



CCNA

Converged Communication Network Applications Pty Ltd

CCNA “Communication Framework”

“Patent Pending” - Australian Patent Application No. [2009904883](#)

Installation and Configuration Guide

Version 1.7

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This guide is frequently updated to reflect enhancements in the product. The latest version can always be downloaded from <http://ccna.com.au> website. This guide is prepared for Communication Framework Version 10

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Introduction

Congratulations and thank you for downloading CCNA's "Communication Framework" Suite of Applications. Communication Framework is a suite of simple yet powerful desktop Unified Communication Applications which enable you and your users the ability to Click 2 Communicate (Dial, Conference, Video* & SMS*) from their desktop environment to individuals both internal and external of your organisation.

* Functionality is specific to vendor PBX and version.

Communication Framework Suite of Applications includes:

- CF Client
- CF Console - TBA
- CF Companion Tools - A series of business tools to enhance the CF experience

* CF - Communication Framework




Supported applications of the Communication Framework Application include:

- Microsoft and IBM Email and productivity applications,
- Web browsers,
- Google applications,
- Instant Messaging Applications and more.

Communication Framework is simple to install and use. The following instructions will enable you to configure the application with instructions to demonstrate how to use the application.

Guidebook Conventions

To highlight the most important points – we have used a set of simple icons which draw attention to key information and settings

	The Check Icon indicates a setting that we recommend you use or enable.
	The information icon highlights important facts and information about Communication Framework, to help you make better use of the program
	The Hazard icon highlights areas where potential problems can arise, or mis-configurations occur, to help you avoid damage or loss of data.

Use the icons as a guide – they will highlight the most important areas of configuration and usage so that you get the best out of Communication Framework.

This document uses the following typographic convention: `C:\type.exe`

Used for text that must be typed exactly as shown **Username**

Used for items like menu options, or objects such as passwords and usernames



System Requirements

Please make sure that the environment on which you plan to deploy Communication framework meets the minimum system requirements for the program to run:

Operating System	Windows XP SP3 (32 bit), Vista SP1 & Windows 7, Mac 10 & Linux OS's
Internet Explorer	Version 6, or 8
Java Version	Version 1.6 or higher
Microsoft Active Directory	Windows Server 2003+,
Other Databases	SQL, LDAP, Excel, Access, ...

Nortel SCS 500	Version 3.0
Nortel SMC3455	Version 3.0
Nortel CS1K	Version 4.5+
Avaya Enablement Services	Version 3+
Avaya ACE	TBA
Cisco Unified Call Manager	Version 4.0+
Cisco CTI Server	TBA

PBX Hardware, Software & Licensing Requirements

PBX	Hardware &/or Software Requirements	Licensing for Outbound Communications	Licensing for Inbound Communications
Avaya & Nortel			
Communication Manager	AES 3+	TSAPI licensing are based on concurrent outbound calls	CMAPI licensing are based per user and is required for Advanced users requiring inbound caller intelligence and for Console Operators
CS1K	Ver 4.5+ Requires SIP Signalling Server	SIP CTI licensing are based on concurrent outbound calls. For advanced outbound you require the SIP CTI & TR87 Licensing	SIP CTI & TR87 (AST) licensing are based per user and is required for Advanced users requiring inbound caller intelligence and for Console Operators
SCS	Ver 3+	N/A	N/A
Cisco			
CUCM	Ver 4+	Web dialler (Free)	CTI Server licensing are based per user and is required for Advanced users requiring inbound caller



			intelligence and for Console Operators
--	--	--	--

User Interfaces / Features	Click to Communicate			Call Features				Advanced Features							User Features							
	Dial	SMS	Video	Hyperlink Calling	Conference	Hold / Un-hold	Release (Hang up)	Transfer	Line Appearances & Info	Login & Out	Directory Search	Advanced Directory Search	Inbound Caller Notification	Inbound Caller Intelligence	Information Sharing	Application Aggregation (e.g. Skype)	Application Linkage (e.g Presence Status)	Single Sign On & Extension Mobility	Import Contacts	GUI Transparency	Prebuilt GUI Skin	CF Client Gadgets
CF Client (Web service Integration)	X		X	X	X	X	X	X		X					X	X		X	X	X	X	
CF Client (CTI Integration)	X	X	X	X	X	X	X			X		X	X	X	X	X	X	X	X	X	X	X
CF Console	X	X		X		X	X	X	X	X	X	X	X	X		X	X				X	X
Avaya - TSAPI	X	X	X	X	X		X	X		X	X				X	X		X	X	X	X	
Avaya - CMAPI (CTI)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	
Cisco - Web Dialer	X	X	X	X			X			X	X				X	X	X	X	X	X	X	
Cisco - CTI Server	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Nortel - SCS (SIP)	X	X	X	X			X			X	X		X	X	X	X		X	X	X	X	
Nortel - CS1K SIP CTI	X	X	X	X	X		X	X		X	X				X	X		X	X	X	X	
Nortel - CS1K TR87 & AST, CTI or ACE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	



