
Loading Background Deployment

To begin the installation, download the installer from our website at <http://www.voipintegration.com>.

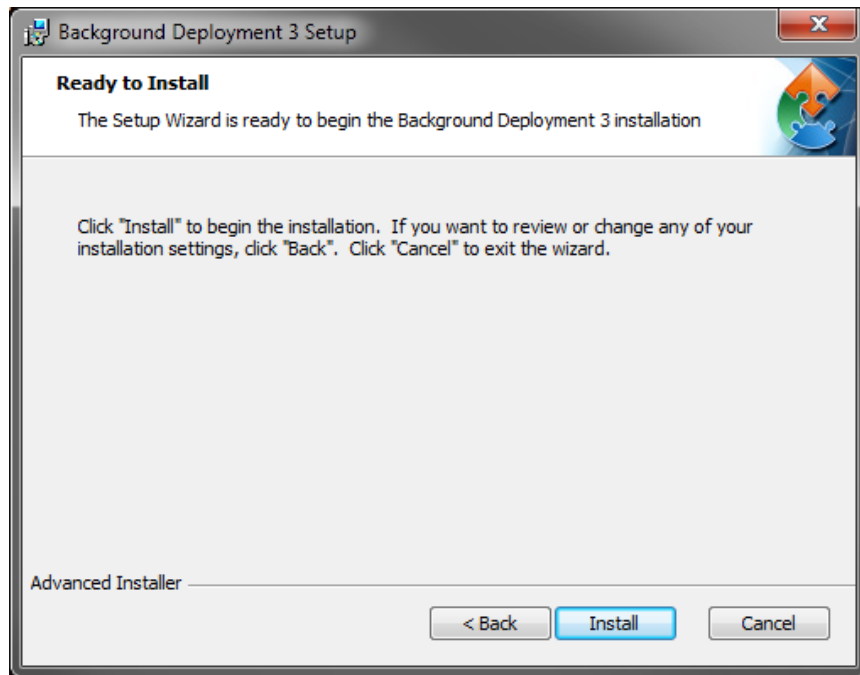
Then double-click the saved file.



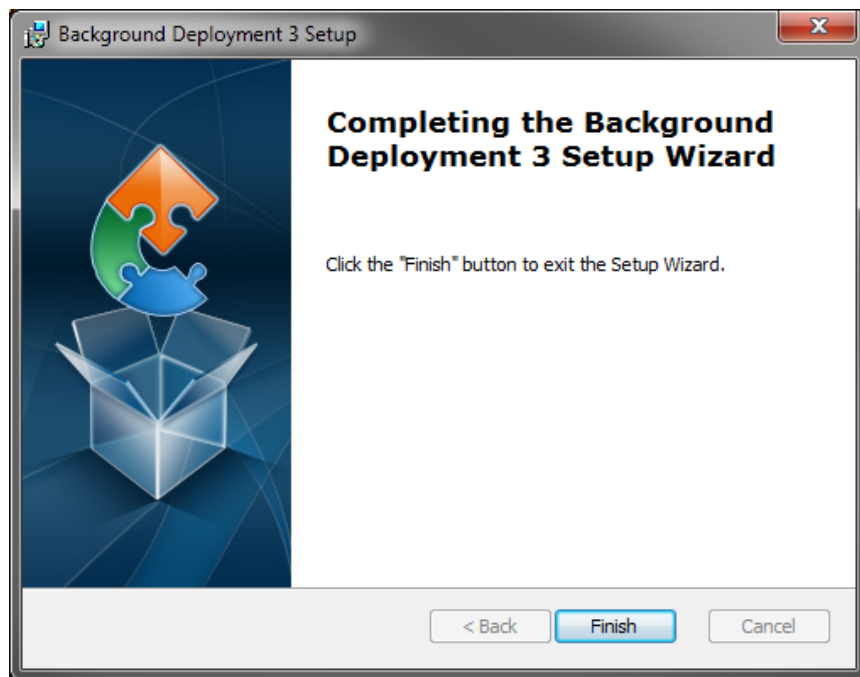
Click *Next*>



Enter the installation path you would like Background Deployment installed in and click >.



To complete the installation click *Install*.



When the install has completed, click *Finish* to close the installer.

Application Use

Deployment Method Comparison

	Local Image (Personalization)	Call Manager TFTP (Personalization)	Call Manager TFTP (Key Press)
Image Hosted on Local PC (Requires Network Connectivity from Phone to PC)	✓	✓	
Image Hosted from CM Server			✓
Images Available for End Users through Phone Settings	✓ *	✓	✓
Does Not Require TFTP Server Restart after Editing Images	✓	✓	
Non-Invasive to phone operation	✓	✓	
Great for Image Perfecting	✓		
Local Editing of Images Before Deployment	✓	✓	
Images do not need to be located on the Call Manager TFTP Server	✓		
Supported on all version of Call Manager			✓

* Requires the images and list.xml to be uploaded to the TFTP server (which can be done with Background Deployment 3.1)

Launching Background Deployment

Navigate through Windows Start -> Programs -> VoIP Integration Tools -> Background Deployment 3 and select Background Deployment.

Background Deployment will start up and check for an upgrade, it is strongly recommended that you click yes to download the upgrade if any are found.

