



# Cisco Unified CallConnector for Microsoft Dynamics CRM 3.0 Installation and Configuration Guide

May 2007

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## Preface

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This preface discusses the objectives, audience, and organization of this document. It also provides sources for obtaining documentation and technical assistance from Cisco Systems.

For information on Obtaining Documentation, Documentation Feedback, Cisco Product Security, Obtaining Technical Assistance, and Obtaining Additional Publications and Information, see the monthly What's New publication, which lists all new and revised Cisco technical documentation.

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## Documentation Objectives

This document describes the tasks and commands necessary to install and configure the Cisco Unified CallConnector for Microsoft Dynamics Customer Relations Management 3.0 (Cisco Unified CallConnector for Microsoft Dynamics CRM, formerly known as Cisco Unified CRM CallConnector) to integrate with Cisco Unified Communications Manager (formerly known as Cisco Unified CallManager), Cisco Unified Communications Manager Express (Cisco Unified CME, formerly known as Cisco Unified CallManager Express), and Cisco Unified IP Call Control Express (Cisco Unified IPCC Express).

## Audience

This document is intended primarily for Cisco Partners and Resellers who install and maintain the Cisco Unified CallConnector for Microsoft Dynamics CRM—developed by Cisco Systems with the support of Microsoft Corporation—to enable small- to medium-businesses (SMBs) and networked branch offices to deploy a more complete CRM solution by connecting Cisco Unified IP Communications with the Microsoft Business Solutions Customer Relationship Management (Microsoft CRM) application.

# Documentation Organization

This document includes the following sections:

**Table 1** *Document Organization*

Title	Description
<a href="#">Cisco Unified CallConnector for Microsoft Dynamics CRM 3.0 Overview</a>	Description of Cisco Unified CallConnector for Microsoft Dynamics CRM concepts. Includes hardware and software prerequisites.
<a href="#">Installing Cisco Unified CallConnector for Microsoft Dynamics CRM 3.0</a>	Step-by-step procedures to install the software required for the Cisco Unified CallConnector for Microsoft Dynamics CRM.
<a href="#">Configuring the IP Phone Service and XML Display Service</a>	Step-by-step procedures for configuring IP phone service and XML display service.
<a href="#">Integrating Cisco Unified CallConnector for Microsoft Dynamics CRM with Cisco Unified IPCC Express</a>	Step-by-step procedures for integrating Cisco Unified CallConnector for Microsoft Dynamics CRM with Cisco Unified IPCC Express.
<a href="#">Using the Cisco Unified CallConnector for Microsoft Dynamics CRM Client</a>	Description of how to use the Cisco Unified CallConnector for Microsoft Dynamics CRM Client.
<a href="#">Appendix A: Troubleshooting Tips</a>	Troubleshooting tips for the Cisco Unified CallConnector for Microsoft Dynamics CRM.

# Additional References

## Related Documents

Related Topic	Document Title or URL
Cisco Unified Communications Manager	Cisco Unified Communications Manager technical documentation
Cisco Unified Communications Manager Express	Cisco Unified Communications Manager Express technical documentation
Cisco Unified CCC 2.1	<a href="#">Cisco Unified CRM Communications Connector 2.1</a>
Cisco Unified IPCC Express	<a href="#">Cisco Unified IPCC Express technical documentation</a>
Cisco IOS voice features	See the entire Cisco IOS Voice Configuration Library—including library preface and glossary, feature documents, and troubleshooting information—at <a href="http://www.cisco.com/en/US/products/ps6441/prod_configuration_guide/09186a0080565f8a.html">http://www.cisco.com/en/US/products/ps6441/prod_configuration_guide/09186a0080565f8a.html</a>

## Related Websites

Related Topic	URL
Cisco and Microsoft Website	<a href="http://www.ciscomicrosoftsmb.com">http://www.ciscomicrosoftsmb.com</a>
Cisco Unified Contact Center Express	<a href="http://www.cisco.com/en/US/products/sw/custcosw/ps1846/index.html">http://www.cisco.com/en/US/products/sw/custcosw/ps1846/index.html</a>

## Related Support Aliases

Related Topic	Alias
For assistance for Cisco Unified IPCC Express	<a href="mailto:Ask-icd-ivr-support@external.cisco.com">Ask-icd-ivr-support@external.cisco.com</a>
For assistance for configuring and using Cisco Agent Desktop	<a href="mailto:Ask-cad@external.cisco.com">Ask-cad@external.cisco.com</a>
For product plans and marketing information	<a href="mailto:Ask-icd-ivr-pm@external.cisco.com">Ask-icd-ivr-pm@external.cisco.com</a>

## MIBs

MIBs	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: <a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a>

## Technical Assistance

Description	Link
The Cisco Technical Support & Documentation website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	<a href="http://www.cisco.com/techsupport">http://www.cisco.com/techsupport</a>





## Cisco Unified CallConnector for Microsoft Dynamics CRM 3.0 Overview

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Cisco Unified CallConnector for Microsoft Dynamics CRM 3.0 (formerly known as Cisco Unified CRM Connector) integrates Cisco Unified IP Communications with the Microsoft Business Solutions CRM 3.0 (Microsoft CRM). It allows small and medium-sized businesses (SMBs) and Enterprise businesses to integrate Cisco Unified IP Communications solutions with Microsoft CRM at the desktop, without additional hardware. The Microsoft client uses Microsoft Outlook or Internet Explorer as the primary client for managing tasks and contacts.

Cisco Unified CallConnector for Microsoft Dynamics CRM 3.0 is a client/server-based application that supports the following primary features in Cisco IP Telephony environments using Microsoft CRM:

- Automatic detection and screen-pop searches of the Microsoft CRM database for both incoming and outgoing phone calls
- Automatic creation of phone call activity records for incoming and outgoing calls with call duration tracking
- Click-to-dial from the Microsoft CRM user interface
- Multisite configuration capabilities with geographically correct dialing configurations per user
- Easily pop associated Microsoft CRM Customer Services cases
- A search system that allows searches by name and access to contact records and associated support cases
- Integration with Cisco Unified Communications Manager (formerly known as Cisco Unified CallManager), Cisco Unified Communications Manager Express (Cisco Unified CME, formerly known as Cisco Unified CallManager Express), and Cisco Unified IP Contact Center Express

## What to Do Next

You are now ready to download the required software to install Cisco Unified CallConnector for Microsoft Dynamics CRM 3.0 (see the “[Installing Cisco Unified CallConnector for Microsoft Dynamics CRM 3.0](#)” section on page 11).





# Installing Cisco Unified CallConnector for Microsoft Dynamics CRM 3.0

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This chapter describes how to install the Cisco Unified CallConnector for Microsoft Dynamics CRM with the following software:

- Cisco Unified Communications Manager 4.0 or later
- Cisco Unified Communications Manager Express 3.2 or later
- Cisco Unified IPCC Express 4.0 or later

## Contents

[Prerequisites, page 11](#)

[Restrictions, page 12](#)

[About Installing Cisco Unified CallConnector for Microsoft Dynamics CRM, page 12](#)

[Installing the Cisco Unified CallConnector for Microsoft Dynamics CRM Server, page 12](#)

[Installing the Cisco Unified CallConnector for Microsoft Dynamics CRM Client, page 27](#)

[What to Do Next, page 37](#)

## Prerequisites

- If you are upgrading from a previous version of the Cisco Unified CallConnector for Microsoft Dynamics CRM, you must uninstall the old version before installing this version.
- If you are integrating with Cisco Unified Contact Center Express, you must follow the Cisco Unified Communications Manager installation steps as described in the Cisco Unified Communications Manager technical documentation, and then complete the “Integrating with Cisco Unified Contact Center Express” steps as described in the Cisco Unified Contact Center Express technical documentation to complete the configuration process.
- Install, configure, and verify the proper operation of Cisco Telephony Application Programming Interface (Cisco TAPI) software must be before proceeding with the installation of the Cisco Unified CallConnector for Microsoft Dynamics CRM components.
- Install the Microsoft .NET Framework Version 2.0 before proceeding with the Cisco Unified CallConnector for Microsoft Dynamics CRM installation.

## Restrictions

- The installation process is supported by Virtual Network Computing (VNC) and other remote control desktop software, but is not supported by Terminal Services.

## About Installing Cisco Unified CallConnector for Microsoft Dynamics CRM

Install and ensure operation of the Cisco Unified CallConnector for Microsoft Dynamics CRM server component on the Microsoft CRM server itself. To allow for maximum ease of installation during the client phase, install and ensure operation of the Cisco Unified CallConnector for Microsoft Dynamics CRM server component and service before installing clients because they will attempt to contact the Cisco Unified CallConnector for Microsoft Dynamics CRM server component during their own installation.

**Note**

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Configure the Cisco TAPI client software properly and ensure it is running before proceeding with the installation of the Cisco Unified CallConnector for Microsoft Dynamics CRM software. Verify that you can monitor and control the end-user phone extension associated with the client PC. Failure to do so will cause problems during the Cisco Unified CallConnector for Microsoft Dynamics CRM installation. For more information about installing and configuring the Cisco TAPI software, see the Cisco Unified Communications Manager technical documentation.

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## Software Installation Order

You must install the Cisco Unified CallConnector for Microsoft Dynamics CRM server and client components in the following order:

1. Cisco Unified CallConnector for Microsoft Dynamics CRM server component (installed on Microsoft CRM server)
2. Cisco Unified CallConnector for Microsoft Dynamics CRM client component (installed on all client PCs using the Cisco Unified CallConnector for Microsoft Dynamics CRM)

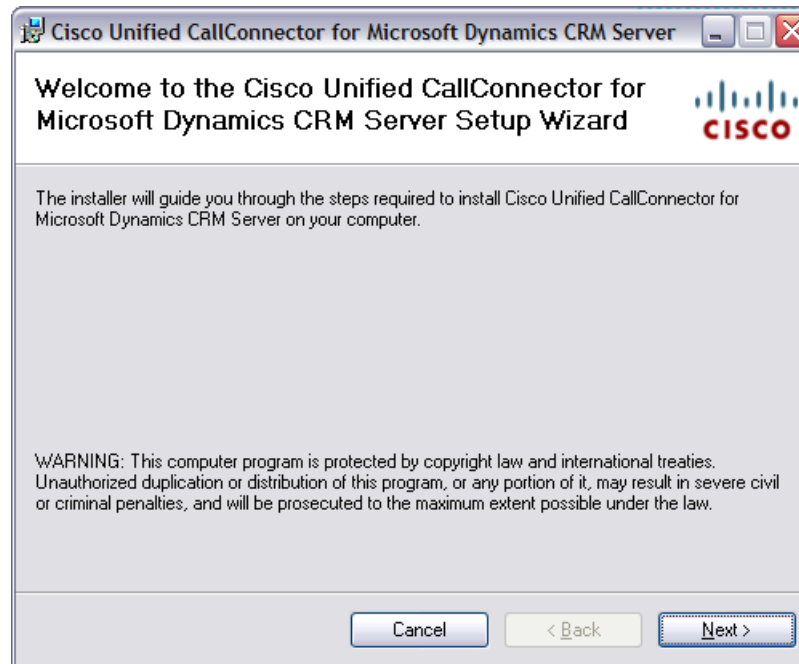
## Installing the Cisco Unified CallConnector for Microsoft Dynamics CRM Server

Use the following steps to install the Cisco Unified CallConnector for Microsoft Dynamics CRM server.

- 
- |               |  |
|---------------|--|
| <b>Step 1</b> | Log in to your PC as administrator.  |
| <b>Step 2</b> | Locate and double-click the Setup.exe file for the Cisco Unified CallConnector for Microsoft Dynamics CRM Server installer (see <a href="#">Figure 1</a> ) to bring up the Setup Wizard (see <a href="#">Figure 2</a> ). |

**Figure 1** Server Setup.exe File: Cisco Unified CallConnector for Microsoft Dynamics CRM

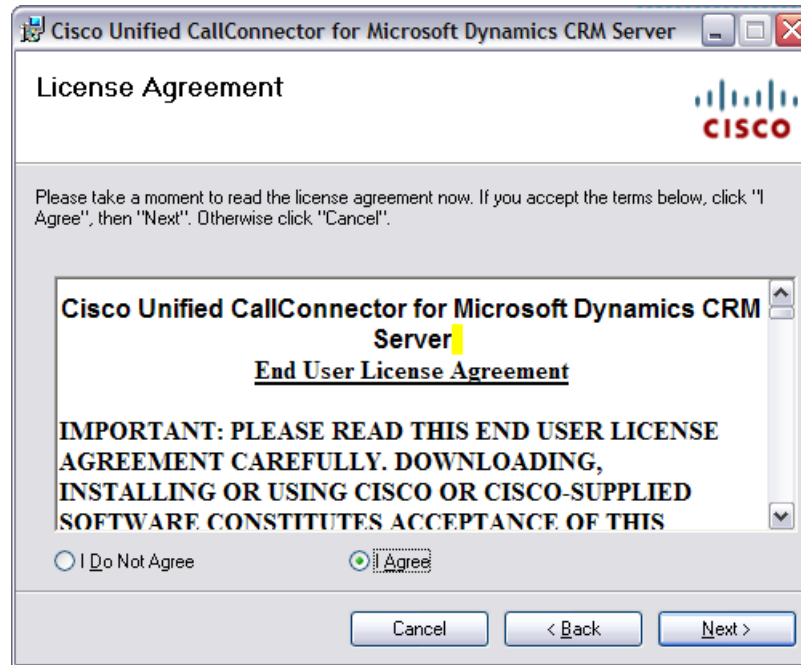
Name	Size	Type	Date Modified	Attributes
C4ServerInstaller.msi	11,003 KB	Windows Installer Package	5/8/2007 10:29 AM	A
EULA.rtf	53 KB	Rich Text Format	4/23/2007 5:21 PM	A
setup.exe	434 KB	Application	5/8/2007 10:28 AM	A

**Figure 2** Server Setup Wizard: Cisco Unified CallConnector for Microsoft Dynamics CRM

**Step 3** Click Next.

The License Agreement window appears (see [Figure 3](#))

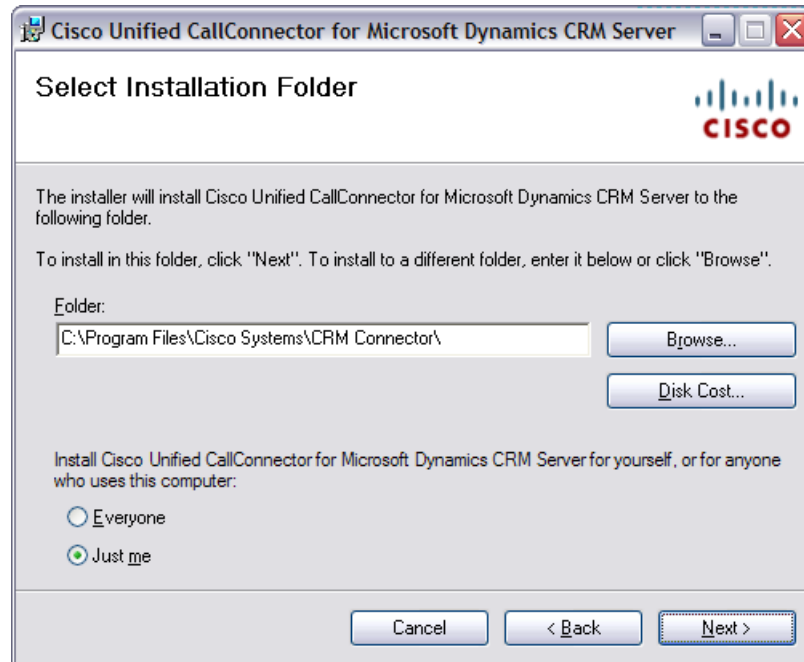
**Figure 3** Server License Agreement Window: Cisco Unified CallConnector for Microsoft Dynamics CRM



**Step 4** Select **I Agree** and click **Next**.

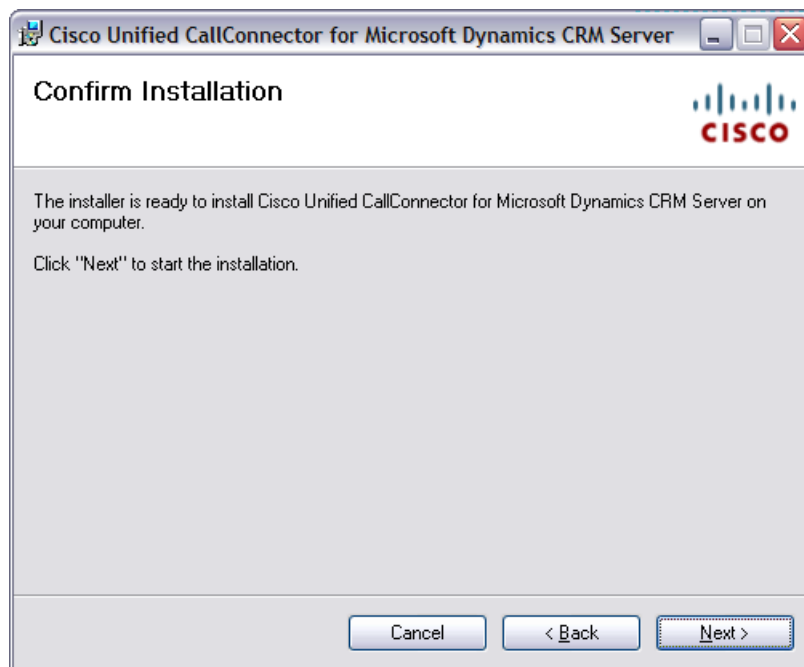
The Select Installation Folder window appears (see [Figure 4](#))

**Figure 4** *Select Installation Folder Window: Cisco Unified CallConnector for Microsoft Dynamics CRM*



- Step 5** Click **Just me** to specify yourself as administrator.
- Step 6** Click **Next** to accept the default installation folder location (we recommend this). The Confirm Installation window appears (see [Figure 5](#)).