Installation Pre-Requisites

Prior to installing Communication framework, ensure you have the following:

1. Latest version of Communication Framework Application for your organisation. Download from www.ccna.com.au
2. Access to the internet for Communication Framework Application Registration and Activation
3. A Registration key (Your administrator or Sales Partner shall provide)
4. Configuration settings.
 - a. Manual Settings (Your administrator shall provide)
 - b. Configuration File (You need to load to the application directory once installed)
5. Database and Communication Systems have been configured (Your administrator shall complete)
6. Java Runtime engine version 1.6 or higher on the PC



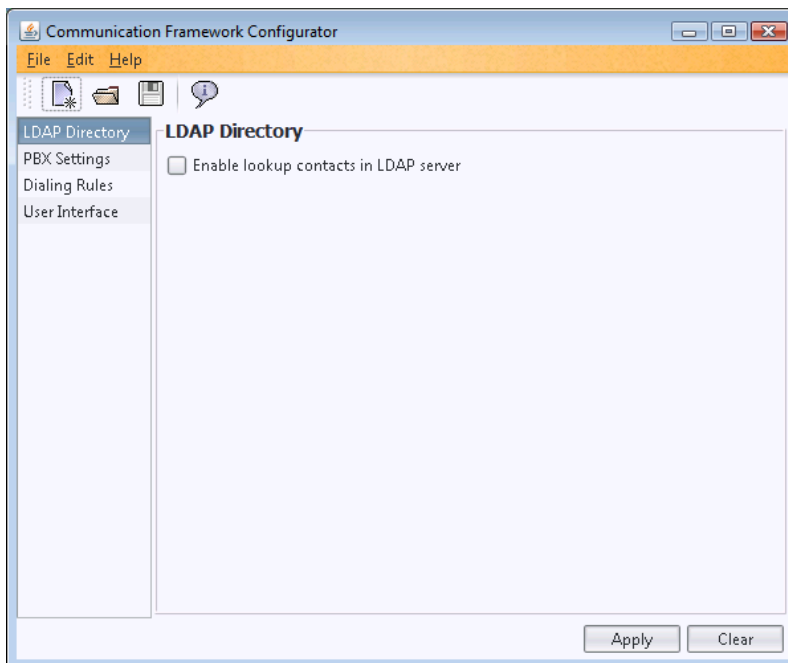
Section 1: Configuration

Installation and Configuration of Communication Framework Applications are quick and easy.

The first stage of Communication Framework Applications deployment is to create a Config file. This is performed via the Configurator Tool for:

1. CF Client &
2. CF Console

Start the Configurator Tool and the following screen shall appear to configure the various elements and systems, Communication Framework interfaces too.

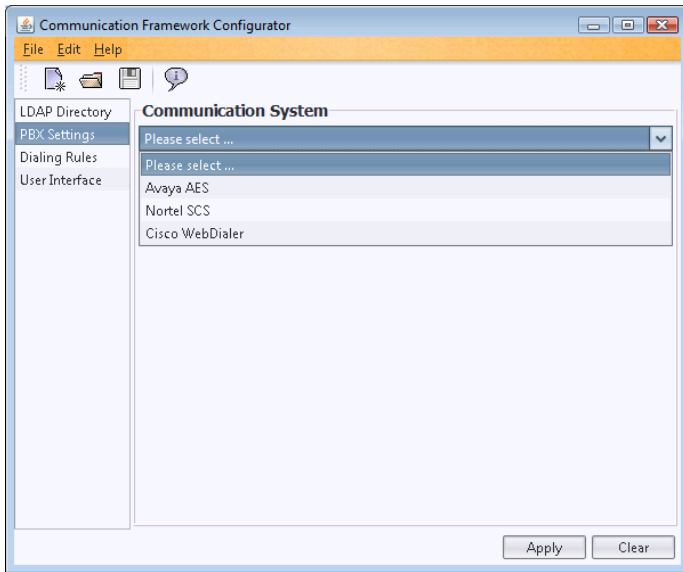


*PBX Settings and Dialing Rules are mandatory for successful user operation.
Configuration of the other elements are required for complete functionality of the
Communication Framework Applications*

1. PBX configuration

The first configuration step is to select the PBX vendor and or CTI server you shall be interfacing to for inbound and outbound communication services.

Communication Framework operates with Avaya, Cisco and Nortel Systems.