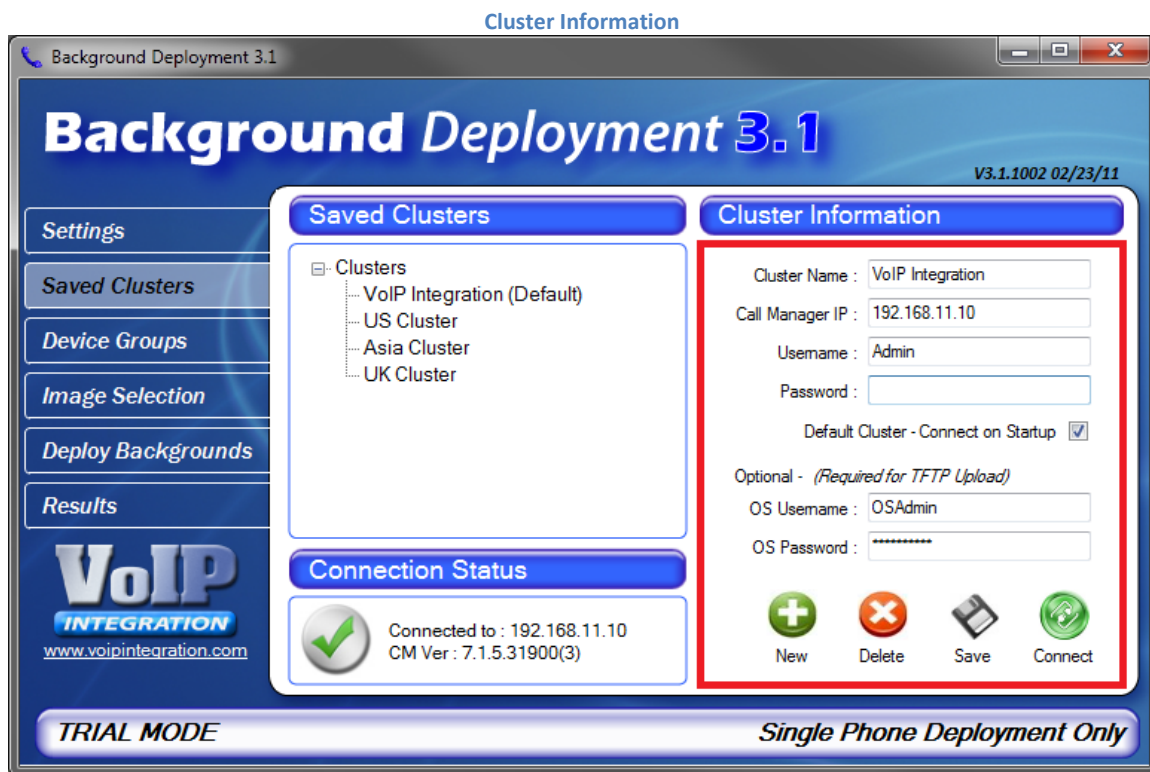
Loading your License Key

To enter your license key information, click on the Settings tab and locate the *Registration Information* section. Enter your Name, Company and Registration Key exactly as you receive them in the registration email. The registered user name and company are case sensitive.



Clusters – Connecting to and Saving

In order to use Background Deployment you must first connect to a cluster. The cluster information is saved for future use. If you do not want to save the password field for security purposes you may leave it blank and you will be prompted for the password each time you connect to the cluster.



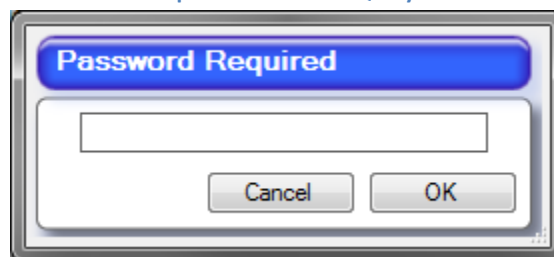
Call Manager Administration User

Ensure you have met the requirements for enabling AXL and assigning permission described in Appendix A.

- Enter a Cluster Name to describe the Cluster.
- In the in the Username field, enter the username with Admin/AXL permissions.
- In the Password field, enter the password.
- Click the Default Cluster option to connect to this Cluster at startup. (optional)
- Enter the OS Username and Password. (optional for uploading to the TFTP server on the Call Manager servers)
- Click Save or Connect.

The status will indicate a successful connection and display the version of the connected Call Manager.

Optional Password Query



Use of Background Deployment Features

Settings

The Settings page contains the following sections...

The screenshot shows three distinct sections in the settings interface, each with a blue header bar:

- Registration Information:** Contains three input fields for "Registered User Name", "Registered Company Name", and "Registration Key". Below the fields is a note: "Note : User Name and Company are case sensitive". At the bottom right are two buttons: "Purchase" and "Activate".
- User Feedback:** Contains the text "Have you come across a bug you would like to report or feature request?" followed by a "Submit User Feedback" button. Below this is the text "We appreciate all feedback and feature requests as it helps make the program better for everyone!".
- Program Version:** Displays the current version as "Version : V3.1.1002 02/23/11". It includes a checked checkbox for "Check for upgrade on start" and a "Check for Upgrade" button.

- **Registration Information**

This area allows you to enter your registration information to unlock all of the features in Background Deployment.
- **User Feedback**

The feedback form can be used to notify us of feature requests or software bugs. Please include as much detail as possible in bug reports including what you were doing, how the application reacted and anything else that you think might be relevant.
- **Program Version**

The Program Version section shows you what version of Background Deployment you are running and allows you to shut off the upgrade check at program startup. You can also do a manual upgrade check here.

The screenshot shows a "Feedback Form" dialog box titled "Report Feedback". The text inside reads:

You have either chosen to send feedback to VoIP Integration about this product or you have encountered a serious error that is keeping this application from continuing.

You can help make this application better by telling us your ideas for features and functionality or by telling us what you were doing at the time of the error.