**Figure 5** *Server Installation Confirmation Window: Cisco Unified CallConnector for Microsoft Dynamics CRM*



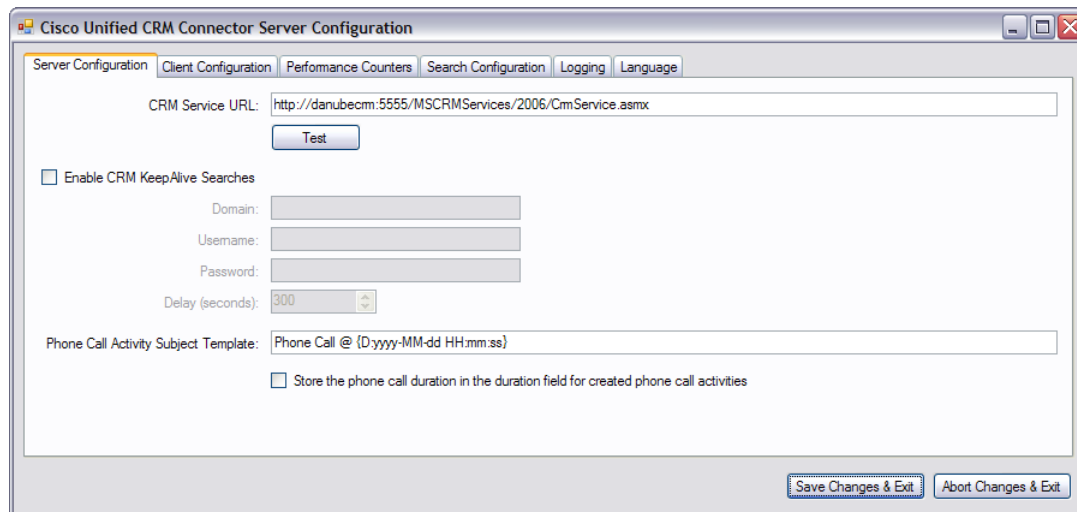
**Step 7** Confirm the installation by clicking **Next**.

After the files are copied, the Server Configuration Wizard appears.

**Step 8** Configure the Server Configuration tab.

Figure 6 shows how this configuration dialog might appear after configuration, before configuring phone number processors. In the example, “danubecrm” is the Microsoft CRM server name and it runs on port 5555. Include the remainder of the path that you see in the example (specifically, /MSCRMServices/2006/CrmService.asmx).

**Figure 6** *Server Configuration Window - Server Configuration Tab: Cisco Unified CallConnector for Microsoft Dynamics CRM*





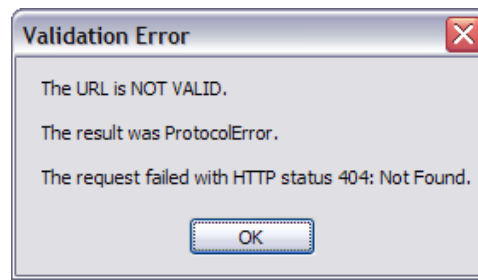
When you click the **Test** button next to the CRM Services URL, you may receive various responses. [Figure 7](#) shows what you want to see. “The URL is Valid” means that the C4 Server Service successfully contacted the Microsoft CRM Web Services.

**Figure 7** URL Is Valid Message



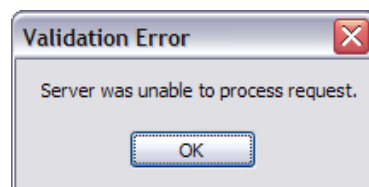
[Figure 8](#) shows a validation error. In this instance, the URL is probably not the correct location to the Microsoft CRM Web Services. Verify the URL and try again.

**Figure 8** Validation Error Message: Cisco Unified CallConnector for Microsoft Dynamics CRM



[Figure 9](#) shows a validation error. This could indicate that the user installing the C4 Server Service does not have access to Microsoft CRM.

**Figure 9** Validation Error Message: Cisco Unified CallConnector for Microsoft Dynamics CRM



**Step 9** In the Server Configuration tab (see [Figure 6](#)) check or uncheck the Enable CRM Keepalive Searches field to enable or disable keepalive searches.

Use the keepalive feature to ensure that the Microsoft CRM server is continuously polled so that it does not drop objects from its cache, which could negatively affect a demonstration environment. You do not need to use this feature in a live deployment or production environment.

The remaining fields in the Server Configuration tab are:

- **Domain** – User domain to use when authenticating for performing keepalive searches.
- **Username** – Username to use when authenticating for performing keepalive searches.

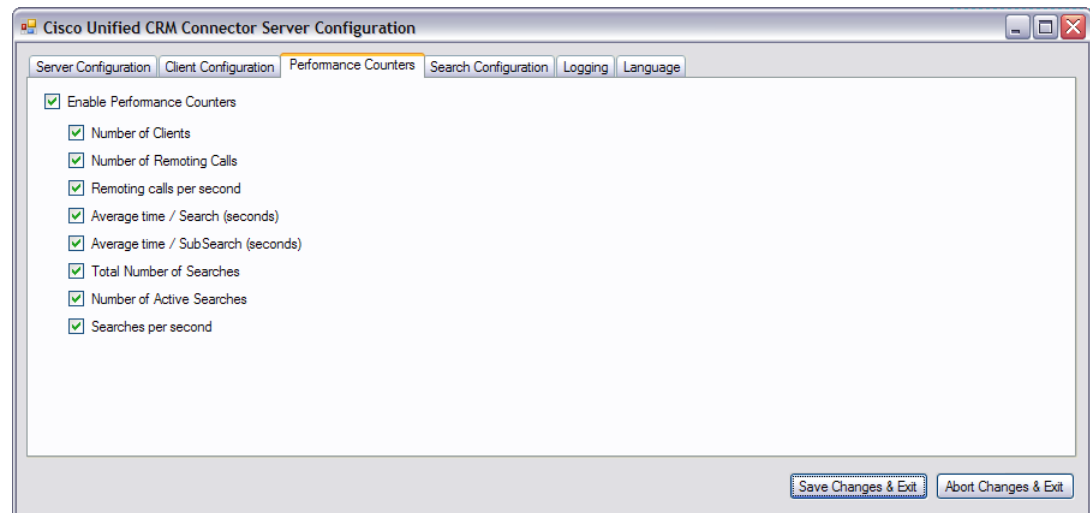
- **Password** – Password to use when authenticating for performing keepalive searches.
- **Delay** – Delay in seconds to wait after performing any search before initiating a keepalive search.

**Step 10** Click **OK**.

**Step 11** Click the **Performance Counters** tab.

The Performance Counters tab window appears (see [Figure 10](#)).

**Figure 10** *Server Configuration Window -- Performance Counter Tab: Cisco Unified CallConnector for Microsoft Dynamics CRM*



**Step 12** In the Performance Counter tab, check or uncheck the Enable Performance Counters box to enable or disable performance monitor counters. To view these objects, add “C4.Server” as a counter within the Windows Performance Monitor, and select the objects to monitor.

The remaining fields in the Performance Counter tab are :

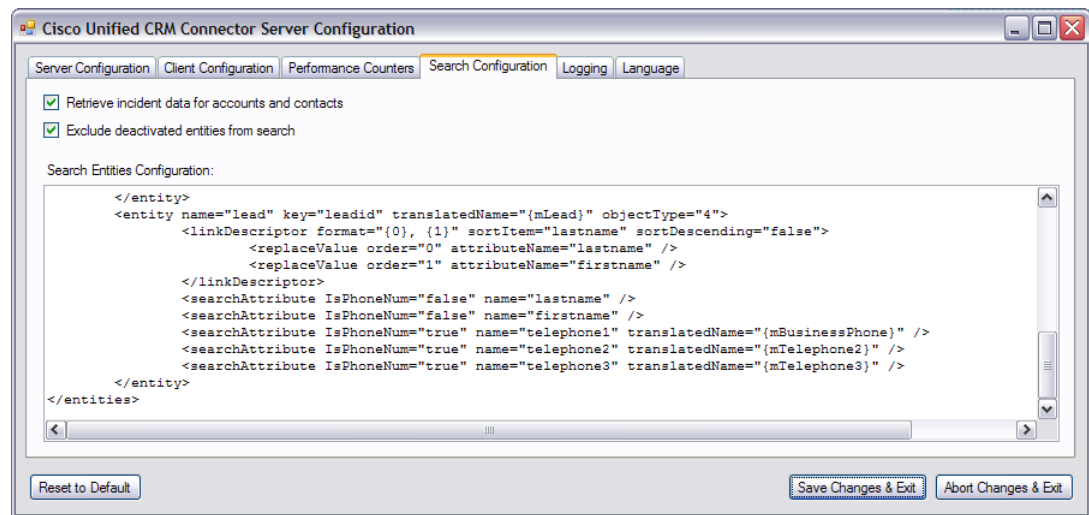
- **Number of Clients**—Number of clients that are currently connected.
- **Number of Remoting Calls**—Total number of client-initiated server requests.
- **Remoting calls per second**—Average number of client-initiated requests per second.
- **Average time/Search (seconds)**—Average time in seconds to complete a full search.
- **Average time/SubSearch (seconds)**—Average time in seconds to complete a search of any specific entity.
- **Total Number of Searches**—Total number of searches that have been performed.
- **Number of Active Searches**—Number of searches that are currently executing.
- **Searches per second**—Average number of searches per second.

**Step 13** Click the **Search Configuration** tab.

The Search Configuration window appears (see [Figure 11](#)).

The Search Configuration tab displays the entities and fields within Microsoft CRM that the Cisco Unified CallConnector for Microsoft Dynamics CRM will search to match the Caller ID or name a customer record. You do not need to manipulate this file for initial program usage.

**Figure 11 Server Configuration Window - Search Configuration Tab: Cisco Unified CallConnector for Microsoft Dynamics CRM**



#### Note

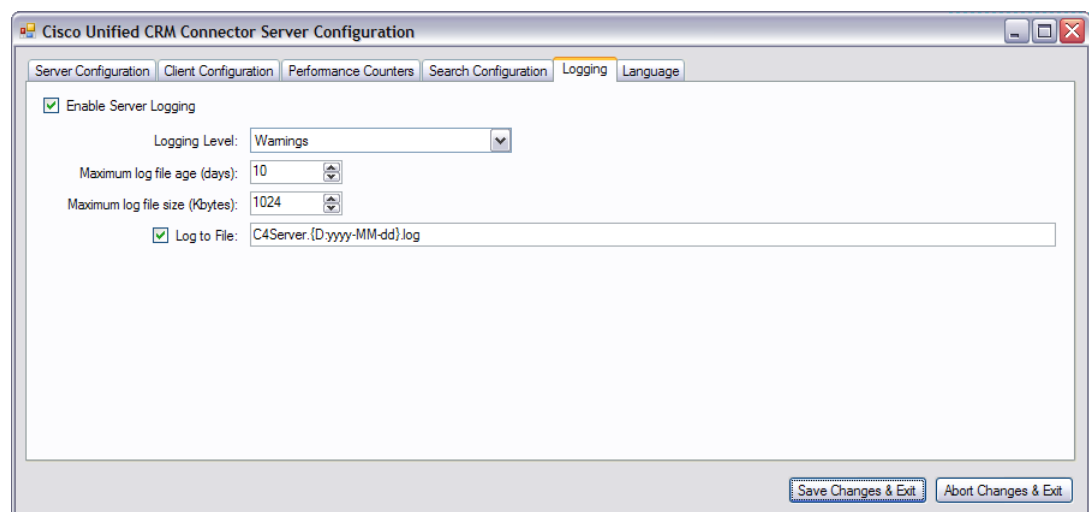
Version 3.0.3 of the Cisco Unified CallConnector for Microsoft Dynamics CRM now includes support for searching based on extended information provided by CADLink. The default search value (typically the phone number) is used when extended information is not provided. Mapping is performed in the order of the provided search parameters that are marked with the “useExtendedInfo” attribute (set to true).

#### Step 14

Click the **Logging** tab.

The Logging tab window appears (see [Figure 12](#)).

**Figure 12 Server Configuration Window -- Logging Tab: Cisco Unified CallConnector for Microsoft Dynamics CRM**



The following describes the fields in the Logging tab:

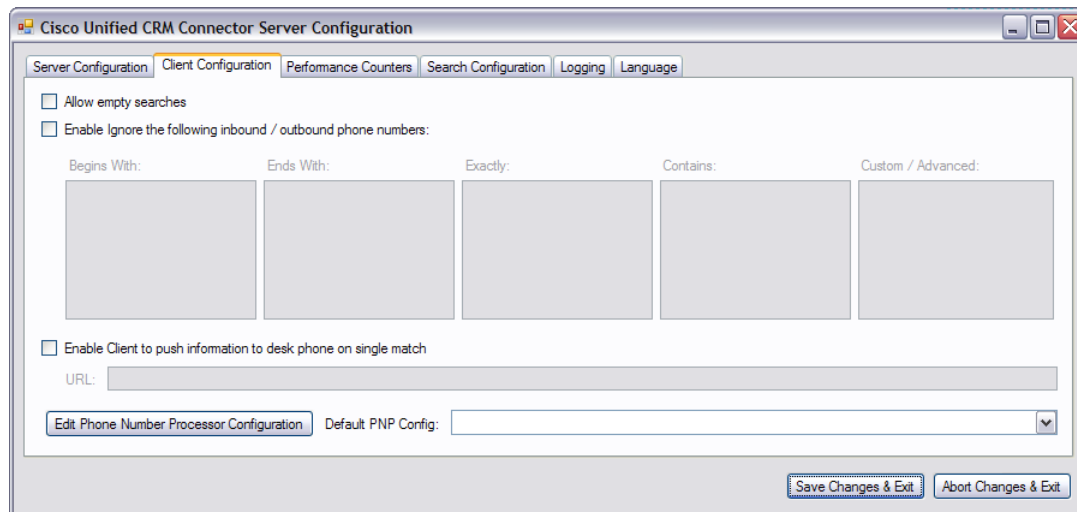
- **Enable Server Logging**—Check or uncheck to enable or disable logging.
- **Log to File**—To log to a filename, check and type the filename.

- **Logging Level**—Sets the verbosity of the log file output.
- **Maximum log file age**—Maximum age in days of old (existing) log files. You must use dynamic filenames.
- **Maximum log file size**—Maximum approximate size in KB of any single log file.

**Step 15** Click the Client Configuration tab.

The Client Configuration tab window appears (see [Figure 13](#)).