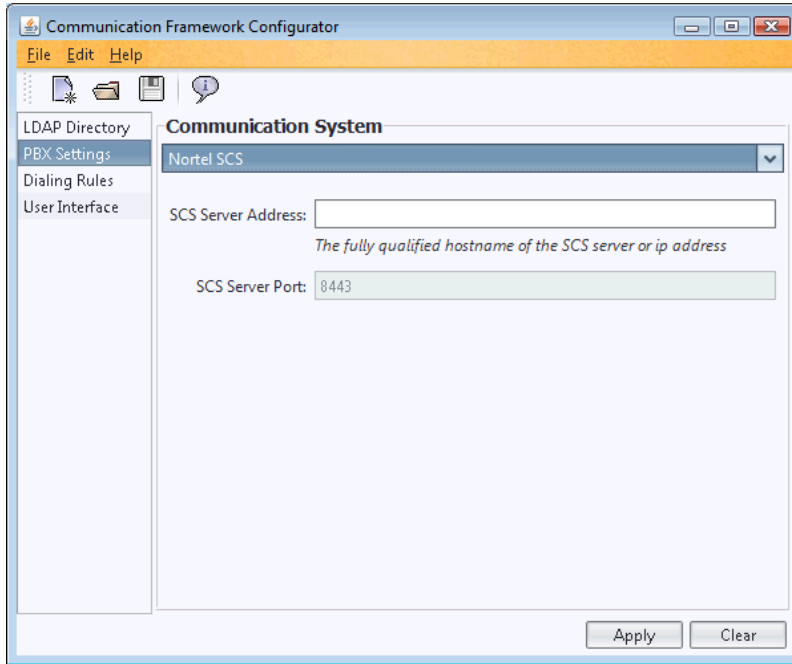




Nortel SCS PBX Configuration

Select Nortel SCS 500 to initiate the call from your desk phone or soft-phone. This is only available to Nortel SCS 500 3.0 above.

- ✧ Enter the *IP address* or the *FQDN* of the Nortel SCS 500 server
- ✧ Enter the *SCS Server Port Number*. Default Port number has been predefined



Select Apply to Save the settings



Avaya ACM PBX Configuration

Integration with Avaya ACM is via the AES server version 3 or higher. The integration mode is either via TSAPI or CMAPI licensing within AES. The number of CTI licenses is based on the number of concurrent inbound and outbound communications requests and AES must be configured with a user for CF to connect to ACM

Select Avaya AES. You are requested to enter ALL the details below

- ✧ Enter the *IP address* of the AES Server
- ✧ Enter the *AES Server Port Number*
- ✧ Enter *Username and Password* – Used for the Communication Framework Application to send and receive information from the AES Server
- ✧ *Connection Group Name* – Name of the CM system you are connecting too

The screenshot shows the 'Communication Framework Configurator' application window. The title bar reads 'Communication Framework Configurator'. The menu bar includes 'File', 'Edit', and 'Help'. Below the menu bar is a toolbar with icons for file operations and help. On the left side, there is a navigation pane with the following items: 'LDAP Directory', 'PBX Settings', 'Dialing Rules', and 'User Interface'. The main area is titled 'Communication System' and has a dropdown menu currently set to 'Avaya AES'. Below this, there are five input fields: 'AES Server Address:', 'AES Server Port:', 'Username:', 'Password:', and 'Connection Group Name:'. At the bottom right of the window, there are two buttons: 'Apply' and 'Clear'.

AES User Setup

For CF to communicate to ACM, an AES user must be created. The diagram below shows the settings for the AES user.

1. Add New User



[OAM Home](#)

[User Management Home](#) You are here: > [User Management](#)

User Management

- [List All Users](#)
- [Add User](#)
- [Search Users](#)
- [Modify Default User](#)
- [Change User Password](#)
- Service Management**
- Help**

Welcome to User Management

User Management provides you with the following to

- List All Users
- Add User
- Search Users
- Modify Default User
- Change User Password

2. Configure User Details and Save Changes

User Details

User Id	cf
Avaya Role	None
CT User	Yes
Common Name	cf
Preferred Language	English
Surname	cf

User Details Summary

[Modify Default User](#)
[Change User Password](#)
Service Management
Help

* User Id

* Common Name

* Surname

New Password

Confirm New Password

Admin Note

Avaya Role

Business Category

Car License

CM Home

Css Home

CT User

Department Number

Display Name

Employee Number

Employee Type

Enterprise Handle

Given Name

Home Phone

Home Postal Address

Initials

Labeled URI

Mail

Detailed User Configuration Screen

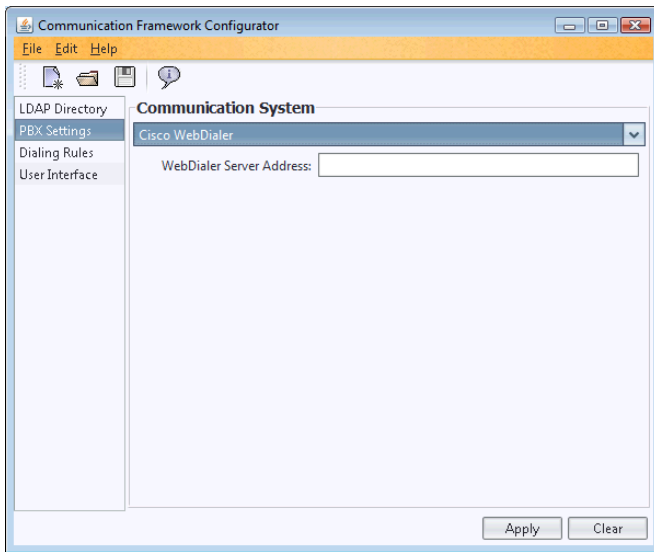


Cisco UCM PBX Configuration

Integration with Cisco UCM is via the WebDialer Web Service or CTI Server. The WebDialer connector is free. The CTI server requires per user licensing for integration to Communication Framework Applications. i.e. Communication Framework CF Console

Select Cisco WebDialer

- ✧ Enter the IP address of the Cisco UCM Server running the WebDialer Service



Click on the Apply button to save your configuration.