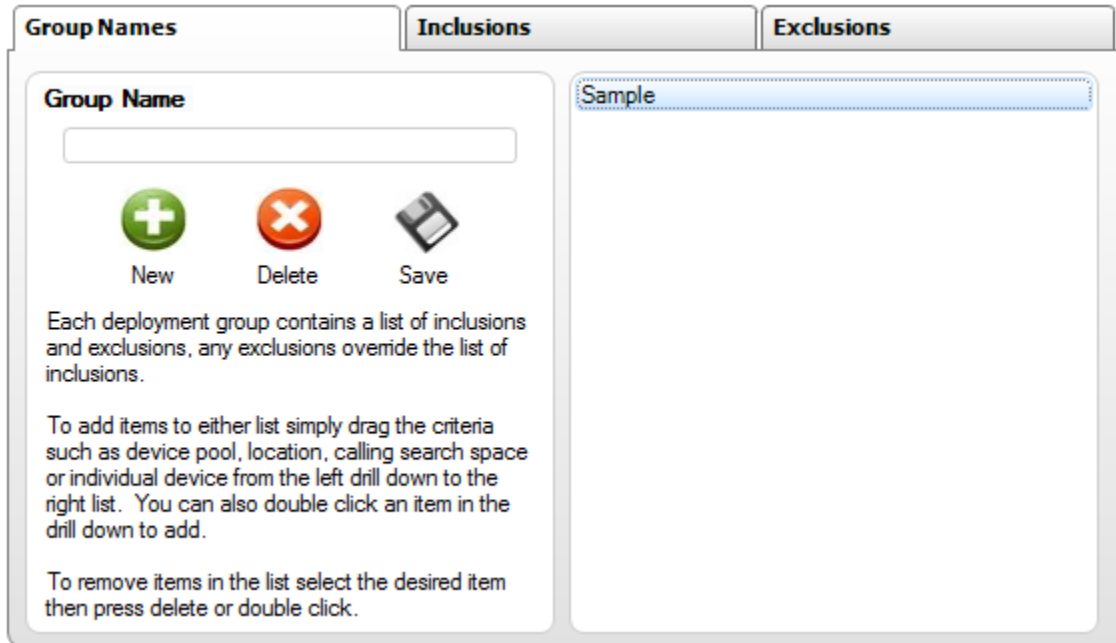
Please include as much information as you think might be relevant to the problem experienced or feature desired.

At the bottom left is the "VoIP INTEGRATION" logo, and at the bottom right are "Send" and "Cancel" buttons.

Device Groups

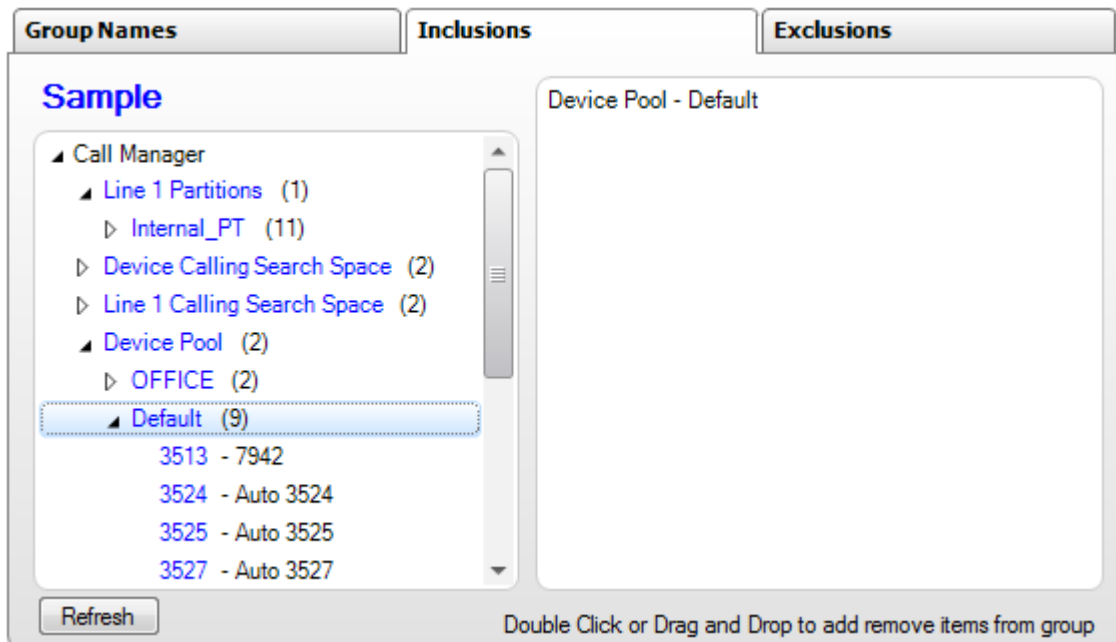
Groups

Background Deployment allows you to create specific groups of phones to deploy images to by grouping phones by several criteria. To start categorizing your phones you need to add a group.