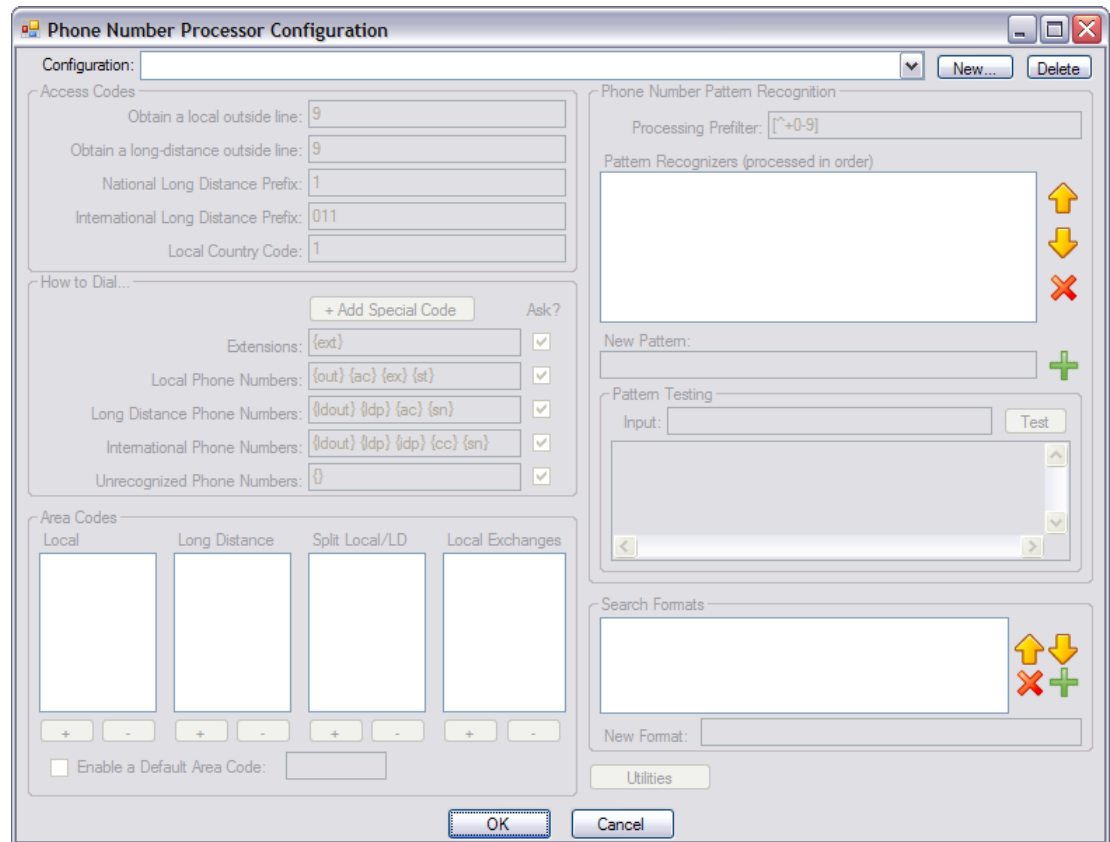
**Figure 13 Server Configuration Window -- Client Configuration Tab: Cisco Unified CallConnector for Microsoft Dynamics CRM**



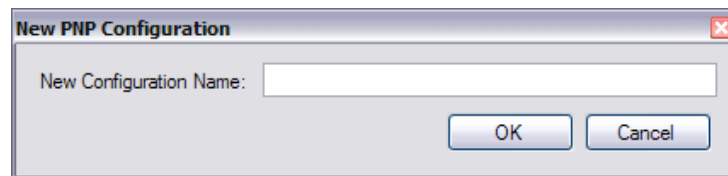
The following describes the fields and buttons in the Client Configuration tab:

- **Allow empty searches** — Specifies whether or not users are able to search for all records by specifying "" (an empty string) as the search parameter.
- **Enable Ignore inbound/outbound phone numbers** — Allows you to specify phone numbers that the Cisco Unified CallConnector for Microsoft Dynamics CRM client should ignore when processing inbound and outbound phone numbers. The first four boxes allow you to specify numbers to ignore when the phone number either begins with, ends with, is exactly, or contains the specified digit strings. Only digits are allowed. The fifth box, "Custom/Advanced," allows you to specify regular expressions of phone number digit strings to ignore.
- **Enable Client to push information to desk phone on single match** — When searches yield only a single match, enables the client-side application to push information to the desk phone.
- **Enable Client to receive commands via HTTP** — Allows the client-side application to receive commands via an HTTP listener on the specified port. Optionally, the listener can be restricted to the specified IP address(es).
- **Edit Phone Number Processor Configs** — Click to configure the phone number processors.
- **Default PNP Config** — Default phone number processor configuration for clients with unspecified or invalid phone number processor configurations.

When you first configure the Cisco Unified CallConnector for Microsoft Dynamics CRM server component and enter the Phone Number Processor (PNP) Configuration window, you see a blank configuration area, as shown in [Figure 14](#), because you must first create a new phone number processor configuration.

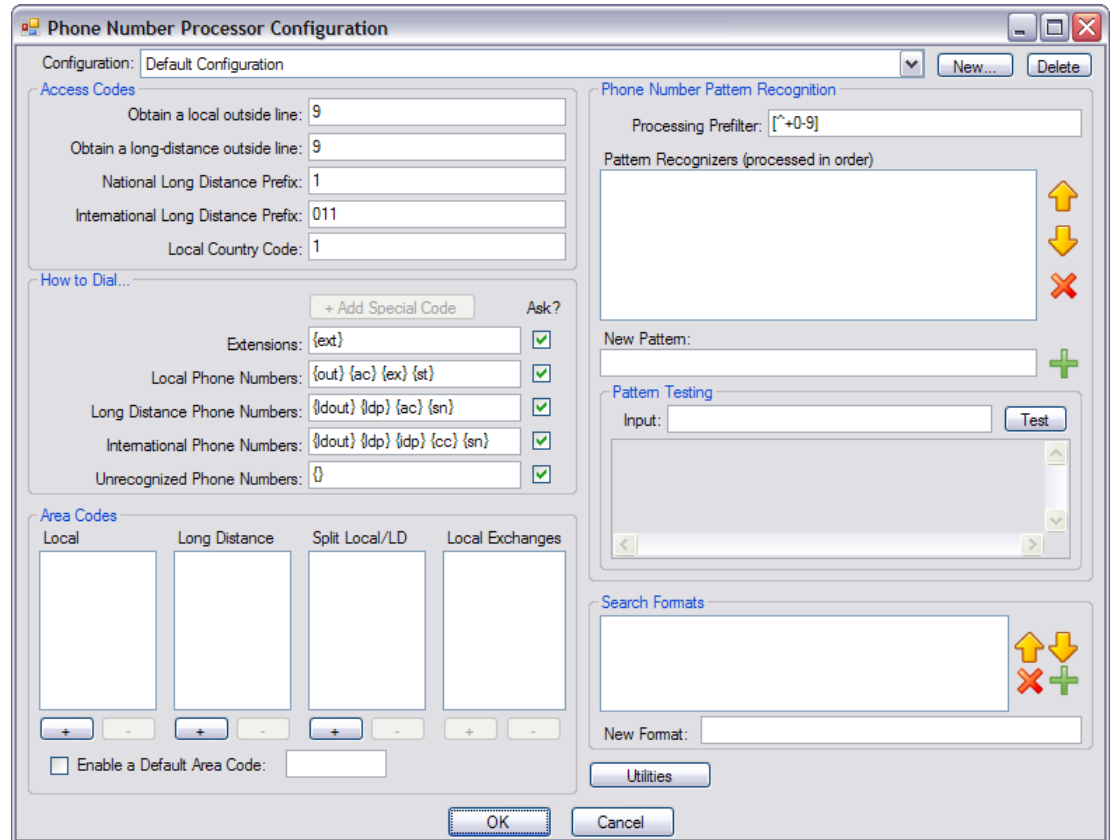
**Figure 14 Phone Number Processor Configuration Window -- Disabled**

- Step 16** In the Phone Number Processor Configuration window, click **New** to begin a new configuration. The New PNP Configuration window is shown in [Figure 15](#).

**Figure 15 New PNP Configuration Window**

- Step 17** In the New PNP Configuration window, enter a configuration name and click **OK**.  
You can configure each client to use one of the multiple configurations that you have defined. You can define each additional configuration as a site, for use with branch or remote offices that have a different area code than the main business location where the Microsoft CRM server is located.
- Step 18** The Phone Number Processor Configuration window appears, as show in [Figure 16](#). Some defaults are loaded based on the United States 10-digit dialing rules.

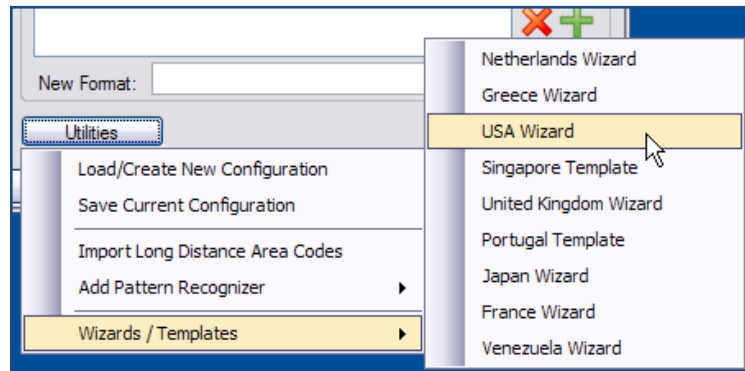
Figure 16 Phone Number Processor Configuration Window -- Enabled



**Step 19** Use the appropriate phone number processor wizard to configure the defaults for your area. Wizards are available for the following locales:

- Netherlands
- Greece
- USA
- Singapore (Template only)
- United Kingdom
- Portugal (Template only)
- Japan
- France
- Venezuela

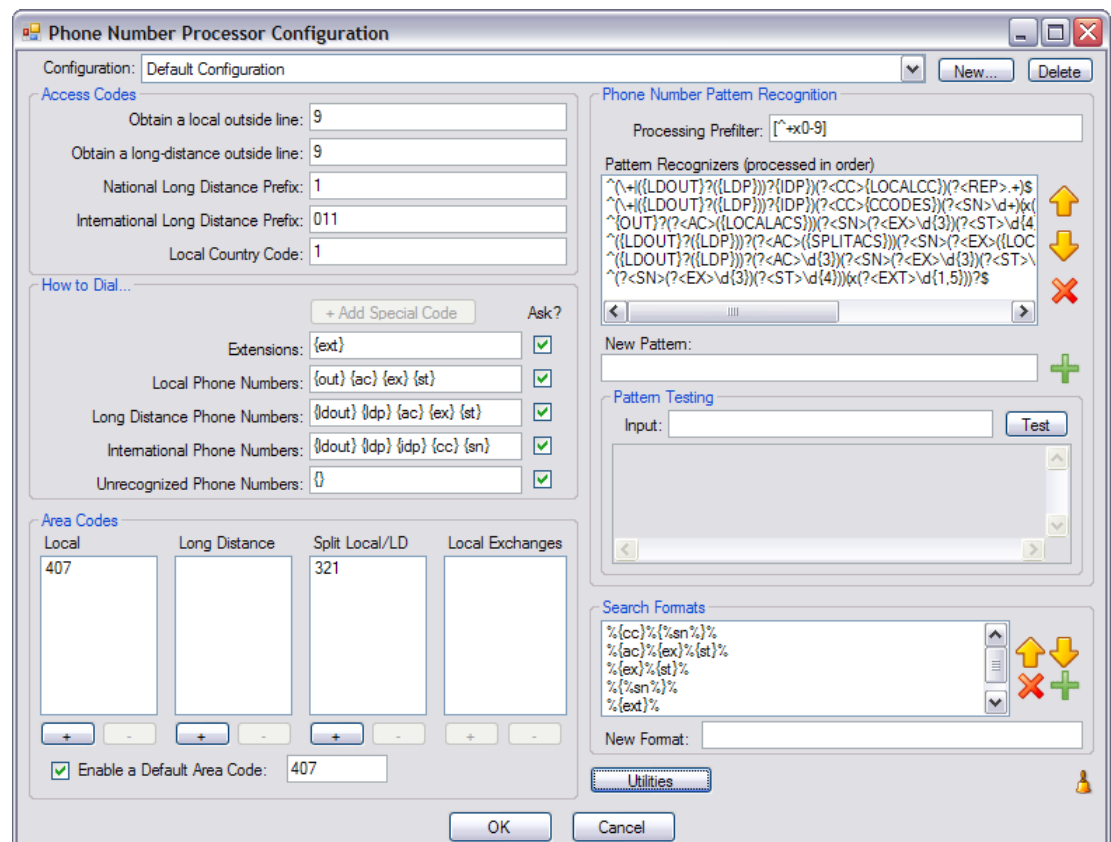
All of these predefined configurations require additional customization for your specific area. To import one of these configurations, click **Utilities** near the bottom of the dialog window, and select the appropriate locale under the **Wizards/Templates** menu. Figure 17 shows the details of the lower right section of the Phone Number Processor Configuration window.

**Figure 17 Dial Plan Wizards and Templates****Note**

If you do this with a predefined configuration, it will be overwritten, and you will lose any custom dialing rules (specifically pattern recognizers and search formats).

**Step 20**

Configure the Phone Number Processor Configuration window, as shown in [Figure 18](#). The values that you can configure in the Phone Number Processor Configuration window are described in [Table 2](#).

**Figure 18 Phone Number Processor Configuration Window -- Example Configuration**

**Table 2** PNP Configuration Dialog

Section	Configurable Values
<b>Access Codes</b>	<p>You can define five access codes. Their actual use is dictated by the values provided in the “How to dial...” section, but their general use is described below. Each access code has a mnemonic associated with it, which is shown in curly braces.</p> <ul style="list-style-type: none"> <li>• <b>Obtain a local outside line</b> {out}—Digit string that is typically dialed before placing local calls.</li> <li>• <b>Obtain a long-distance outside line</b> {ldout}—Digit string typically dialed before placing local long-distance and international calls.</li> <li>• <b>National Long Distance Prefix</b> {ldp}—Digit string typically dialed before the area code when placing long-distance and international calls.</li> <li>• <b>International Long Distance Prefix</b> {idp}—Digit string that is typically dialed to indicate the call is international.</li> <li>• <b>Local Country Code</b> {localcc}—Digit string representing the country the user is located in when users dial from another country.</li> </ul>
<b>How to dial...</b>	<p>Each box in this section defines how to dial a phone number after it is divided into parts (country code, area code, etc.). Typically, the values provided in each style phone number field are combinations of codes that are built into the program, although you could also provide numbers directly in each box. The codes that are available are the same codes shown in the Access Codes and Phone Number Pattern Recognition sections, plus one special code, “{,” which means all digits.</p> <p>The “Ask?” check box next to each field tells the client whether to ask the user to verify the phone number before dialing when using click-to-dial, and when there is only one phone number for the requested click-to-dial contact.</p>
<b>Area Codes</b>	<p>The values in these boxes are used by the “Phone Number Pattern Recognition” section to determine the accurate parts of each phone number, and to determine the style (local, long distance, etc.) of the phone number being processed. The exact way in which these area codes are used is determined by the Phone Number Pattern Recognition section, but the intended meaning of values in each box are:</p> <ul style="list-style-type: none"> <li>• <b>Local</b>—Values are considered local area codes.</li> <li>• <b>Long Distance</b>—Values are considered long-distance area codes.</li> <li>• <b>Split Local/LD</b>—Values are local and long distance area codes.</li> <li>• <b>Local Exchanges</b>—For each area code in the “Split Local/LD” box, values are the local exchanges for that area code. Values in this box are maintained individually for each area code in the “Split Local/LD” box.</li> </ul> <p>The Enable a Default Area Code check box allows the system to assign the user’s local area code if it is not in the contact’s record. If the area code is in the CRM contact record, then this field is not used during processing.</p>



Section	Configurable Values
<b>Phone Number and Pattern Recognition</b>	<p>This area is what really allows the client to pick the parts of the phone number for efficient CRM searching and for accurate no-touch click-to-dial capability. It uses <a href="#">Microsoft .NET Regular Expressions</a> to identify each part of the phone number. The patterns are used during both incoming and outgoing phone call detection for efficient CRM searches, and also click-to-dial.</p> <p>First, the phone number is filtered according to the prefilter. Anything that matches the prefilter is removed from the digit string being considered. Then, the digit string is tested with each pattern in order until a match is found.</p> <p>Each pattern must result in at least one named match for the following values:</p> <ul style="list-style-type: none"><li>• <b>CC</b> — Country code</li><li>• <b>AC</b> — Area code</li><li>• <b>EX</b> — Exchange</li><li>• <b>ST</b> — Station</li><li>• <b>EXT</b> — Extension</li><li>• <b>SN</b> — Generic “subscriber number”</li></ul> <p>The subscriber number may or may not follow the typical definition of a subscriber number; this value is more of a generic container.</p> <p>After a pattern is found that matches the digit string, and it is divided into its parts, one of two things occurs:</p> <ul style="list-style-type: none"><li>• If the number is being processed for click-to-dial, the style of the phone number is determined by specific rules. The phone number is then dialed as specified in the “How to dial...” section.</li><li>• If the number is being processed for searching Cisco Unified CallConnector for Microsoft Dynamics CRM, it is formatted and searched according to the patterns specified in the “Search Formats” area.</li></ul>