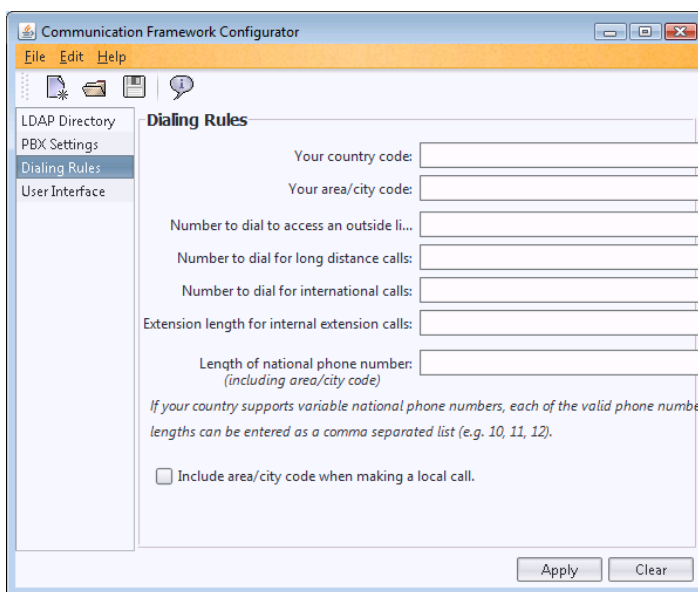
The Save button only save the setting in the selected tab, if you move to another tab, you need click on the Save button to save the setting.



3. Dialling Rules

Configuration of the Dialling Rules creates country and location specific dialling profiles for error free dialling. Communication Framework attempts to format numbers to a E.164 format which is passed to the PBX for dialling.

Number formatting is achieved by entering accurate information for ALL the fields below. Extension length for internal numbers is separated by a comma. E.g. 1, 4. This allows a user to type in a single digit for calling reception 4 digit internal extension dialling.



Click on the Apply button to save your configuration.

The Save button only save the setting in the selected tab, if you move to another tab, you need click on the Save button to save the setting.



4. LDAP Configuration

1. Directory configuration

The directory service is used by Communication Framework Applications to look up the details of a particular contact or phone number. Communication framework can be integrated into most directory or database servers.

A contact table must be created on the database, in order for the Communication framework Application to perform a search inside the database.

Integration with Active Directory on Windows Server 2003.

Integration with an AD is simple. All entries besides the filter are required to be input to allow integration between Communication Framework Applications and your corporate Directory server.

The following details shall assist you in configuring this section:

- ✧ IP address of the Server
- ✧ Server Port number
- ✧ Authentication method
 - If anonymous, no username or password is required to be entered, and the directory allows only read only permission to the directory server.
- ✧ Filter – Enter filters to remove users or hide information from the search results

The screenshot shows the 'Communication Framework Configurator' window with the 'LDAP Directory' tab selected. The window has a menu bar with 'File', 'Edit', and 'Help'. On the left, there is a sidebar with 'LDAP Directory', 'PBX Settings', 'Dialing Rules', and 'User Interface'. The main area is titled 'LDAP Directory' and contains the following fields and controls:

- Enable lookup contacts in LDAP server
- Server Address:
- Server Port:
- Authentication: (dropdown menu)
- Username:
- Password:
- Filter:
- Search Root:
- Timeout:
- Max Entries:

At the bottom right, there are 'Apply' and 'Clear' buttons.

Below are text based LDAP examples:



```

Example 1
# LDAP SETTING
LDAP_SERVER_ENABLED=true
LDAP_SERVER_ADDRESS=ldap.company.com
LDAP_SERVER_PORT=389
LDAP_TIMEOUT=5000
LDAP_MAX_ENTRIES=50
LDAP_USERNAME=
LDAP_PASSWORD=
LDAP_SEARCH_ROOT=ou=People,o=company.com
LDAP_SEARCH_FILTER=

```

```

Example 2
# LDAP setting
LDAP_SERVER_ENABLED=true
LDAP_SERVER_ADDRESS=169.xxx.xxx.xxx
LDAP_SERVER_PORT=389
LDAP_SERVER_AUTH=simple
LDAP_USERNAME=test
LDAP_PASSWORD=test
LDAP_TIMEOUT=5000
LDAP_MAX_ENTRIES=50
LDAP_SEARCH_ROOT=OU=Company,DC=ms,DC=Company,DC=
com,DC=au

```

Need to add more information about the search



Click on the Apply button to save your configuration.