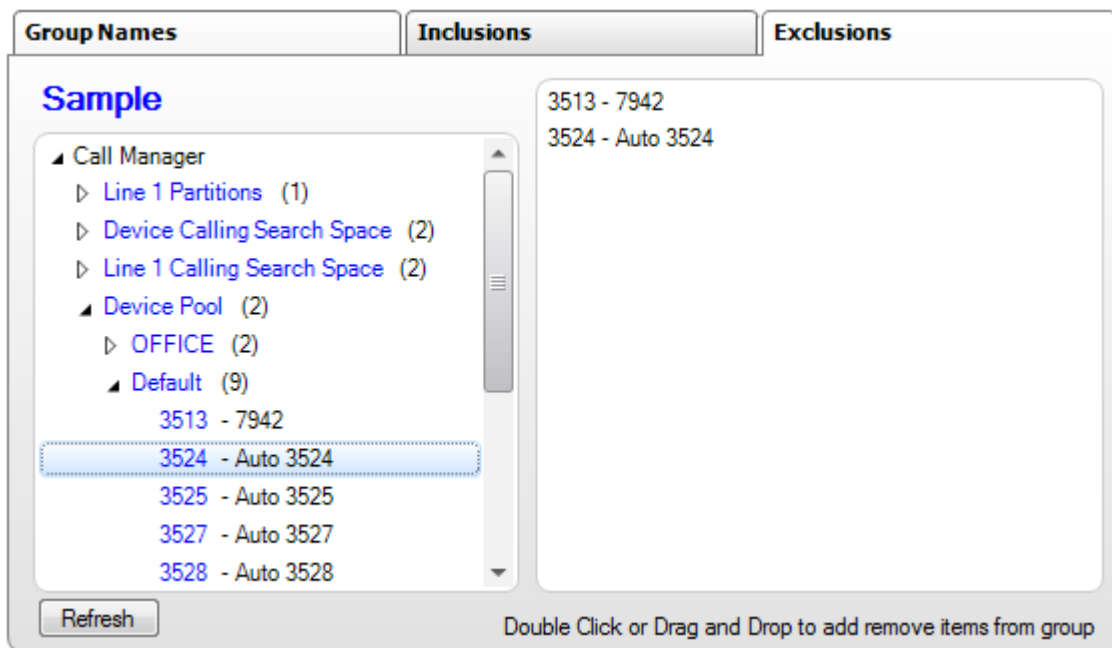
Inclusions

The Inclusions tab is where you add rules that will include phones into the group. Use the Call Manager tree on the left to drill down and add the rules that encompass all of the phones you want to deploy to in a single group. To add rules either double click on the rule or drag it into the list on the right. To remove a rule that has been added simply double click the item or select the item and press the delete key.



Exclusions

The Exclusions tab is where you add rules that will exclude phones from the group of inclusions that have been configured. This gives you the ability to add an entire device pool and exclude an individual device instead of trying to add all of the phones individually. To add rules either double click on the rule or drag it into the list on the right.



Refresh

A refresh button is found on the inclusion and exclusion tabs. The refresh button will poll the cluster to update the devices in the lists.

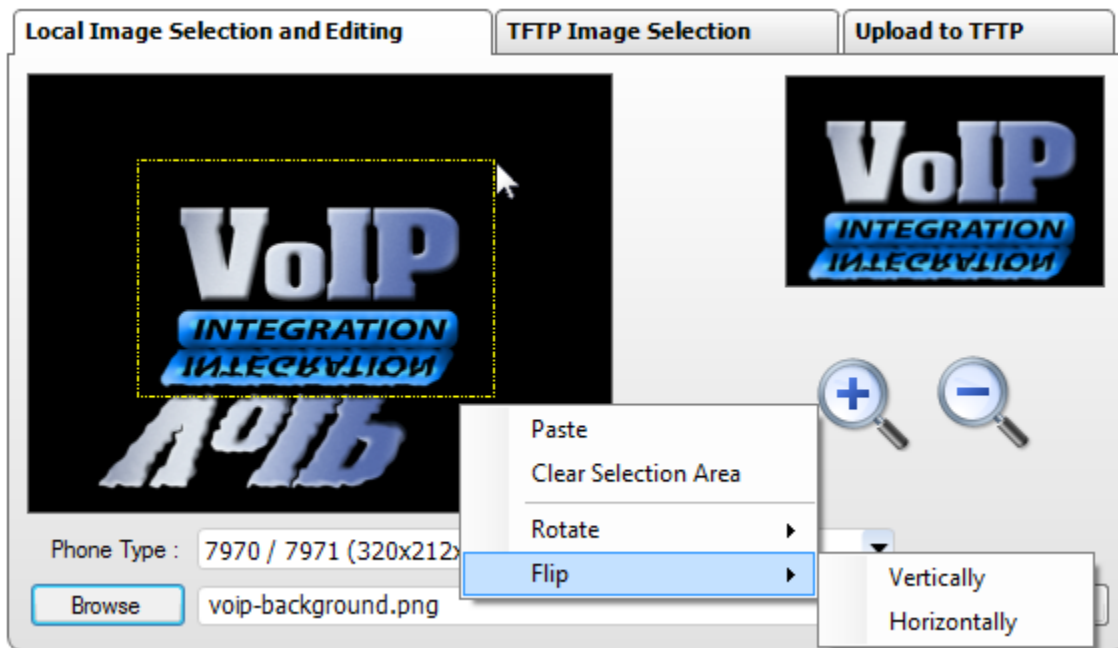
Image Selection and Editing

Background Deployment has two methods of selecting an image to deploy to the phones. You can select an image from your local PC/network location or you can select an image from the TFTP sever on the Call Manger Cluster.

Local Image Selection and Editing

The Local Image Selection and Editing tab allows you to browse for an image on your local PC or network location and edit the selection area of the image to deploy out to the phones.

If the image is not perfect you can use the mouse to select an area to use as a selection to deploy to the phone. The upper right hand corner displays an example of the exact image that will display on the devices that will be deployed to. If you selected the wrong area you can zoom in or out or move the selection area to suit your needs.