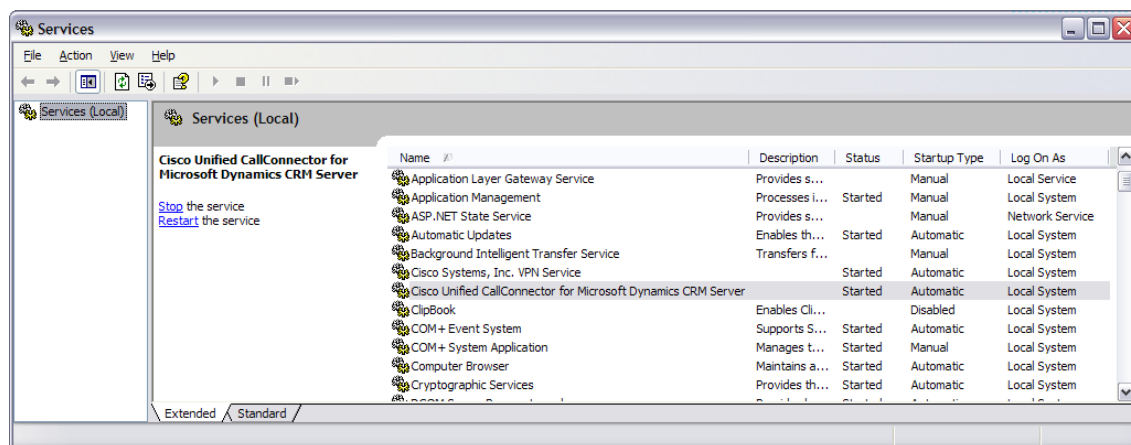
Section	Configurable Values
<b>Search Formats</b>	<p>Search formats allows the administrator to maximize efficiency and accuracy when searching Cisco Unified CallConnector for Microsoft Dynamics CRM. After a phone number is processed by the pattern recognizers, the list of search formats is processed in order until one is found in which all components of the search format can be provided. Each search format component is a code that matches the named match values detected by the pattern recognizers. Each matching value is then replaced with that portion of the phone number. There are two formats for each search component, using AC as an example:</p> <ul style="list-style-type: none"> <li>• {ac}—Replaces the “{ac}” with the area code detected from the phone number.</li> <li>• {%ac% }—Replaces the “{%ac%}” with the area code detected from the phone number with “%” symbols between each digit.</li> </ul> <p>The first format provides the most accurate searching, however, in some cases, may not find the correct records if there are other characters interspersed in the text stored in Cisco Unified CallConnector for Microsoft Dynamics CRM. This will not occur if Cisco Unified CallConnector for Microsoft Dynamics CRM users are diligent about how they enter phone numbers into the Cisco Unified CallConnector for Microsoft Dynamics CRM system. When other characters are interspersed in the text in Cisco Unified CallConnector for Microsoft Dynamics CRM, the “{%ac%}” format can help because it will still recognize those values, but probably also produces some results that are not true matches.</p>

**Step 21** After completing the configuration, click **OK**.

**Step 22** Click **Save Changes & Exit** to close the server configuration window.

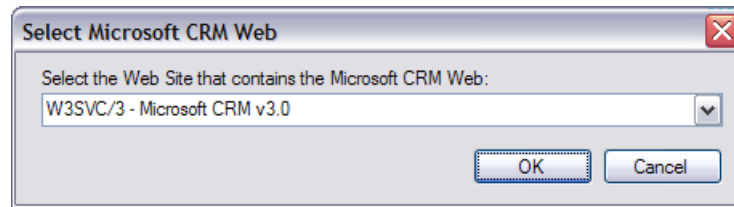
The Cisco Unified CallConnector for Microsoft Dynamics CRM Server Service is now installed and starts automatically, as shown in [Figure 19](#):

**Figure 19** Windows Services



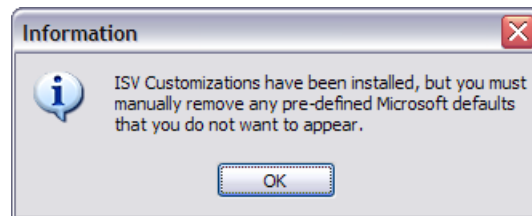
- Step 23** On systems running Microsoft Internet Information Services (IIS) version 5 or earlier, the installation prompts you to choose which website to install the Independent Software Vendor (ISV) customizations into. Choose the Microsoft CRM 3.0 website from the drop-down list, as shown in [Figure 20](#).

**Figure 20** *Selecting the Microsoft CRM Website*



- Step 24** After selecting the Microsoft CRM website, the installer displays a notification message, which advises you that the ISV customizations are installed, as shown in [Figure 21](#), but you must manually remove the default customizations. Otherwise, you may receive unwanted buttons in the Cisco Unified CallConnector for Microsoft Dynamics CRM GUI, such as the Test button.

**Figure 21** *ISV Customization Message*



You are now done with installation of the Cisco Unified CallConnector for Microsoft Dynamics CRM server components. Proceed to the “[Installing the Cisco Unified CallConnector for Microsoft Dynamics CRM Client](#)” section on page 27.

## Installing the Cisco Unified CallConnector for Microsoft Dynamics CRM Client



### Note

For maximum ease of configuration, install and verify the operation of the Cisco Unified CallConnector for Microsoft Dynamics CRM Server Service before installing clients.

Install the following software for the Cisco Unified CallConnector for Microsoft Dynamics CRM Client.

- Install one of the following:
  - Cisco Unified Communications Manager Telephony Application Programming Interface (Cisco Unified Communications Manager TAPI) Client (if integrating with Cisco Unified Communications Manager, with or without Cisco Unified IPCC Express integration)
  - Cisco Unified Communications Manager Express IOS TAPI Service Provider (Cisco IOSTSP) Client (if integrating with Cisco Unified Communications Manager Express). Obtain the latest version of this file from:

<http://www.cisco.com/cgi-bin/Software/Tablebuild/doftp.pl?ftpfile=cisco/voice/ip-phone/ip-istosp/CiscoIOSTSP1.3.zip&app=Tablebuild&status=showC2A>

- Install the Microsoft .NET Framework v2.0

Perform the following steps to install the Cisco Unified CallConnector for Microsoft Dynamics CRM Client with Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, and Cisco Unified IPCC Express.

**Step 1** Log in to your PC as administrator.

**Step 2** Locate and double-click the Setup.exe file for the Cisco Unified CallConnector for Microsoft Dynamics CRM Server installer (see [Figure 22](#)) to bring up the Setup Wizard (see [Figure 23](#)).

**Figure 22 Client Setup.exe File: Cisco Unified CallConnector for Microsoft Dynamics CRM**

Name	Size	Type	Date Modified	Attributes
C4ClientInstaller.msi	1,880 KB	Windows Installer Package	5/8/2007 2:28 PM	A
EULA.rtf	64 KB	Rich Text Format	4/23/2007 3:47 PM	A
setup.exe	434 KB	Application	5/8/2007 2:28 PM	A

The Cisco Unified CallConnector for Microsoft Dynamics CRM Client Setup Wizard appears (see [Figure 23](#))

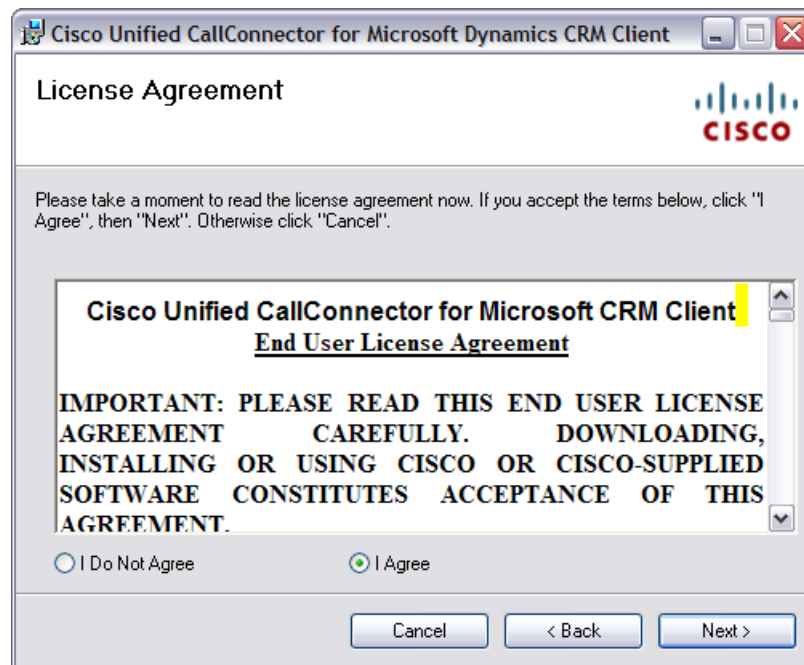
**Figure 23 Client Setup Wizard: Cisco Unified CallConnector for Microsoft Dynamics CRM**



**Step 3** Click **Next**.

The License Agreement window appears (see [Figure 3](#))

**Figure 24** Client License Agreement Window: Cisco Unified CallConnector for Microsoft Dynamics CRM

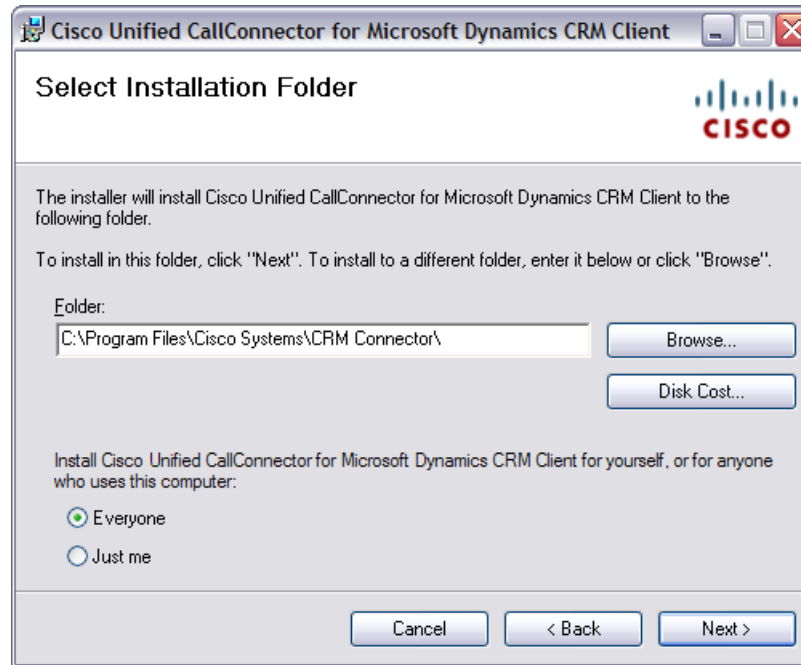


**Step 4** Select **I Agree** to accept the license agreement.

**Step 5** Click **Next**.

The Select Installation Folder window appears (see [Figure 25](#))

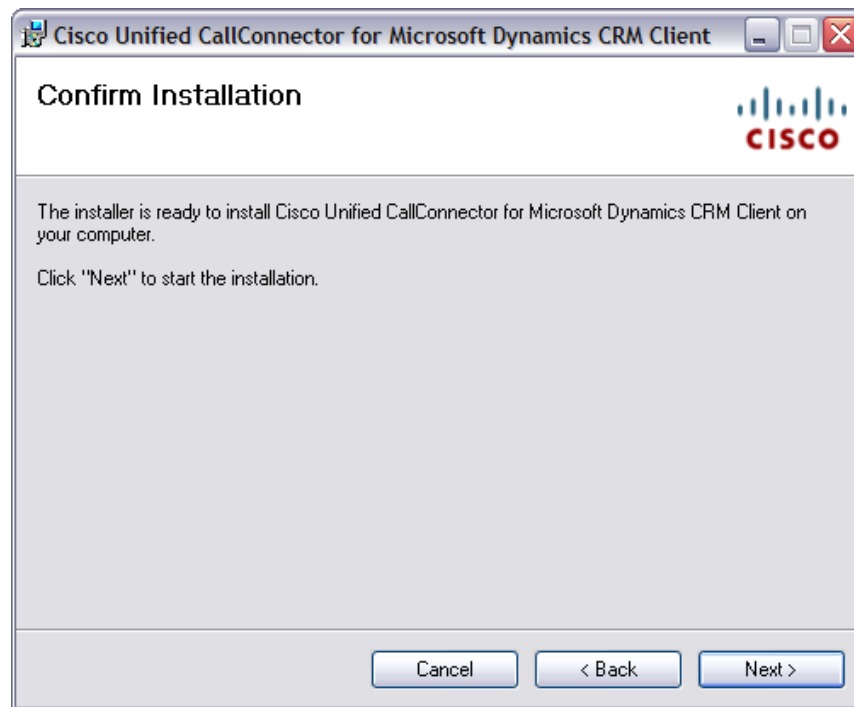
**Figure 25** Select Installation Folder Window: Cisco Unified CallConnector for Microsoft Dynamics CRM



**Step 6** Click **Everyone**.

**Step 7** Click **Next** to accept the default installation folder and confirm the installation. The Confirm Installation window appears (see [Figure 26](#)).

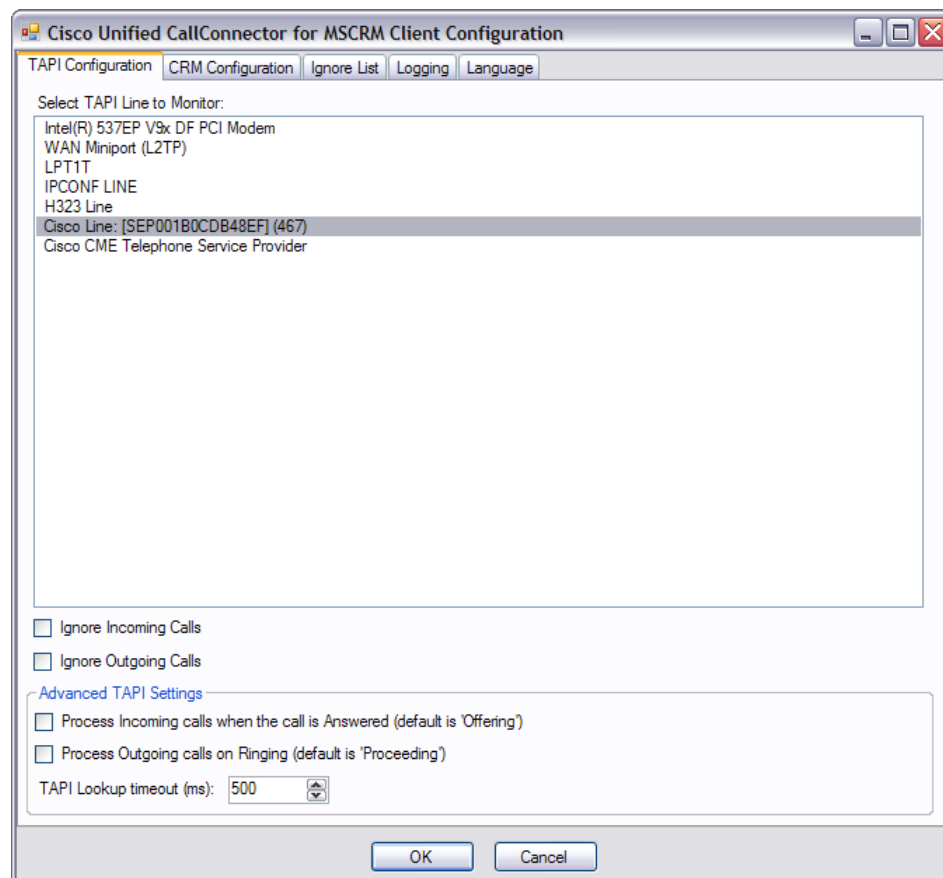
**Figure 26** *Confirm Installation Window: Cisco Unified CallConnector for Microsoft Dynamics CRM Client*



**Step 8** Click **Next** to start the installation.

The installation begins copying files. After the files are copied, the Cisco Unified CallConnector for Microsoft Dynamics CRM Client Configuration window appears, as shown in [Figure 27](#).

**Figure 27 Client Configuration Window – TAPI Configuration Tab: Cisco Unified CallConnector for Microsoft Dynamics CRM**



**Step 9** Click the **TAPI Configuration** tab.

The TAPI Configuration tab allows you to specify the line to monitor for incoming and outgoing calls (see [Figure 27](#)). You can also specify to completely ignore either inbound or outbound calls (or both).