The Save button only save the setting in the selected tab, if you move to another tab, you need click on the Save button to save the setting.

Test the directory configuration:

Click the **Test** button to test the connection between Communication Framework and Directory service. A pop-up message shall indicate if the connection was successful or not. If the test fails, please review your settings. Also request your administrator to ensure all the settings and components are installed successfully.

5. Active Directory Setup

The Communication framework queries the following attributes from the active directory server.

Attribute Name	Description
cn	CN=Guy Thomas. Actually, this LDAP attribute is made up from givenName joined to SN.
displayName	displayName = Guy Thomas. If you script this property, be sure you understand which field you are configuring. DisplayName can be confused with CN or description.
givenName	Firstname also called Christian name
sn	sn = Thomas. This would be referred to as last name or surname.
mail	An easy, but important attribute. A simple SMTP address is all that is required billyn@ourdom.com
telephoneNumber	Office Phone
mobile	Mobile Phone
ipPhone	IP Phone
homePhone	Home Phone



- It is recommended to put the phone number in [E164](#) format.

Communication framework is able to lookup contacts from selected databases. The following databases are supported:

- Microsoft SQL Server 2005 & MySql Server
- The following details are required for configuration.

Database Server IP	
Database Server Port	<i>Optional for SQL Server 2005</i>
Username	
Password	
Database	

Integration with SQL

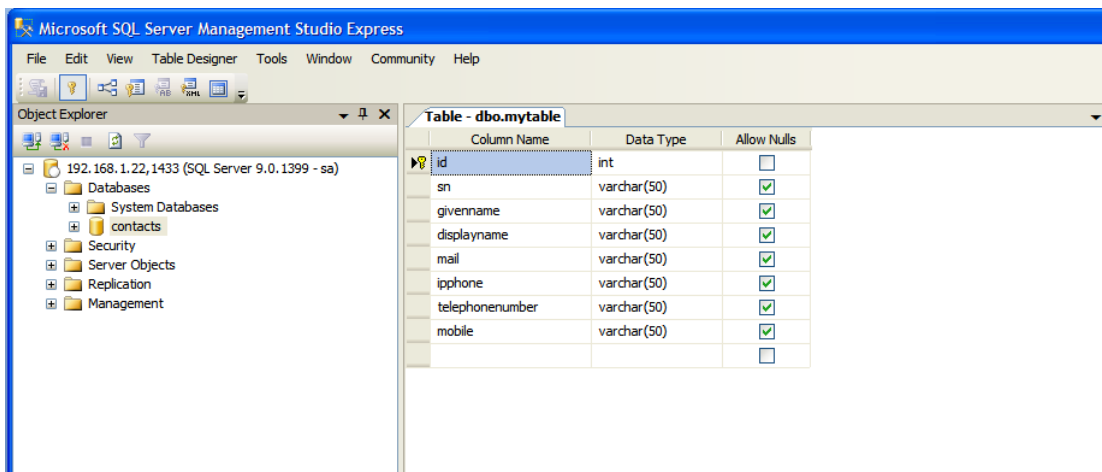
Setup the database contact table (only for Administrator)

- Create a database in Microsoft SQL Server 2005
- The table should includes following columns,

sn	givenname	displayname	mail	ipphone	telephonenumber	mobile
----	-----------	-------------	------	---------	-----------------	--------

- The name of the columns can be any name, the column mapping shall be correct in the Database Configuration.

The screenshot shows an example for Microsoft SQL Server.