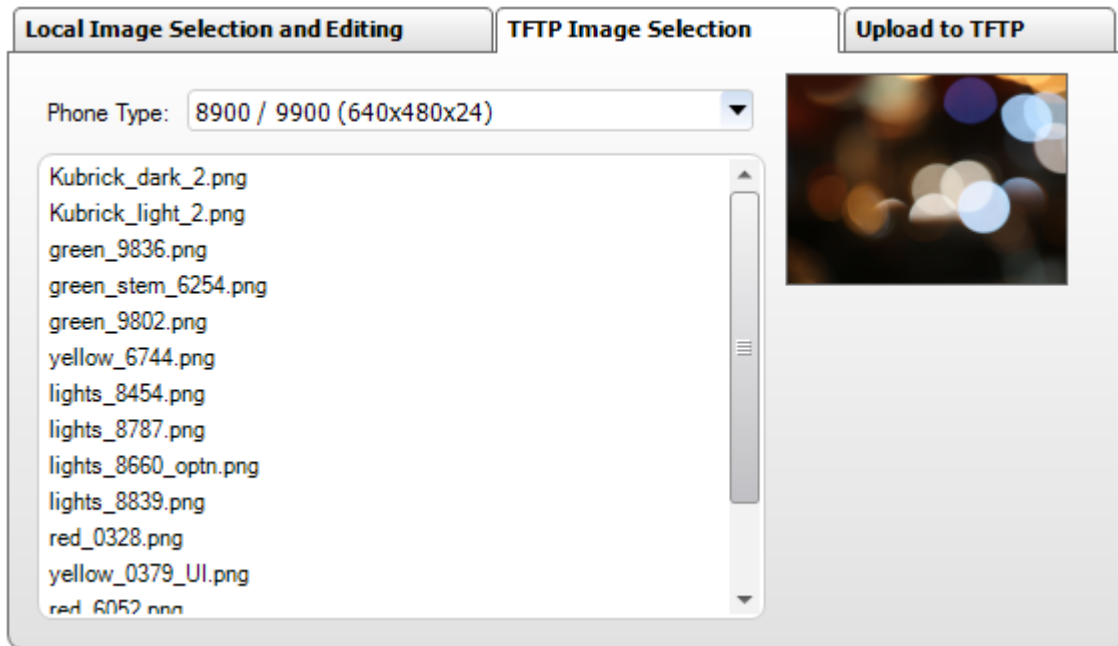
By clicking outside of the selection area you can clear the selection. By right clicking on the picture you can flip or rotate the image if necessary.

Image files can also be dragged and dropped directly from the desktop or from web browsers directly onto the source image location.

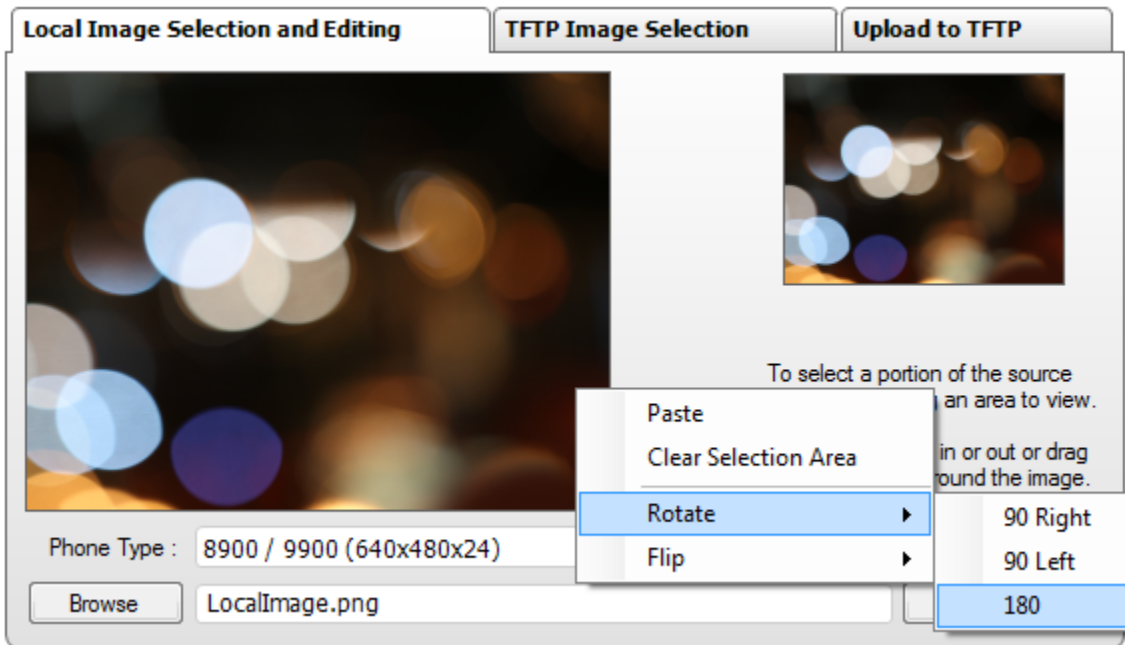
Images can also be copied and pasted directly into Background Deployment.

TFTP Image Selection

The TFTP Image Selection tab allows you to select an image that is located on the TFTP server. First select the phone type and then select the image to deploy out to the phones.



After selecting the image from the TFTP server you can also choose to edit the image and deploy out the image using the personalization method.



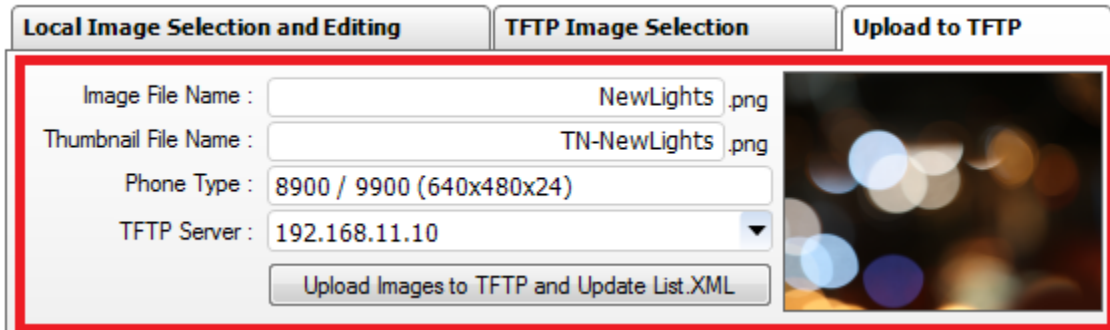
You can also upload the edited image to the TFTP server for the key press option.