The TAPI Lookup timeout field specifies a value in milliseconds, after which time the Cisco Unified CallConnector for Microsoft Dynamics CRM client manually asks the provider for caller ID information if the TAPI client does not provide it. If the client frequently reports the wrong phone number (such as the internal voice-mail pilot extension), increasing this value may eliminate this.

**Step 10** Click the **Ignore List** tab.

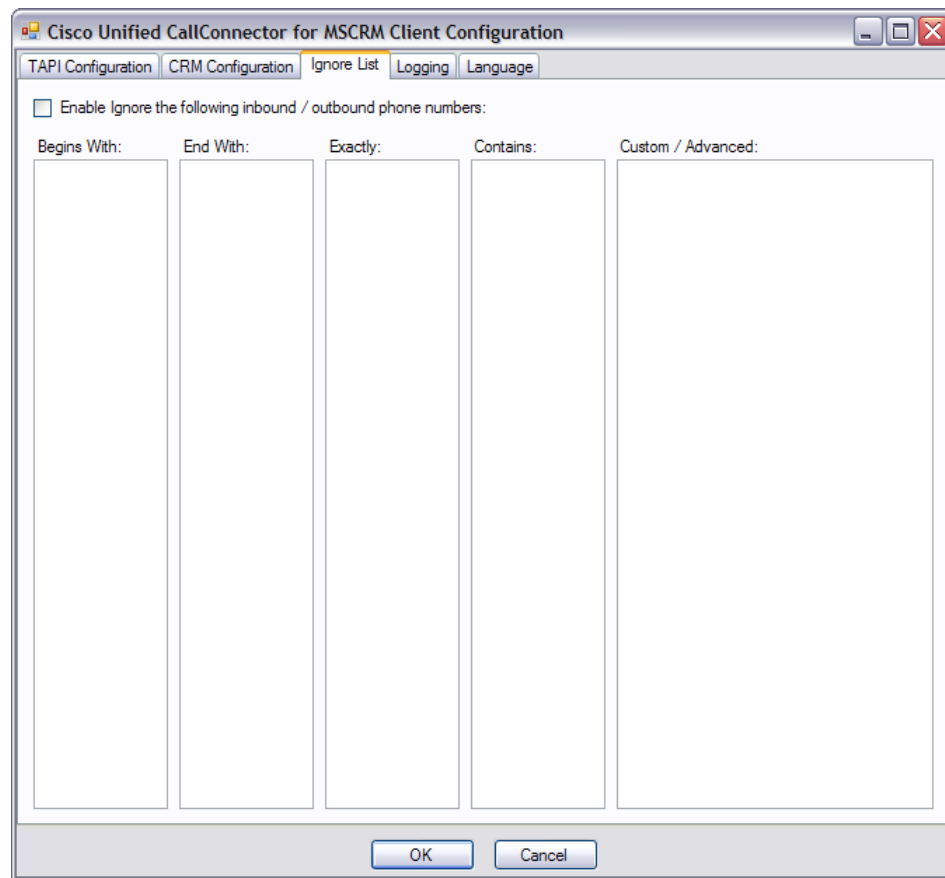
The Client Configuration window's Ignore List tab appears as shown in [Figure 28](#).

The Ignore List tab allows you to specify phone numbers that the Cisco Unified CallConnector for Microsoft Dynamics CRM client should ignore when processing inbound and outbound phone numbers from the client side. The first four boxes allow you to specify numbers to ignore when the phone number either begins with, ends with, is exactly, or contains the specified digit strings. Only digits are allowed.

The fifth box, "Custom/Advanced," allows you to specify regular expressions of phone number digit strings to ignore.



**Figure 28** Client Configuration Window – Ignore List Tab: Cisco Unified CallConnector for Microsoft Dynamics CRM



**Step 11** Click the **CRM Configuration** tab.

The Client Configuration window's CRM Configuration tab appears, as shown in [Figure 29](#).

The CRM Connector Configuration tab allows you to specify server and login information for both the Cisco Unified CallConnector for Microsoft Dynamics CRM server and the Microsoft CRM server.

**Figure 29 Client Configuration Window – CRM Configuration Tab: Cisco Unified CallConnector for Microsoft Dynamics CRM**

The screenshot shows the 'Cisco Unified CallConnector for MSCRM Client Configuration' window with the 'CRM Configuration' tab selected. The window is divided into three main sections:

- Server Connection Parameters:**
  - Cisco CRM Connector Server: danubecm
  - CRM Connector Server Web Path: http://danubecm:5555/C4Web
  - Connection Status: Disconnected (with 'Connect' and 'Disconnect' buttons)
  - Dial Plan Configuration: (disabled drop-down menu)
- User Authentication:**
  - Use Pass-thru authentication (single sign-on mode)
  - Login Domain: (empty text box)
  - Login Name: (empty text box)
  - Login Password: (empty text box)
- User Preferences:**
  - Automatically create activity when only one match
  - Automatically display record when only one match
  - Automatically create activity on click-to-dial
  - Allow Cached Searches
  - Collapse Existing Search Windows
  - Enable Phone Display Push on single match (if also enabled by administrator)
  - TAPI Username: (empty text box)
  - TAPI Password: (empty text box)
  - Phone IP: (empty text box)

At the bottom of the window are 'OK' and 'Cancel' buttons.

- Step 12** In the Cisco Unified CallConnector for Microsoft Dynamics CRM Server field, enter the hostname on which the Cisco Unified CallConnector for Microsoft Dynamics CRM server is installed. After initial configuration, when you change the value in this field, the value in the Cisco Unified CallConnector for Microsoft Dynamics CRM Server Web Path will be updated with the same value. Change this if the Cisco Unified CallConnector for Microsoft Dynamics CRM server Web components were installed on a different server or have a different access URL. The value in the Cisco Unified CallConnector for Microsoft Dynamics CRM Web Path must be a complete URL that points to the directory in which the C4Dial.aspx and C4Stub.aspx files are located.



**Note**

You must also include the port number the website is running on if it is not the default port 80. In the example shown in [Figure 29](#), the hostname of the Microsoft CRM Server is “danubecm” and the Microsoft CRM website is running on port 5555. Failure to provide the custom port number (except port 80) will cause problems with the screen pops.

- Step 13** Configure the Login Domain, Login Name, and Login Password fields with your Microsoft CRM login information and click **Connect**. If the connection is successful, the status will show Connected and the Dial Plan Configuration drop-down box will become enabled.



**Note**

A “pass-thru” authentication mode is available as of version 3.0.3 of the Cisco Unified CallConnector for Microsoft Dynamics CRM. Users who are authenticated using Microsoft Active Directory can have their security credentials passed to the Microsoft Dynamics CRM server automatically.

**Step 14** Select the appropriate Dial Plan Configuration (Phone Number Processor Configuration) based on geographic location and as provided for by the Cisco Unified CallConnector for Microsoft Dynamics CRM Server Service administrative configuration.

**Step 15** Click the **Logging** tab.

The Client Configuration window's Logging tab appears, as shown in [Figure 30](#)

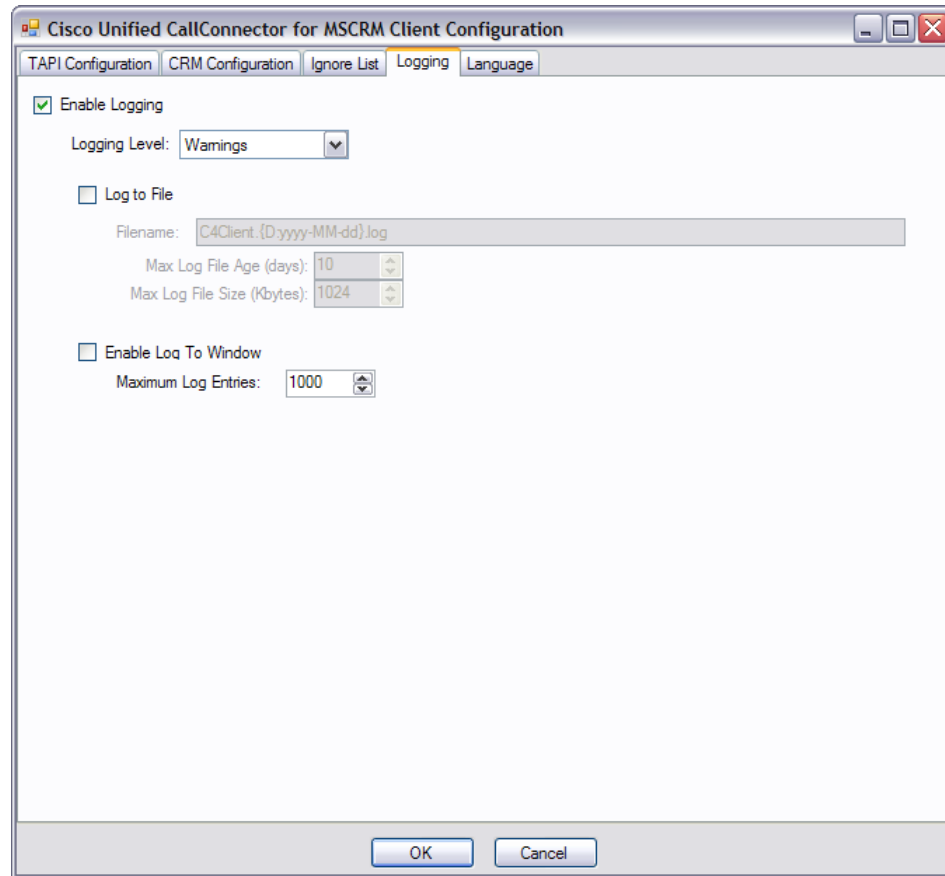
The Logging tab allows you to configure how the client logs system events. Logging levels available include:

- Critical Errors
- Errors
- Warnings
- Info
- Debug
- Debug1 ... Debug 4

Each level includes messages from all previous levels. The "Critical Errors" level produces virtually no output, while the "Debug4" level produces copious output. We recommend using the setting "Warnings" for normal operation. Some messages (primarily relating to TAPI events) do not currently have message levels associated with them, and they are always logged.

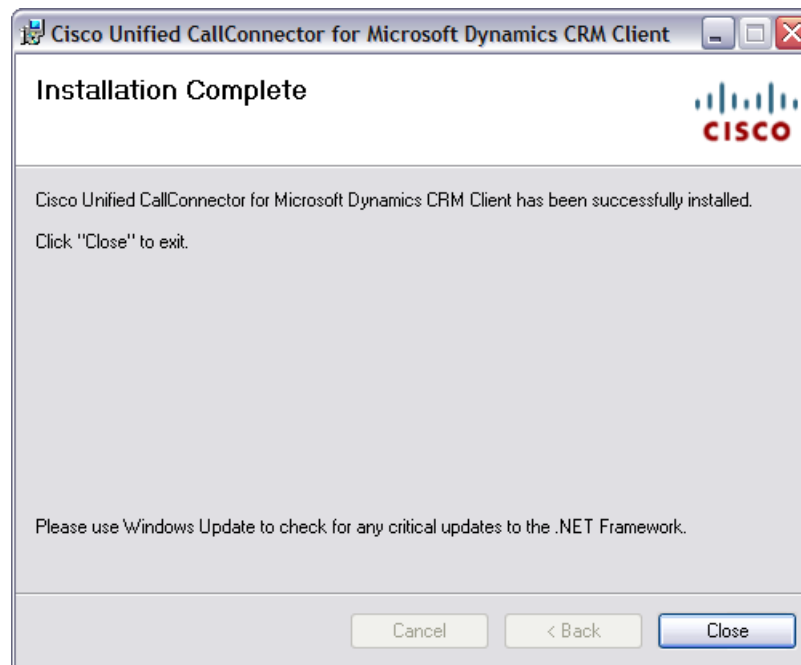
You can collect the logging information in either a file or in a logging window. If you select Log to File, additional options relating to the filename and file aging become available. If you select Enable Log to Window, one additional option to control how many messages to display is available.

**Figure 30** Client Configuration Window – Logging Tab: Cisco Unified CallConnector for Microsoft Dynamics CRM



- Step 16** After completing the configuration, click OK.  
The final installation dialog appears, as shown in [Figure 31](#).

**Figure 31** Client Installation Complete Window: Cisco Unified CallConnector for Microsoft Dynamics CRM



The client is now installed and ready to run from the Start Menu.

---

## What to Do Next

You can now either configure the IP phone lookup and XML display service (optional, see the [“Configuring the IP Phone Service and XML Display Service”](#) section on page 39) or integrate Cisco Unified CallConnector for Microsoft Dynamics CRM with Cisco Unified IPCC Express (see the [“Integrating Cisco Unified CallConnector for Microsoft Dynamics CRM with Cisco Unified IPCC Express”](#) section on page 45).





## Configuring the IP Phone Service and XML Display Service

After installing the Cisco Unified CallConnector for Microsoft Dynamics CRM Server, the administrator may choose to configure the IP Phone Lookup Service (if automatic configuration was not selected during initial installation). The two main features of the IP Phone Lookup Service for the Cisco Unified CallConnector for Microsoft Dynamics CRM are a lookup service and an Extensible Markup Language (XML) display on the Cisco Unified IP Phone.

The lookup service allows you to perform a manual lookup against the Cisco Unified CallConnector for Microsoft Dynamics CRM database from the Cisco Unified IP Phone by searching for a Microsoft CRM contact name. Information about the contact is then displayed on the XML display of the IP phone. The XML display feature provides a window push to the IP phone display when the incoming caller ID uniquely matches a contact.



### Note

To use the IP Phone Lookup Service features for the Cisco Unified CallConnector for Microsoft Dynamics CRM, you must have a Cisco Unified IP Phone with an XML-capable display.

Follow the steps below to configure each of the services. Each service operates independently, so you can configure the lookup service feature or the XML display feature.

### Step 1 Configure the IP Phone Lookup Service.

The IP Phone Lookup Service is located in the C4LookupService directory inside the Cisco Unified CallConnector for Microsoft Dynamics CRM Server installation directory. Inside this directory is a file called Web.config that contains the settings for the following:

```
<appSettings>
<!-- <add key="CRMLoginInfoEnc" /> -->
<add key="CRMLoginUsername" value="Administrator" />
<add key="CRMLoginPassword" value="pass@word1" />
<add key="CRMLoginDomain" value="CRM" />
<add key="CRMServiceURL"
value="http://danubecrm:5555/MSCRMServices/2006/CrmService.asmx" />
<add key="CRMSearchEntitiesXMLDoc" value="C:\Program Files\Cisco Systems\CRM
Connector\C4LookupService\CRMSearchEntities.xml" />
</appSettings>
```

The five main settings are:

- **CRMLoginUsername**—Stores the username to perform lookups
- **CRMLoginPassword**—Stores the password corresponding to CRMLoginUsername

- **CRMLoginDomain**—Domain of the user specified in CRMLoginUsername
- **CRMServiceURL**—URL to the CrmService.aspx page
- **CRMSearchEntitiesXMLDoc**—Full path to the CRMSearchEntities.xml file (located in the IPPhoneService directory)

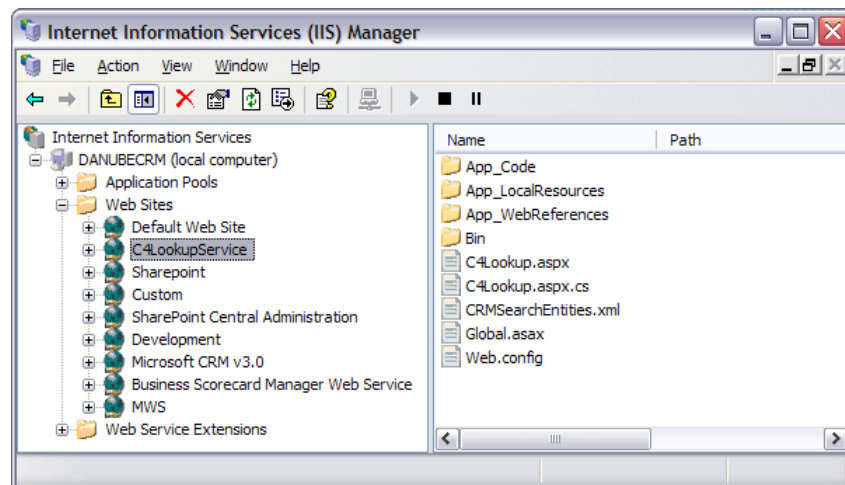
- Step 2** Verify that the CRMServiceURL and CRMSearchEntitiesXMLDoc values are correct. The user specified in CRMLoginUsername, CRMLoginPassword, and CRMLoginDomain must be a user that has access to perform searches in Cisco Unified CRM. If you do not want to store plain text passwords in this file, you can do the following:
- Save the plain text version of the file with the username, password, and domain specified.
  - Continue with the remaining configuration steps below.
  - After everything is working, open a Web browser to the Web page `http://danubecrm:5556/EncryptInfo.aspx` (the specific URL depends on your local configuration) and you will see an encrypted string that represents the username, login, and domain.
  - Specify this string as the value for the key “CRMLoginInfoEnc,” and remove the CRMLoginUsername, CRMLoginPassword, and CRMLoginDomain keys. Also make sure you uncomment the CRMLoginInfoEnc key.