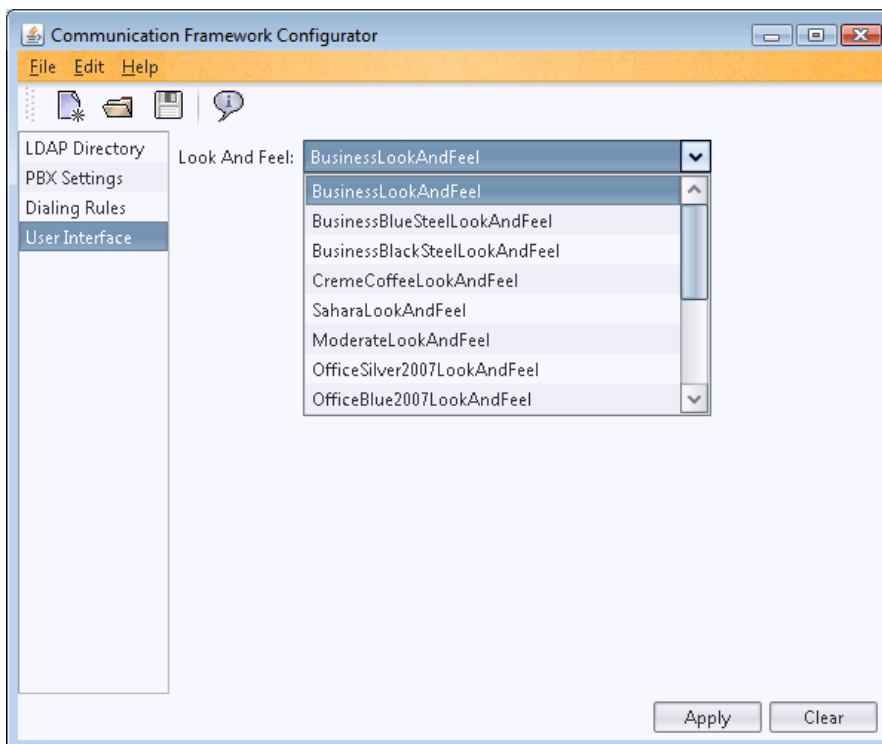
Database Information

The directory database MUST have accurate information to ensure error free searching, inbound and outbound communications, application sequencing and linkage. To check the database, perform the following for a AD Directory.



- Step 1:** Start the Active Directory Users and Computers administrative tool.
- Step 2:** Expand the domain that contains your users.
- Step 3:** Open the organizational unit (OU) that contains your users.
- Step 4:** Check the following details for all users:
- All users have valid email addresses.
 - All users are assigned to a group.
 - All the phone numbers for each user are in E.164 format, and can be correctly dialed within the context of your PBX configuration

6. User Interface





Section 2: Web Server or Standalone Installation

Installation Instructions

Installation is quick and easy. The administrator may provide you a file to execute or direct you to a website.

Step



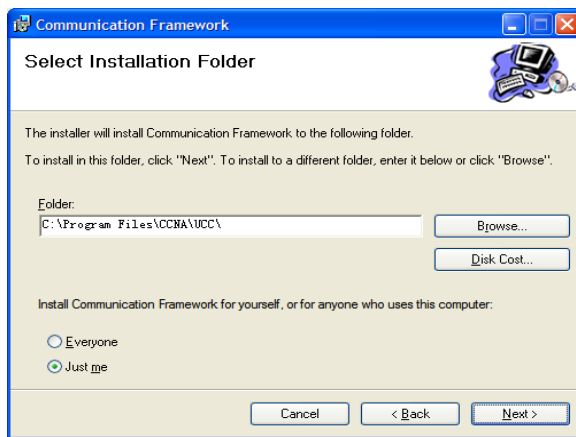
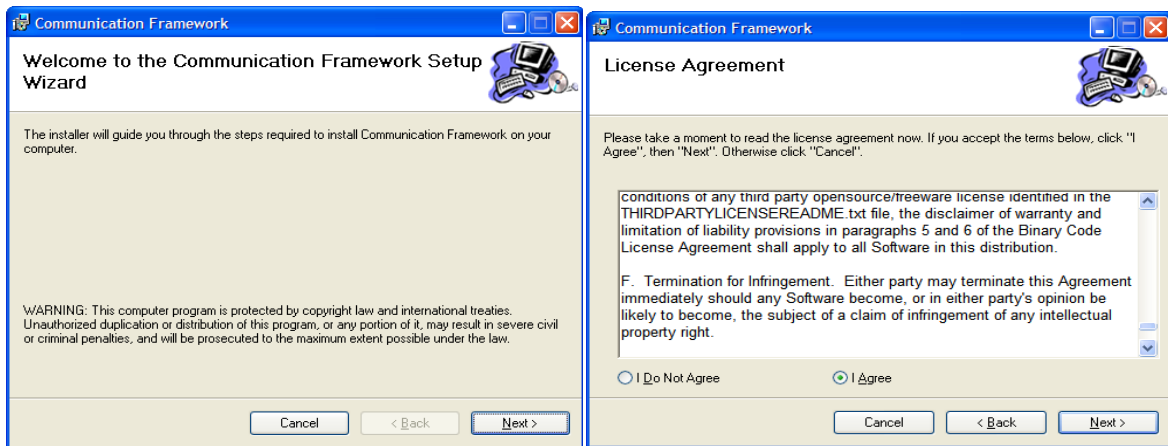
Section 3: End User Installation

Installation Instructions

Installation is quick and easy. The administrator may provide you a file to execute or direct you to a website.