Upload to TFTP

Upload

Background Deployment can upload your images directly to the TFTP server and add the required configuration to the List.xml file so that users can select the images manually or allowing you to use the key press option.

After selecting and editing an image you will need to choose a file name for the full size image and the thumbnail image to be uploaded to the TFTP server. The images can be uploaded to any server in the cluster but should be uploaded to every server that is configured as TFTP sources for your phones.

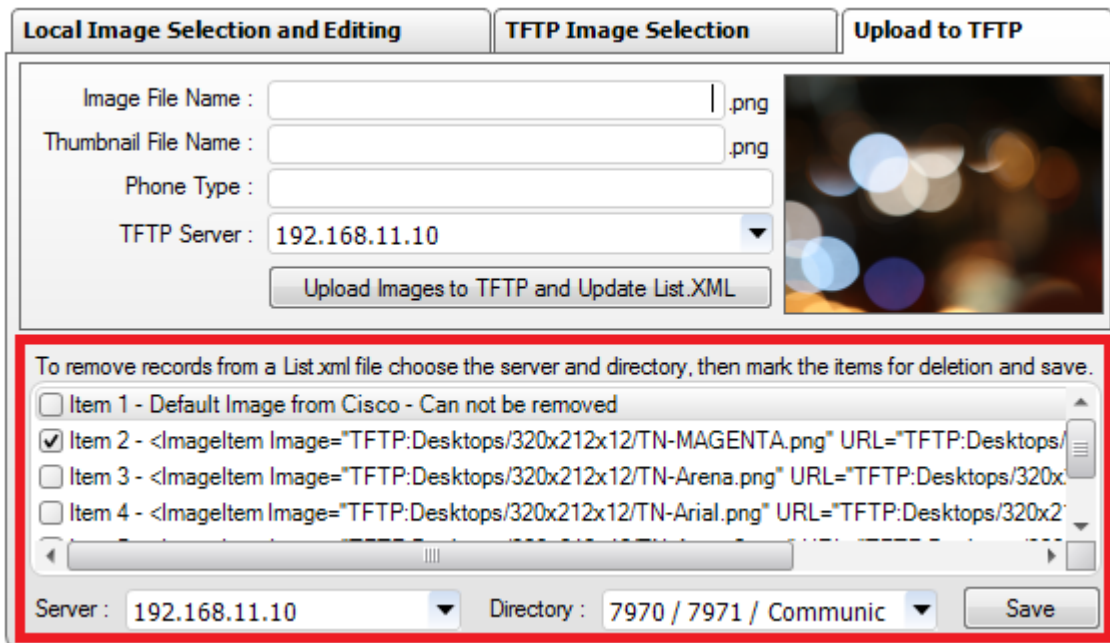


The screenshot shows the 'Upload to TFTP' tab in a software interface. It contains the following fields and elements:

- Image File Name :** Text input field containing 'NewLights.png'
- Thumbnail File Name :** Text input field containing 'TN-NewLights.png'
- Phone Type :** Text input field containing '8900 / 9900 (640x480x24)'
- TFTP Server :** Dropdown menu showing '192.168.11.10'
- Upload Images to TFTP and Update List.XML** button
- Image Preview:** A small image showing a bokeh effect of light circles.

Edit List XML

Items may be removed from the List.xml file for each TFTP Directory. To remove one or more records from a List file select the TFTP server and Directory to download the file. Once the file contents have been displayed select the records for deletion and then click save.



The screenshot shows the 'Edit List XML' tab in the software interface. It contains the following fields and elements:

- Image File Name :** Text input field with a cursor, followed by '.png'
- Thumbnail File Name :** Text input field followed by '.png'
- Phone Type :** Text input field
- TFTP Server :** Dropdown menu showing '192.168.11.10'
- Upload Images to TFTP and Update List.XML** button
- Image Preview:** A small image showing a bokeh effect of light circles.
- Instructions:** 'To remove records from a List.xml file choose the server and directory, then mark the items for deletion and save.'
- Item List:** A list of items with checkboxes for selection:
 - Item 1 - Default Image from Cisco - Can not be removed
 - Item 2 - <ImageItem Image="TFTP:Desktops/320x212x12/TN-MAGENTA.png" URL="TFTP:Desktops/320x212x12/TN-MAGENTA.png" />
 - Item 3 - <ImageItem Image="TFTP:Desktops/320x212x12/TN-Arena.png" URL="TFTP:Desktops/320x212x12/TN-Arena.png" />
 - Item 4 - <ImageItem Image="TFTP:Desktops/320x212x12/TN-Arial.png" URL="TFTP:Desktops/320x212x12/TN-Arial.png" />
- Server :** Dropdown menu showing '192.168.11.10'
- Directory :** Dropdown menu showing '7970 / 7971 / Communic'
- Save** button


You will need to restart each TFTP server that has any file uploaded or edited before the changes will take effect on the server.

Deploy Backgrounds


To deploy an image to a group of phones you need populate all of the fields on the deployment page. These fields will determine the method of deployment, image and phones that will be used in the process. The Cluster Name, Phone Type, and Image Name are populated from selections made in different areas of the software.

Once a Phone Type and Deployment Group have been chosen the number of devices that match the selected criteria will be displayed under the sample deployment image.