- Step 3** Configure a virtual directory or a virtual site for the IP Phone Service.

In the IIS Administration tool, create a virtual directory or a virtual site for the IP Phone Service to respond on. This virtual directory can be located in any website hosted on the server, and can be called any name. This example creates a virtual site called “C4LookupService” on port 5556.

A virtual site is the preferred mechanism because it ensures that the configuration of the IP Phone Service is not affected by other configuration values in the host site if you are using a virtual directory. If you choose a virtual directory, ensure you are able to see the output of the C4Lookup.aspx page, as shown in [Figure 32](#), before proceeding.

**Figure 32 IP Phone Service Configured as IIS Virtual Site**



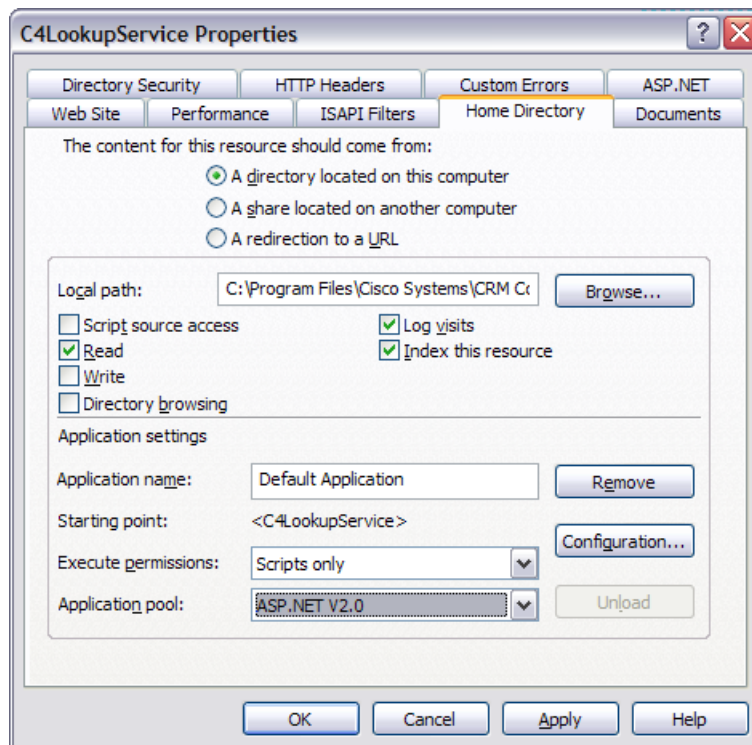
**Note**

When configuring the virtual site or directory, be sure to set the access properties for the virtual directory to “Read” and “Run Scripts.”



**Step 4** Open the virtual site or directory’s properties dialog, and select the “Home” tab, as shown in

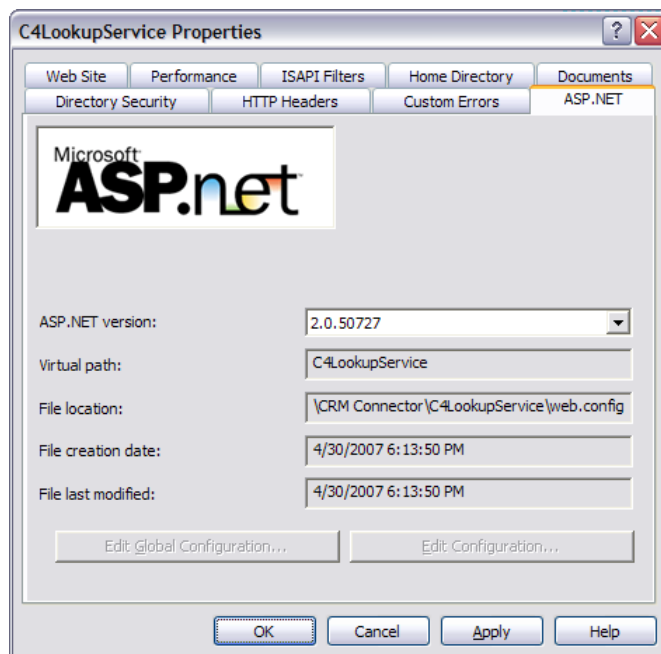
**Figure 33 IP Phone Service Virtual Site or Directory Properties Dialog: Home Tab**



Change the Application pool to “ASP.NET V2.0”. This application pool is created by ASP.NET v2.0.

**Step 5** Select the “ASP.NET” tab and change the ASP.NET version to “2.0.50727” (the exact version may vary depending on your system’s configuration).

**Figure 34 IP Phone Service Virtual Site or Directory Properties Dialog: ASP.NET Tab**

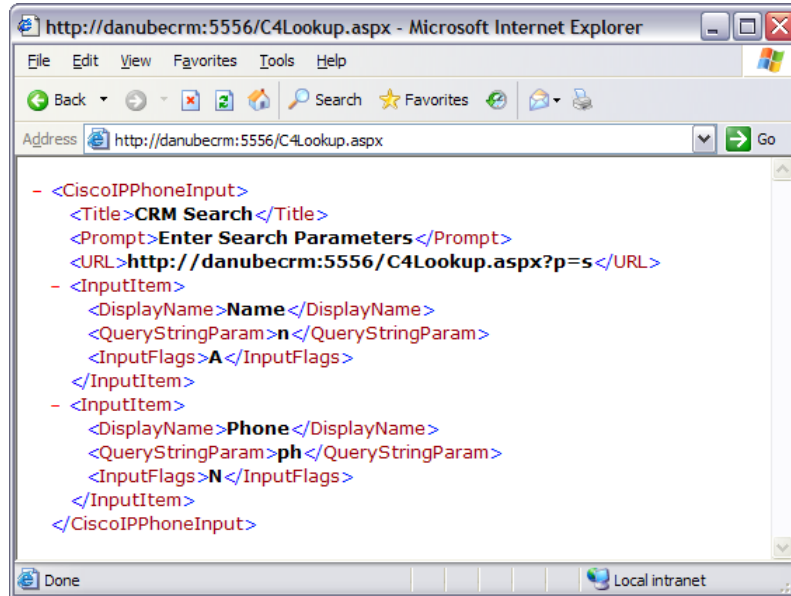


**Step 6** Ensure that the IP Phone Service is accessible and configured properly by opening a Web browser and specifying the following URL:

`http://danubecrm:5556/C4LookupService/C4Lookup.aspx`

The exact URL depends on how you configured the virtual site or directory. You should see a response similar to [Figure 35](#).

**Figure 35** Testing the IP Phone Service URL



**Step 7** (Optional) Configure the service in Cisco Unified Communications Manager or Cisco Unified Communications Manager Express.

When configuring the IP Phone Lookup Service in Cisco Unified Communications Manager or Cisco Unified Communications Manager Express, use the path to the virtual directory or site created in the previous step. For example:

`http://danubecrm:5556/C4LookupService/C4Lookup.aspx`

where “danubecrm” is the hostname of the server hosting the lookup service, in this case, the Microsoft CRM server. The virtual directory or virtual site responds to requests on port 5556. See the Cisco Unified Communications Manager or Cisco Unified Communications Manager Express technical documentation for detailed instructions on how to configure and publish the IP Phone Lookup Service.

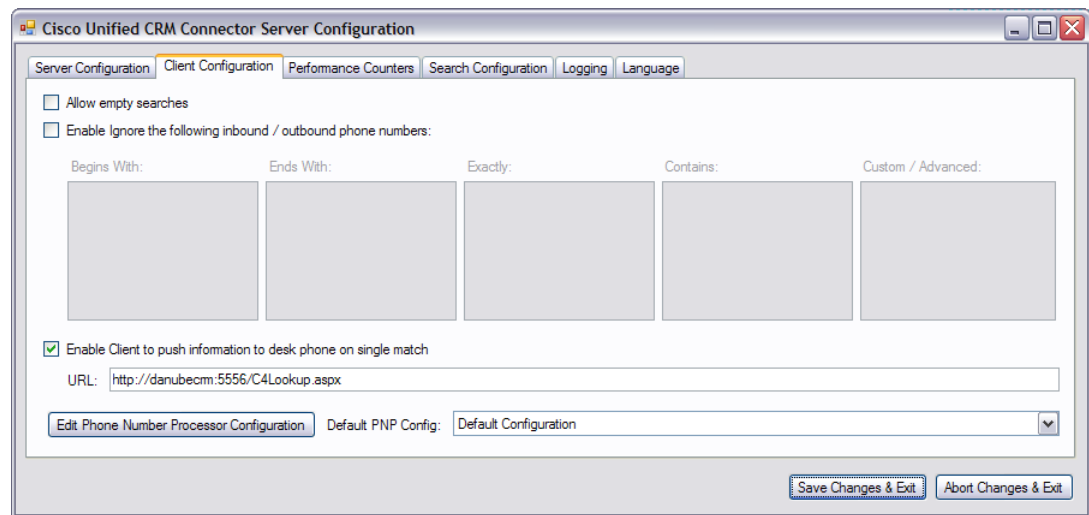
**Step 8** Configure the XML display.

To enable the XML display on the IP phone for users of the Cisco Unified CallConnector for Microsoft Dynamics CRM, configure the server component to allow this. In the server component configuration wizard, go to the Client Configuration tab, as shown in [Figure 36](#).

Enable and specify the path to the IP Phone Lookup Service; for example:

`http://danubecrm:5556/C4LookupService/C4Lookup.aspx`

**Figure 36** Server Configuration Window – Client Configuration Tab: Cisco Unified CallConnector for Microsoft Dynamics CRM



**Step 9** (Optional) Customize the information to display on the IP phone.

Edit the CRMSearchEntities.xml file to specify what entities to search and what information to present on the information window on the IP phone display. This customization is an advanced step and is not required to display the default IP Phone service.

## What to Do Next

You are now ready to integrate Cisco Unified CallConnector for Microsoft Dynamics CRM with Cisco Unified IPCC Express (see the “[Integrating Cisco Unified CallConnector for Microsoft Dynamics CRM with Cisco Unified IPCC Express](#)” section on page 45).





# Integrating Cisco Unified CallConnector for Microsoft Dynamics CRM with Cisco Unified IPCC Express

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This chapter addresses the desktop integration between Cisco Agent Desktop, the desktop component of Cisco Unified IPCC Express, and Microsoft Customer Relationship Management. This integration is based on the CTI capabilities in Cisco Agent Desktop Enhanced and Premium services offered under Cisco Unified IPCC Express. This integration uses a utility program included with Cisco Unified CallConnector for Microsoft Dynamics CRM called CADLink.



## Note

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Cisco Unified IPCC Express integration is not necessary if you are just running Cisco Unified Communications Manager and Cisco Unified Communications Manager Express.

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## Contents

[CADLink, page 45](#)

[Integration Methodology, page 46](#)

[How to Integrate Cisco Unified CallConnector for Microsoft Dynamics CRM with Cisco Unified IPCC Express, page 46](#)

[What to Do Next, page 54](#)

## CADLink

CADLink's primary purpose is to act as an intermediary between the capabilities of Cisco Agent Desktop and those of the Cisco Unified CallConnector for Microsoft Dynamics CRM. This link is needed because the Cisco Telephony Application Programming Interface (TAPI) cannot properly detect caller ID information from calls routed by Cisco Unified Contact Center Express. CADLink solves this by providing one-way communication of caller ID information from Cisco Agent Desktop to the Cisco Unified CallConnector for Microsoft Dynamics CRM when the agent receives calls through Cisco Unified IPCC Express.

## Integration Methodology

To achieve the integration, the workflow events available in Cisco Unified IPCC Express pass inbound call information to CADLink, which is then passed to Cisco Unified CallConnector for Microsoft Dynamics CRM to be acted on. Outbound dialing and call recognition use TAPI. Three events in every inbound call are of importance to Cisco Unified CRM Connector:

- **Ring**ing—CallerID information must be processed during the ringing phase of the phone call. At this event, the Cisco Unified CallConnector for Microsoft Dynamics CRM search window appears.
- **Answer**ed—At this event, the Cisco Unified CallConnector for Microsoft Dynamics CRM client knows that the phone call has begun.
- **Dro**pped—If the call is dropped, the Cisco Unified CallConnector for Microsoft Dynamics CRM client stores the appropriate information about call duration

These events correlate with those available in Cisco Unified IPCC Express. Each event uses the “Call external application” event action to enable CADLink with appropriate command-line parameters. However, because the “Call External Application” action is restricted in the available command-line parameters, CADLink relies on the number of command-line parameters to determine which event has occurred. For this reason, one of the events (Dropped) utilizes placeholder parameters, and you must follow these procedures.

## How to Integrate Cisco Unified CallConnector for Microsoft Dynamics CRM with Cisco Unified IPCC Express



### Note

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Before beginning the integration procedures for Cisco Unified Contact Center Express and Cisco Agent Desktop, you must complete the preliminary installation and configuration steps for Cisco Unified Communications Manager available at the beginning of this document.

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This section provides detailed instructions for the following:

- [Assigning A Workflow Agent, page 47](#)
- [Configuring a Ringing Event, page 48](#)
- [Configuring the Answered Event, page 51](#)
- [Configuring the Dropped Event, page 52](#)
- [Additional Configuration Steps for Cisco Unified CallConnector for Microsoft Dynamics CRM Client, page 53](#)

Each of the integrations is based on the CTI integration capabilities offered in Cisco Agent Desktop.

For additional information, please refer to the Cisco Agent Desktop Administration Guide at: [http://www.cisco.com/univercd/cc/td/doc/prouct/voice/sw\\_ap\\_to/apps\\_3\\_5/english/admn\\_app/cad\\_admn.pdf](http://www.cisco.com/univercd/cc/td/doc/prouct/voice/sw_ap_to/apps_3_5/english/admn_app/cad_admn.pdf).

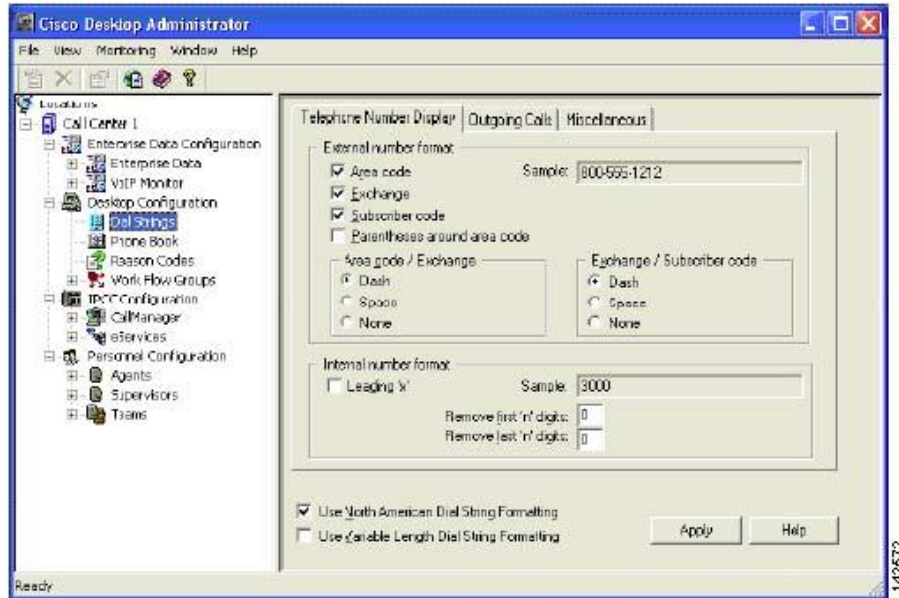
Perform the integration by administratively configuring workflows in the Cisco Agent Desktop Manager. You must first assign the workflows to the agent.

## Assigning A Workflow Agent

To assign a workflow agent, perform the following steps.