Step 1: Click the link or double click on the setup.exe of Communication Framework Software Application

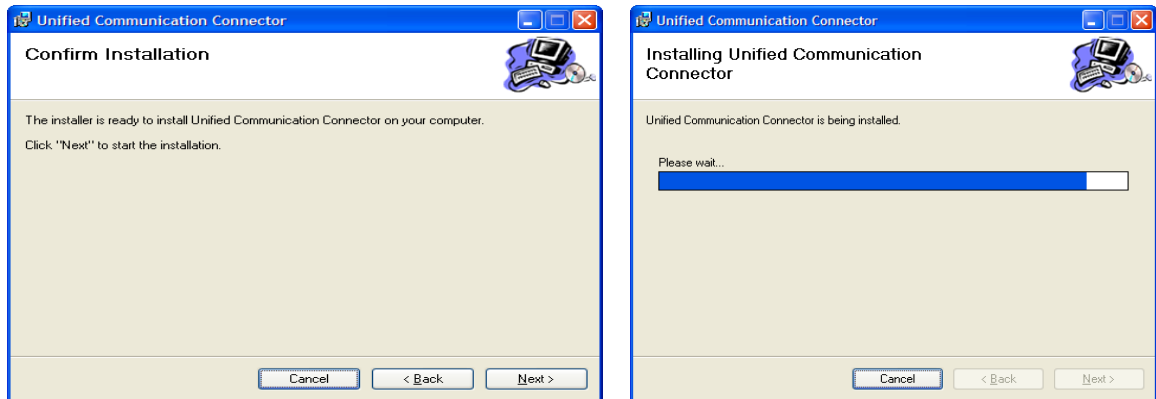
Step 2: Click on the **Next** button to select installation directory



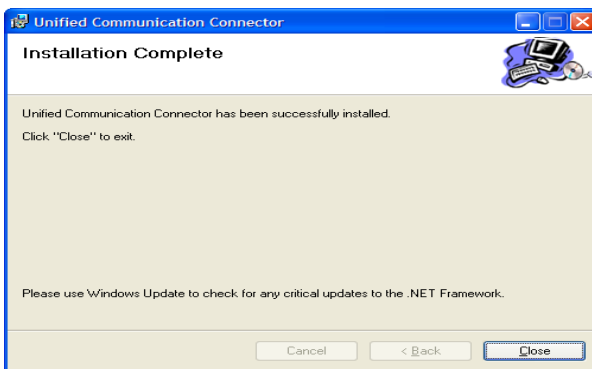
If you need to change the installation path from the default (not recommended) **“C:\Program Files\CCNA\UCC”**, click the **Browse** button to select a folder to install within.



Step 3: Click next to start installation



Step 4: Click on **Close** to exit upon successful installation.



To start the Communication Framework application, you need to

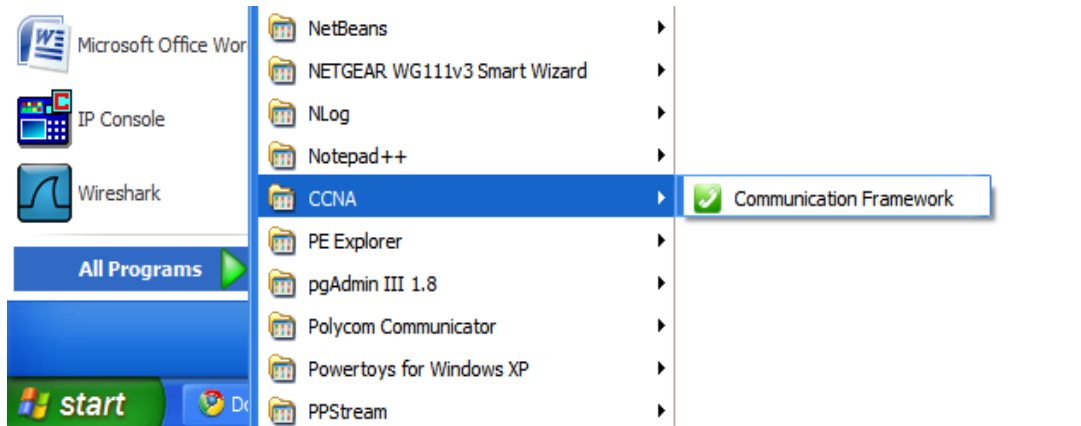
1. Register and Activate Communication Framework and then
2. Configure Communication Framework.

Registration and Activation of Communication Framework can be performed either by

- double clicking the Communication Framework Application ICON in your desktop or

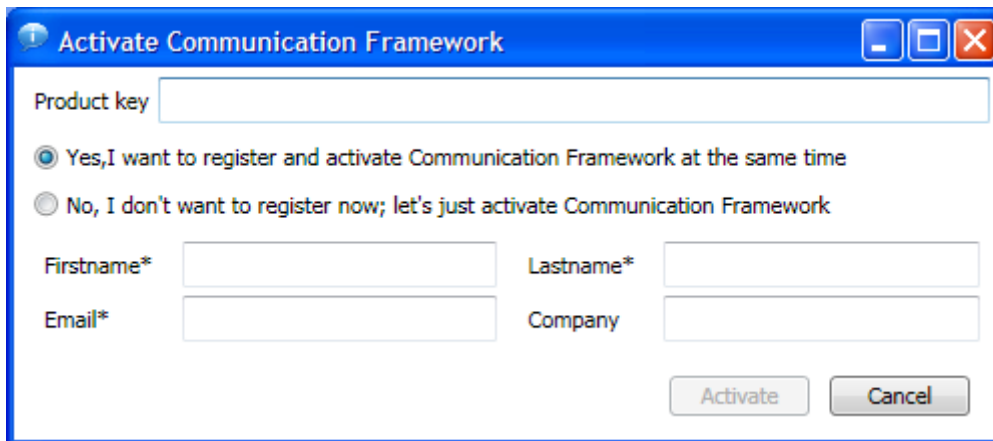


- navigating the start menu as such
 - Start → All Programs → CCNA → Communication Framework



Step 5: Activate your copy of Communication Framework.