Local Image Deployment Configuration

Cluster Name :	<input type="text" value="VoIP Integration"/>	 Phones Matching Criteria : 1
Deployment Method :	<input type="text" value="Local Image (Personalization)"/>	
Phone Type :	<input type="text" value="8900 / 9900 (640x480x24)"/>	
Image Name :	<input type="text" value="LocalImage.png"/>	
Deployment Group :	<input type="text" value="Sample"/>	
Source IP (Needed for Personalization) :	<input type="text" value="192.168.10.103"/>	
Source Port (Needed for Personalization) :	<input type="text" value="80"/>	
Deploy Backgrounds		

Call Manager Image Deployment Configuration

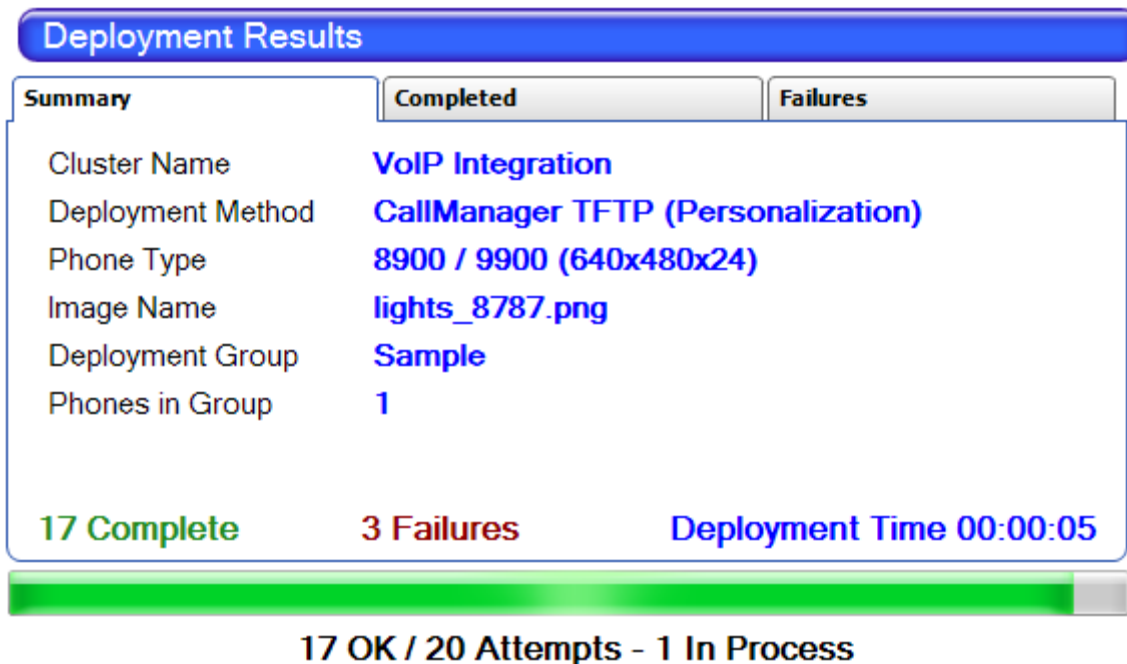
Cluster Name :	<input type="text" value="VoIP Integration"/>	 Phones Matching Criteria : 1
Deployment Method :	<input type="text" value="CallManager TFTP (Personalization)"/> <input type="text" value="CallManager TFTP (Key Press)"/>	
Phone Type :	<input type="text" value="8900 / 9900 (640x480x24)"/>	
Image Name :	<input type="text" value="lights_8787.png"/>	
Deployment Group :	<input type="text" value="Sample"/>	
Source IP (Needed for Personalization) :	<input type="text" value="192.168.10.103"/>	
Source Port (Needed for Personalization) :	<input type="text" value="80"/>	
Complete		
Deploy Backgrounds		

Results

The results tab displays information from the last or current deployment.

Summary

The Summary page shows the overall statistics of the deployment in progress or that has just completed.



Completed

The Completed page displays the devices that reported to have successfully updated their background image.

The image shows a 'Completed' tab in a results window. It contains a table with two columns: 'Name' and 'IP Address'. The table lists 10 devices that have successfully updated their background image.

Name	IP Address
SEP001E13E5F0...	10.10.101.200
SEP001E13E5F2...	10.10.101.36
SEP001E13AFB...	10.10.101.136
SEP001E13E5F3...	10.10.101.118
SEP001E13AFF...	10.11.101.78
SEP0023331AF1...	10.10.101.60
SEP001E13E606...	10.10.101.172
SEP0023331AEF...	10.10.101.182
SEP001E9EAC1	10.11.101.34

Failures

The Failure page displays the devices that Background Deployment was unable to update the background image. The list will contain the device name, the device IP address if we were able to determine it and the reason for the failure.

	Summary	Completed	Failures
	Name	IP Address	Message
▶	SEP001DA2B73...		Unregistered
	SEP001F9EADC...	10.11.101.38	Personalization is disabled
	SEP0021D8B92...	10.11.101.84	Personalization is disabled
	SEP002155551E...	10.11.101.60	Timeout Connecting to Phone : 10.11.101.60

Appendix A: Call Manager Pre Requisite Configuration

AXL Service

For Background Deployment to function with Call Manager you will need to ensure you have the AXL service active and running on your server and will need.

To Validate you have the AXL service running:

- Use a web browser to access the Call Manager Serviceability web page.
- <https://<Call Manager>/ccmservice>
- Select the **Tools > Service Activation** menu
- Under the Database and Admin Section
- Ensure that the Cisco AXL Web Service is activated. If not, click the checkbox and then click the save button at the top of the page.
- Select **Tools > Control Center - Feature Services** menu
- Ensure that the Cisco AXL Web Service is running. If not, click the radio button and then click the start service button at the top of the page.