- Step 1** Open the Cisco Desktop Administrator window as seen in [Figure 37](#)

**Figure 37** Cisco Desktop Administrator Window



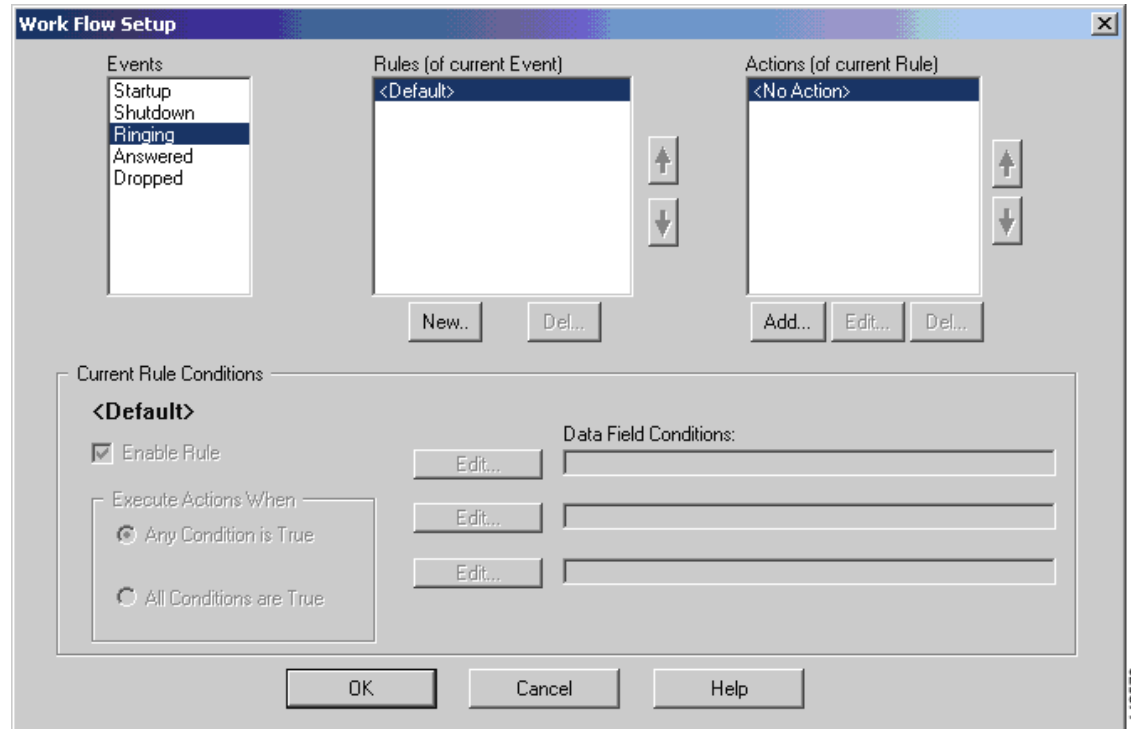
- Step 2** Select **Work Flow Groups** from the left pane.

- Step 3** Select **Agents**.

- Step 4** Select the agent type to configure.

- Step 5** Click **Work Flow** in the right pane.

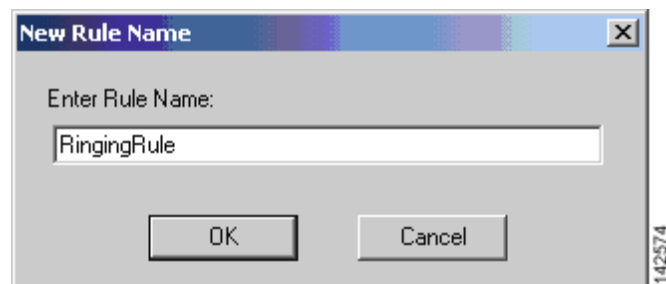
The Work Flow Setup window appears, as shown in [Figure 38](#)

**Figure 38** Work Flow Setup Window

## Configuring a Ringing Event

To configure a ringing event, perform the following steps.

- Step 1** Select **Ring**ing from the Events list, as seen in [Figure 38](#).
- Step 2** Click **New...** to add a new Rule (middle list).
- Step 3** Name the rule **Ring**ingRule, or something similar that describes the rule (see [Figure 37](#)).

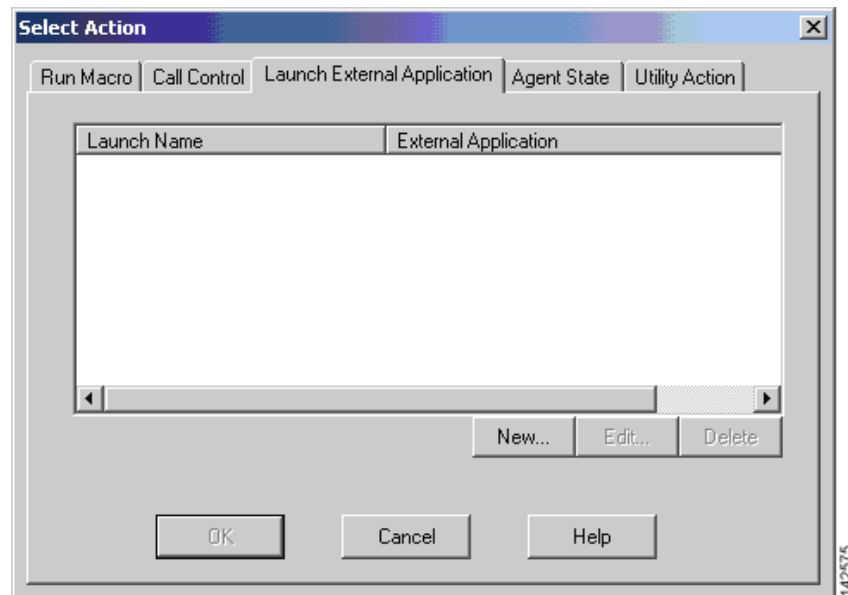
**Figure 39** Create RingingRule

- Step 4** Select the **Ring**ingRule from the list of rules and click **New...** to add a new action (from the right list in [Figure 38](#)).



The Select Action window appears, as shown in [Figure 40](#).

**Figure 40** *Select Action Window*

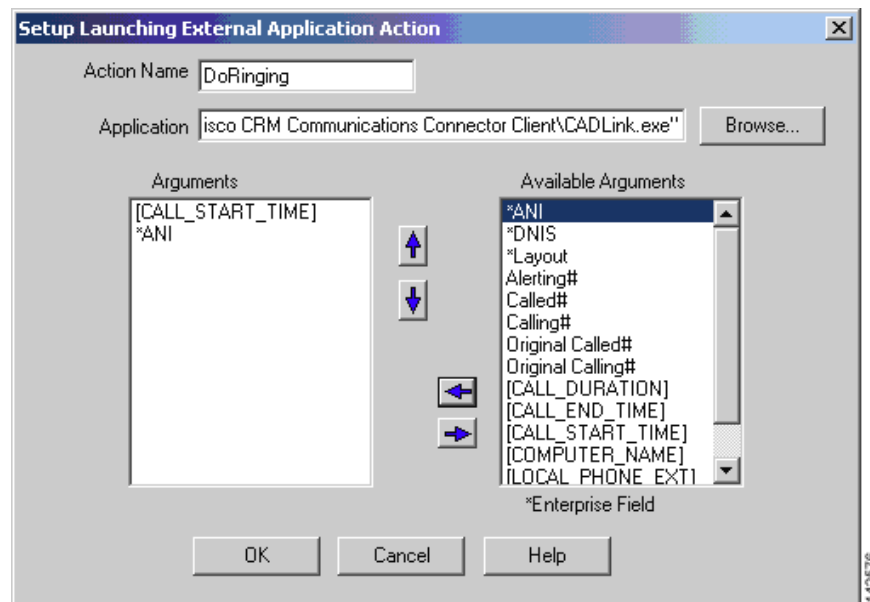


**Step 5** Select the **Launch External Application** tab.

**Step 6** Click the **New** button to add a new Launch External Application action.

The Setup Launching External Application Action window appears, as shown in [Figure 41](#).

**Figure 41** *Setup Launching External Application Action Window*



**Step 7** In the Action Name field enter **DoRinging**.

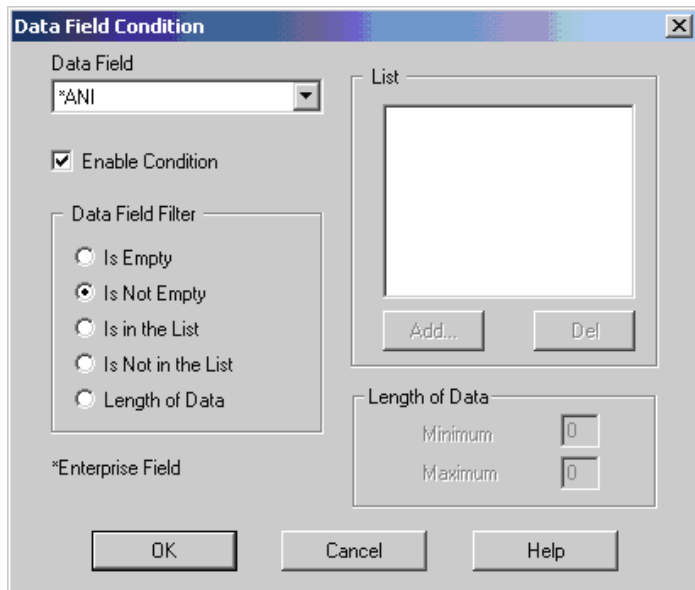
- Step 8** In the Application field, enter **C:\Program Files\Cisco Systems\Cisco Unified CRM Connector Client\CADLink.exe**, or your path to the CADLink.exe executable file on the client machines.



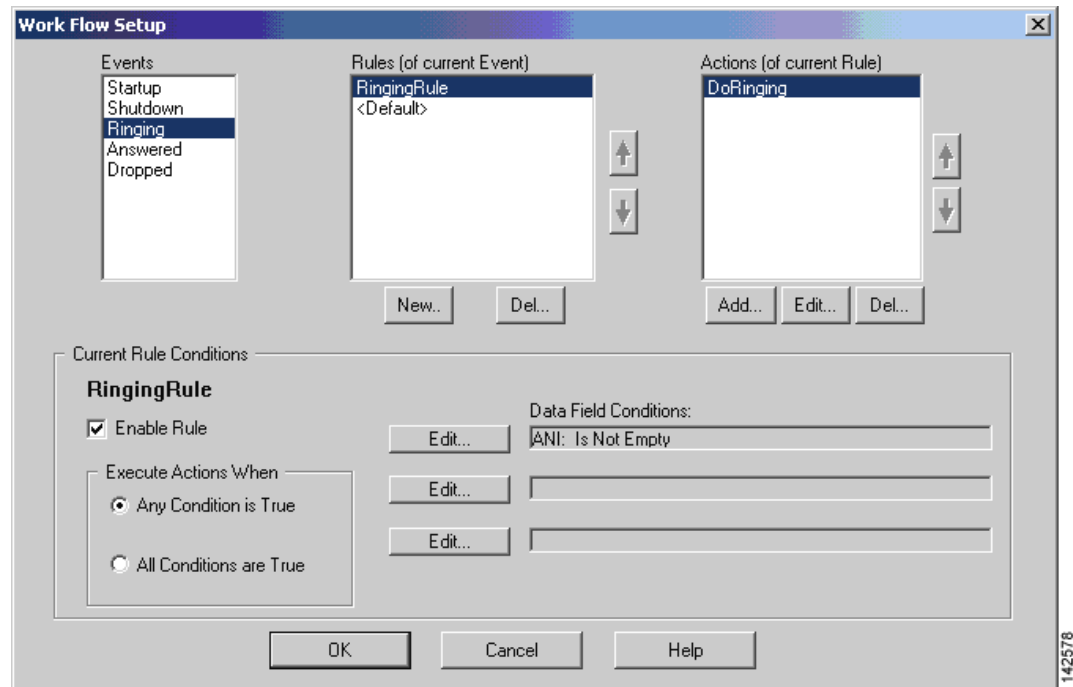
**Note** You must install the Cisco Unified CallConnector for Microsoft Dynamics CRM client application in the same physical location on all clients that will use CADLink.

- Step 9** Select **[CALL\_START\_TIME]** as the first argument.
- Step 10** Select **\*ANI** as the second argument.
- Step 11** Click **OK** to accept the configuration.
- Step 12** In the Work Flow Setup window (Figure 38), enable **RinginRule** by clicking the first Edit box in the Current Rule Conditions.  
The Data Field Condition window appears, as shown in Figure 42.

**Figure 42 Data Field Condition Window**



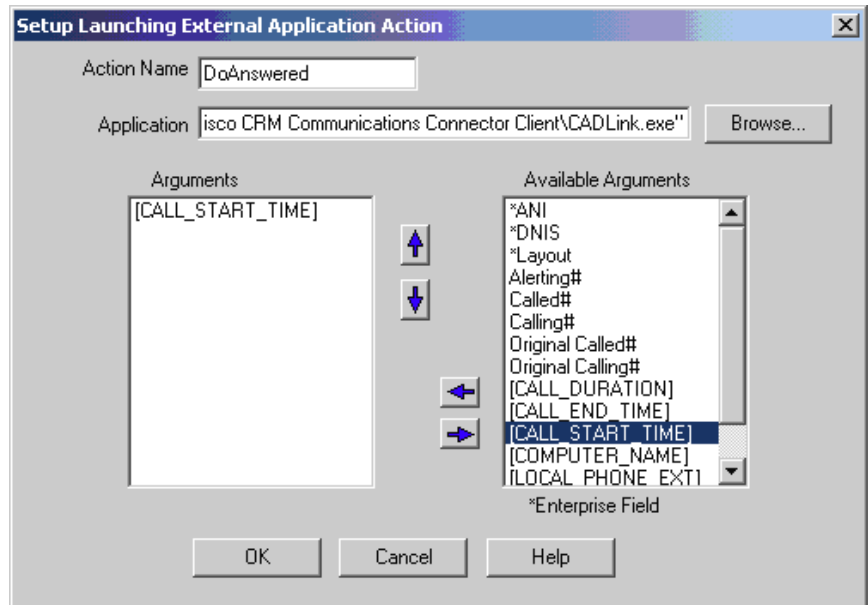
- Step 13** Select **\*ANI** from the Data Field.
- Step 14** Select **Is Not Empty** in the Data Field Filter list.
- Step 15** Check **Enable Condition**.
- Step 16** Click **OK**.  
The Work Flow Setup window appears, as shown in Figure 43.

**Figure 43 Work Flow Setup Window**

- Step 17** Check Enable Rule to make the rule active.
- Step 18** Repeat these steps for the Answered and Dropped events, making appropriate customizations as described in the next two sections.

## Configuring the Answered Event

To configure the answered event, follow the same steps as for the Ringing event (see the “[Configuring a Ringing Event](#)” section on page 48), except call the rule “AnsweredRule,” and the action “DoAnswered.” The parameter for the DoAnswered event is [CALL\_START\_TIME], as shown in [Figure 41](#).

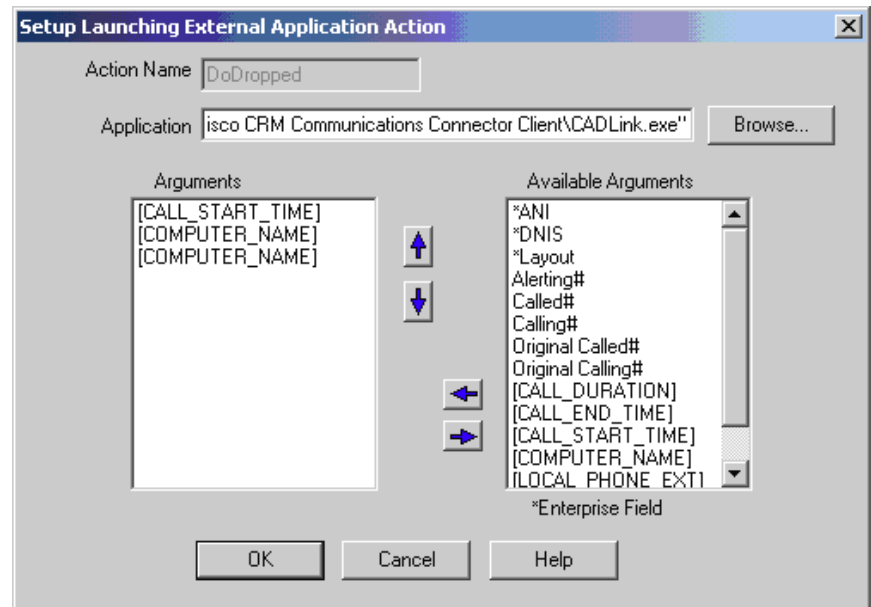
**Figure 44 Setup Launching External Application Action Window: Answered Event**

## Configuring the Dropped Event

To configure the dropped event, follow the same steps as for the Ringing event (see the “[Configuring a Ringing Event](#)” section on page 48), except call the rule “DroppedRule,” and the action “DoDropped.”