- Your system administrator shall provide you the Communication Framework License key.
- Enter the License key, your name and email.



Your administrator or Sales partner shall provide the Product key.
The activation process requires Internet connections to complete.

Configuration

Configuration is automatic. The user may be asked to enter their

- Extension number or Login name based upon the PBX you are integrating to and
- Password

The extension number and or username and password should be the same as your phone login. Normally, the username is your extension.

If you wish to incorporate Communication Framework with your locally installed soft-phone application, the



path of softphone must be selected.

Select the **Browse** button and enter the location of the Softphone executable file. E.g. the softphone is located at C:\Program Files*vendor_name*\softphone_name*xxx.exe*

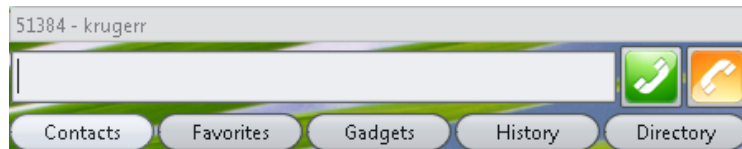
Inbound Caller Notification and Intelligence Setup

TBA



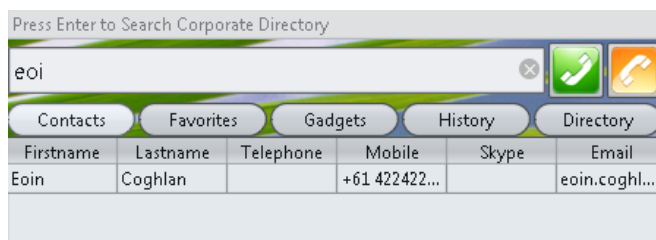
Section 4: Verify your installation and configuration

The Communication Framework Search Window should be displayed at the upper-right side of the desktop window.

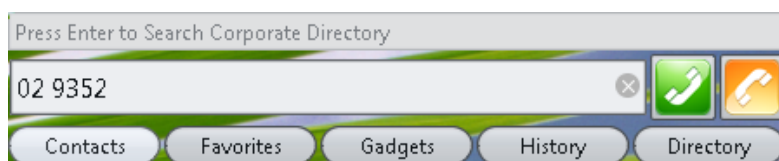


1. Initiate a call to someone by email

- Open your email application
- Select the sender's email address and right click or copy "Cntl C" their name. The Dial item should be appear in the context menu if your right mouse clicked.
- Either Click on the Dial button or if CF Client came to the foreground, search the users details, and click on the prefer number to dial the user. If the user is a corporate user, you require to hit the enter button, otherwise choose the contacts or favourites tab.

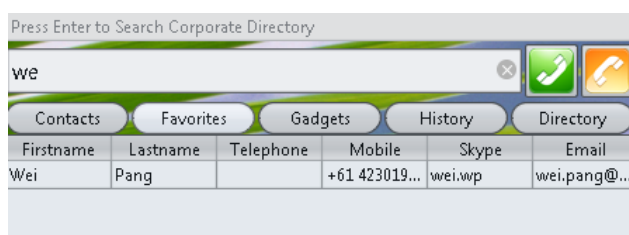


2. Make a call by manually key in the number



3. Make call from Favourites and History

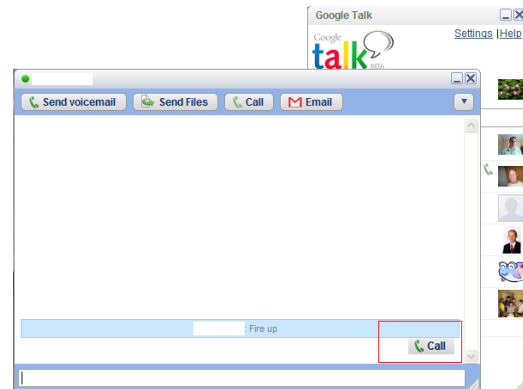
- Click on the Favourites or History button; a list of contacts will be displayed.
- Right click on the contact to Call.





4. Initiate a call from Google Talk

- If Google talk is installed on the Computer, you can initiate a call from Google talk (deskphone to deskphone).
- The name of the contact in Google talk must appear as the full name or the contact is using a unique avatar.



5. Shortcut key

- **Ctrl+C** to copy any text inside an application
- **Ctrl+Alt+D** to find a number to dial based on the text copied by **Ctrl+C**.