Service Activation

Database and Admin Services		
	Service Name	Activation Status
<input checked="" type="checkbox"/>	Cisco AXL Web Service	Activated
<input type="checkbox"/>	Cisco UXL Web Service	Activated
<input type="checkbox"/>	Cisco Bulk Provisioning Service	Activated
<input type="checkbox"/>	Cisco TAPS Service	Deactivated

Control Center – Feature Services

Database and Admin Services					
	Service Name	Status	Activation Status	Start Time	Up Time
<input type="radio"/>	Cisco AXL Web Service	Started	Activated	Mon Feb 15 13:38:55 2010	20 days 20:56:57
<input type="radio"/>	Cisco UXL Web Service	Started	Activated	Mon Feb 15 13:38:55 2010	20 days 20:56:57
<input type="radio"/>	Cisco Bulk Provisioning Service	Started	Activated	Mon Feb 15 13:37:17 2010	20 days 20:58:35
<input type="radio"/>	Cisco TAPS Service	Not Running	Deactivated		

AXL User

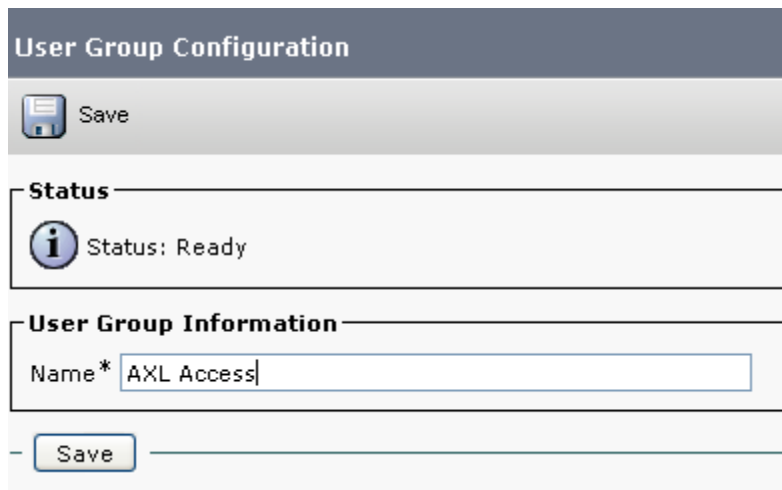
You may choose to use a Call Manager administrator username and password with Background Deployment or assign the required permissions to new or existing users.

Any user who has the group membership of **Standard CCM Super Users** will be able to use Background Deployment to search and control phones without adding the following process.

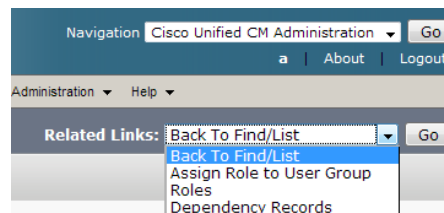
If you choose to add a user new group for permissions and want to restrict permissions to the minimum required. You will need to work through the following process. This new group can then be added to new or existing end users in Call Manager.

From within Call Manager Administration

- Select User Management
- Select User Groups
- Click Add New



- Enter a Group Name such as (AXL Access)
- Click Save
- Select the Assign Role to User Group from the related links



- Click Assign Role to Group button
- Add the following Role

Standard AXL API Access

Status
i Status: Ready

User Group Information
 Name* AXL Access

Role Assignment

Role	Standard AXL API Access	<input type="button" value="Assign Role to Group"/>
		<input type="button" value="Delete Role Assignment"/>

- Click Save

Now find your user in Call Manager Administration, User Management, End Users and add the group created above and the Standard CCM Admin Users group. This will allow the user to access the AXL service but no access to any of the Call Manager Admin web pages

Permissions Information

Groups	AXL Access Standard CCM Admin Users	<input type="button" value="Add to User Group"/>
		<input type="button" value="Remove from User Group"/>
	View Details	
Roles	Standard AXL API Access Standard CCM Admin Users Standard CUREporting	
	View Details	

- Click Save.

Using Background Deployment with Call Manager 8 and above

Call Manager 8 introduced the ability to connect to the phone using https on secure phones.

The Authorization URL (found under system -> Enterprise Parameters) should be reachable from the phone.

If you have any https setting in the **Secure Authentication URL** field, the phone will use this over the **URL Authentication** setting.

If the phone is not configured for CAPF (Certification Authority Proxy Function) then the phone will fail when attempting to access the configured HTTPS Authentication URL.

If not using encryption within your cluster then it is recommended to clear out the default setting under System -> Enterprise Parameters -> Secured Phone Parameters.

Phone URL Parameters	
URL Authentication	<input type="text" value="http://192.168.10.70:8080/ccmciip/authenticate.jsp"/>
URL Directories	<input type="text" value="http://192.168.10.70:8080/ccmciip/xmldirectory.jsp"/>
URL Idle	<input type="text"/>
URL Idle Time	<input type="text" value="0"/> 0
URL Information	<input type="text" value="http://192.168.10.70:8080/ccmciip/GetTelecasterHelpText"/>
URL Messages	<input type="text"/>
IP Phone Proxy Address	<input type="text"/>
URL Services	<input type="text" value="http://192.168.10.70:8080/ccmciip/getservicesmenu.jsp"/>

Secured Phone URL Parameters	
Secured Authentication URL	<input type="text"/>
Secured Directory URL	<input type="text"/>
Secured Idle URL	<input type="text"/>
Secured Information URL	<input type="text"/>
Secured Messages URL	<input type="text"/>
Secured Services URL	<input type="text"/>