The parameters for the DoAnswered event are [CALL\_START\_TIME], [COMPUTER\_NAME], and [COMPUTER\_NAME].

As shown in [Figure 45](#), the COMPUTER\_NAME parameter is repeated as a dummy placeholder to ensure that there are three parameters.

**Figure 45** Launch External Application Window

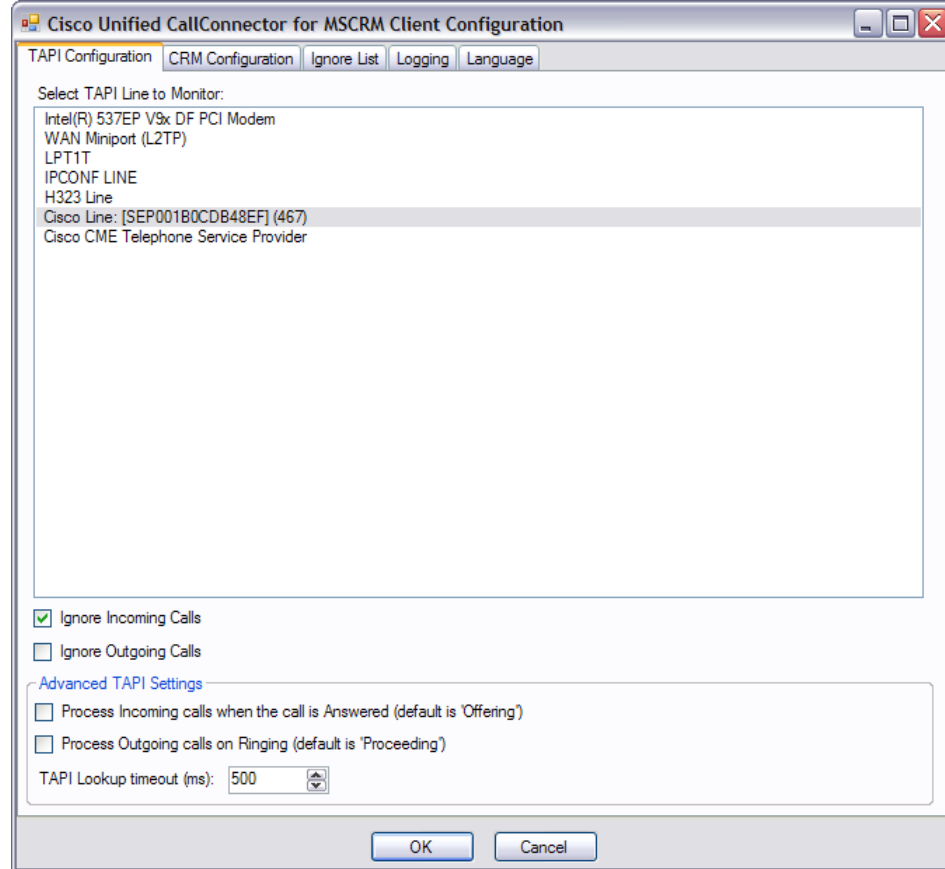
## Additional Configuration Steps for Cisco Unified CallConnector for Microsoft Dynamics CRM Client

Inbound call information are received from the Cisco Agent Desktop. You must configure the client to ignore incoming TAPI call information so that the Cisco Unified CallConnector for Microsoft Dynamics CRM client will be able to process incoming calls routed by the automated call distributor (ACD), and not by the TAPI messages sent from Cisco Unified Communications Manager. Therefore, you must check “Ignore Incoming Calls,” as shown in [Figure 46](#).



### Note

Failure to disable incoming TAPI messages results in double screen pops of the user-configured screen pops (specifically, Microsoft CRM contact records and phone call activity records).

**Figure 46** Cisco Unified CallConnector for Microsoft Dynamics CRM - TAPI Tab Configuration

## What to Do Next

You are now ready to use the Cisco Unified CallConnector for Microsoft Dynamics CRM (see the [“Using the Cisco Unified CallConnector for Microsoft Dynamics CRM Client”](#) section on page 55).

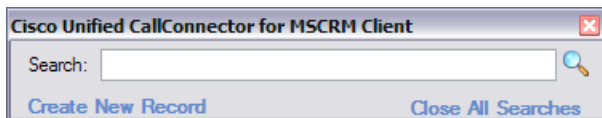


## Using the Cisco Unified CallConnector for Microsoft Dynamics CRM Client

This chapter describes how use the Cisco Unified CallConnector for Microsoft Dynamics CRM Client.

When the Client first starts up, it attempts to contact the Cisco Unified CallConnector for Microsoft Dynamics CRM Server Service. If successful, the Client's main window appears at the bottom-right corner of your window (see [Figure 47](#)).

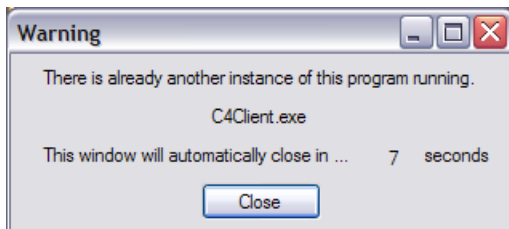
**Figure 47** Client Main Window: Cisco Unified CallConnector for Microsoft Dynamics CRM



Note that the Client performs a “minimize on close.” If you click **Close** in the Cisco Unified CallConnector for Microsoft Dynamics CRM Client window, the Client will not exit, instead of minimizing itself to the tray (the tray icon is always visible, however). To exit the Client, right-click the menu and select **Exit**.

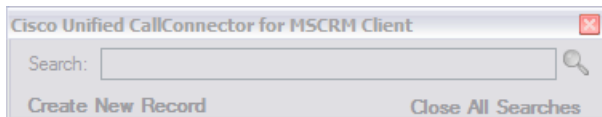
The Client is a single-instance application, meaning that only one copy of the application can be running at any one time. If you attempt to start a new Client while another is running, a warning message appears (see [Figure 48](#)).

**Figure 48** Single Instance Warning Message



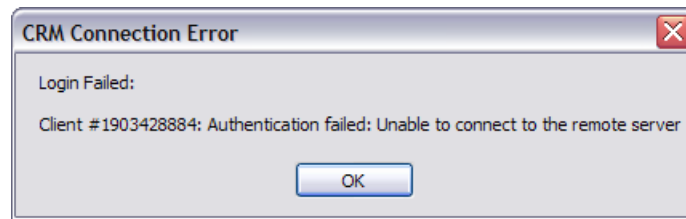
If the window is grayed out as shown in [Figure 49](#), the attempt to contact the server was unsuccessful, and you should receive an error message.

**Figure 49** Client Grayed-Out Window: Cisco Unified CallConnector for Microsoft Dynamics CRM



One possible error message is shown in [Figure 50](#):

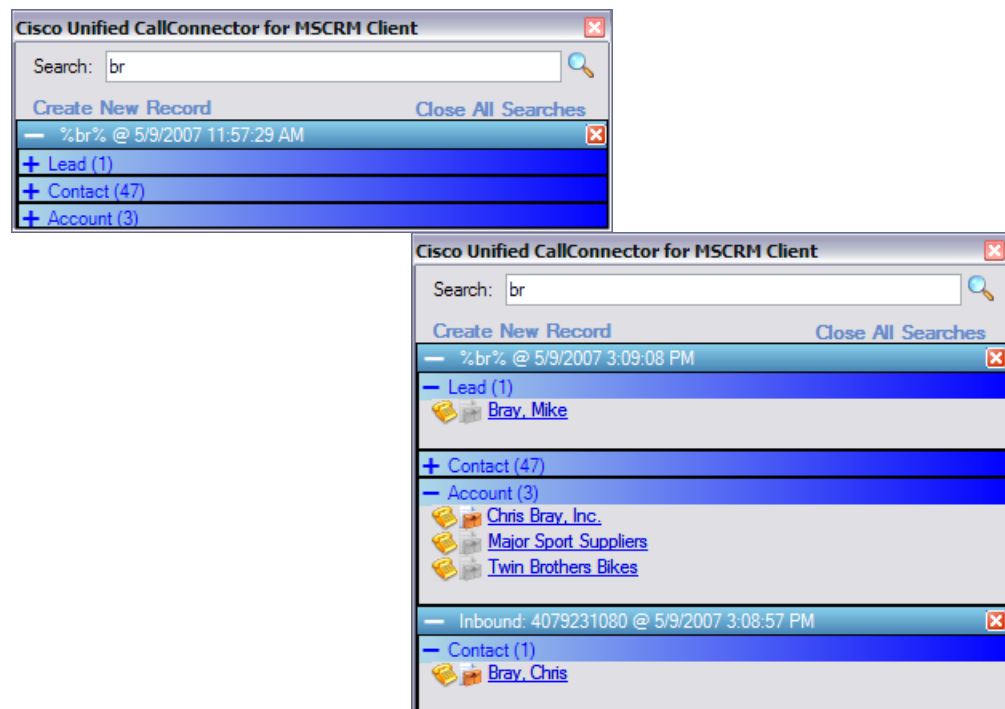
**Figure 50 Error Message**



In this case, the C4Server was successfully contacted, however the login was not successful (because the Microsoft Dynamics CRM server could not be contacted by the Cisco Unified CallConnector for Microsoft Dynamics CRM server component).

To perform a manual search, type something in the search box and press Enter or click the search button at the right. The results display in collapsible panels, as shown in [Figure 51](#). If there is only one matching type of record, the panel displays in its expanded form. To expand or collapse a contact-type panel, click the blue horizontal bar that represents that contact type.

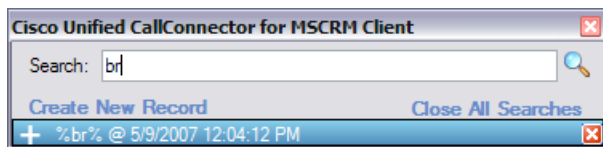
**Figure 51 Client Window Performing Manual Search: Cisco Unified CallConnector for Microsoft Dynamics CRM**



The Connector Client provides a multiple-search interface, which means that multiple search results can display at the same time. Each search result is also contained on a collapsible panel with a blue bar. Also note that the search collapsible panel has a close button—the red “X” at the right side of the search panel (not the window close button). To remove the search results for any specific search, click that panel’s close button.

A search window with one collapsed search panel is shown in [Figure 52](#):



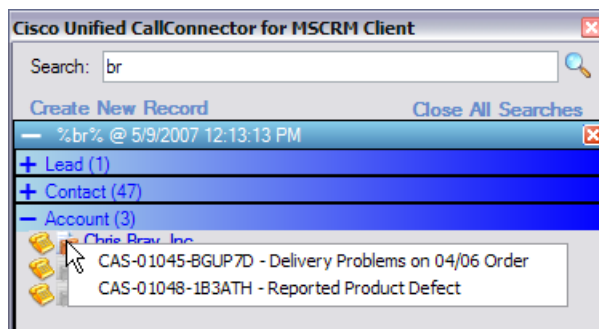
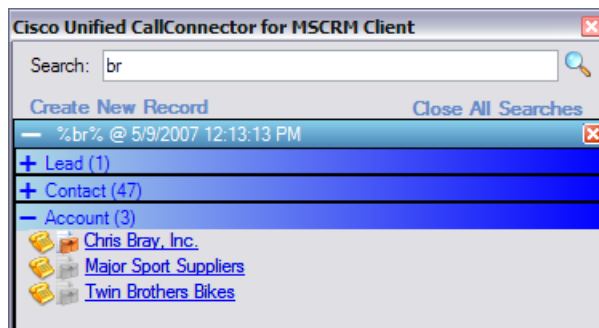
**Figure 52 Client Window: Cisco Unified CallConnector for Microsoft Dynamics CRM**

Inside each search panel are the results of the search. The example used in [Figure 53](#) shows there are 47 Contacts, 3 Accounts, and 1 Lead that matched the search. The Contacts panel expands so that the results are visible.

Three hot spots are in each search-panel result. Click the telephone icon and the client creates a phone call activity record for that contact. If the search was initiated by a phone call, then the details of the phone call will automatically fill in.

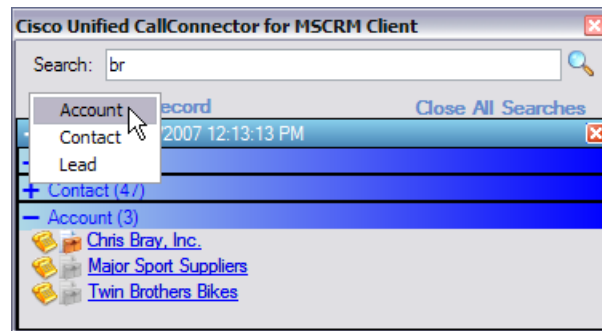
If you click the briefcase icon, a menu showing the active support cases for that customer appears. Clicking one of the menu items opens a support case. If the briefcase icon is grayed out, then there are no support cases available for that contact, or the administrator did not configure the server to return information about support cases.

Finally, if you click a name, the contact record opens.

**Figure 53 Client Contact Record Windows: Cisco Unified CallConnector for Microsoft Dynamics CRM**

To create a new contact, account, or lead record, click Create New Record and select the type of record you want to create from the menu. Clicking one of the items opens a new blank record in the CRM Interface (see [Figure 54](#)).

**Figure 54** Create a New Record Menu: Cisco Unified CallConnector for Microsoft Dynamics CRM



The client maintains an icon in the tray. The two possible icons are:



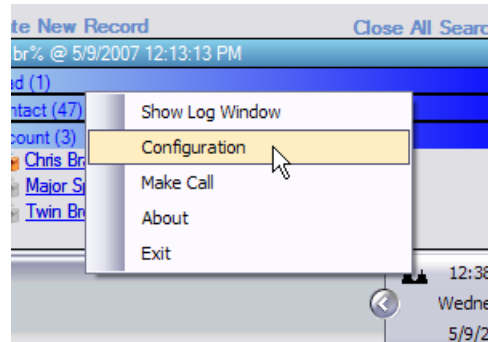
Client successfully contacted and logged in.



Client either could not contact the C4 server or could not log in.

Left-clicking these icons hides or displays the main client window. Right-clicking these icons displays the menu, as shown in [Figure 55](#).

**Figure 55** Hiding and Displaying the Main Client Window and Menu



The options are as follows:

- **Show/Hide Log Window**—Visible only if logging to a window is enabled. Shows or hides the log window.
- **Configuration**—Accesses the client configuration dialog.
- **Make Call**—Manually accesses the Make Call window.
- **About**—Displays client version and support information.
- **Exit**—Exits the client.



## Appendix A: Troubleshooting Tips

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This appendix provides troubleshooting tips.

- Ensure that you have Microsoft CRM running. You need to be logged in and connected before any of the integration macros can work.
- Ensure that you have Cisco Unified CallConnector for Microsoft Dynamics CRM running. It should appear in the Tray on the right side of the Windows Task bar.
- Confirm that events are exactly as described. Misspellings and missing and extra spaces cause problems.
- If you see the “cadlink.exe is not recognized...” error message:
  - Confirm that CADLink is installed in the proper location. Use “Start | Search | for files or folders” on the client machine and enter cadlink.exe in the “Search for files or folders named:” field. It should appear at C:\Program Files\Cisco Systems\Cisco Unified CRM Connector Client\CADLink.exe.
  - If cadlink.exe is found somewhere else, copy it to the C:\Program Files\Cisco Systems\Cisco Unified CRM Connector Client\ folder.

For assistance with troubleshooting, use these resources:

### Related Websites

Related Topic	URL
Cisco and Microsoft Website	<a href="http://www.ciscomicrosoftsmb.com">http://www.ciscomicrosoftsmb.com</a>
Cisco Unified Contact Center Express	<a href="http://www.cisco.com/en/US/products/sw/custcosw/ps1846/index.html">http://www.cisco.com/en/US/products/sw/custcosw/ps1846/index.html</a>

## Related Support Aliases

Related Topic	Alias
For assistance for Cisco Unified IPCC Express	<a href="mailto:Ask-icd-ivr-support@external.cisco.com">Ask-icd-ivr-support@external.cisco.com</a>
For assistance for configuring and using Cisco Agent Desktop	<a href="mailto:Ask-cad@external.cisco.com">Ask-cad@external.cisco.com</a>
For product plans and marketing information	<a href="mailto:Ask-icd-ivr-pm@external.cisco.com">Ask-icd-ivr-pm@external.cisco.com</a>

## Technical Assistance

Description	Link
The Cisco Technical Support & Documentation website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	<a href="http://www.cisco.com/techsupport">http://www.cisco.com/techsupport</a>



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