



Cisco WebDialer Guide Version 1.0(3)

Cisco CallManager Release 3.3(3)

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Preface v

About this Guide	v
Document Conventions	v
Related Documentation	vi
Obtaining Documentation	vii
Cisco.com	vii
Documentation CD-ROM	viii
Ordering Documentation	viii
Documentation Feedback	viii
Obtaining Technical Assistance	ix
Cisco.com	ix
Technical Assistance Center	ix
Cisco TAC Website	ix
Cisco TAC Escalation Center	x
Obtaining Additional Publications and Information	x

CHAPTER 1

Using Cisco WebDialer 1-1

Desktop System Requirements	1-1
Making a Call	1-1

CHAPTER 2

Administering Cisco WebDialer 2-1

Audience	2-1
Prerequisites	2-1
Overview	2-1
Installing and Configuring Cisco WebDialer	2-3
Installing Cisco WebDialer	2-4
Configuring the WebDialer Servlet	2-4
Configuring the Redirector Servlet (Optional)	2-5
Enabling directory.asp	2-6
Enabling SOAP Interfaces (Optional)	2-6
Configuring Application Dial Rules (Optional)	2-6
Creating a Proxy User (Optional)	2-6
Redundancy	2-7

CHAPTER 3

Cisco WebDialer API Reference 3-1

- Audience **3-1**
- Definitions **3-2**
- Call Flows **3-2**
 - Desktop-based Client Application Call Flow **3-2**
 - Browser-based Application Call Flow **3-4**
- Interfaces **3-6**
 - SOAP over HTTP Interface **3-6**
 - makeCallSoap **3-6**
 - endCallSoap **3-8**
 - getProfileSoap **3-9**
 - isClusterUserSoap **3-11**
 - HTML over HTTP Interface **3-12**
 - makeCall **3-12**
 - makeCallProxy **3-12**
- Cisco WebDialer WSDL **3-13**
- Sample JavaScript **3-16**

CHAPTER 4

Troubleshooting 19

- Error Messages **19**
 - Authentication Error **19**
 - This service not enabled for you **19**
 - Service temporarily unavailable **19**
 - Directory service down **20**
 - Cisco CTIManager down **20**
 - Session expired, please login again **20**
 - User not logged in on any device **20**
 - Failed to open device/line **21**
 - Destination not reachable **21**

INDEX



Preface

Cisco WebDialer Version 1.0(3) is used in conjunction with Cisco CallManager Release 3.3(3) to allow Cisco IP phone users to make calls from web and desktop applications.

This preface covers these topics:

- About this Guide, page v
- Document Conventions, page v
- Related Documentation, page vi
- Obtaining Documentation, page vii
- Obtaining Technical Assistance, page ix
- Obtaining Additional Publications and Information, page x

About this Guide

This guide contains:

Chapter	Contents
Chapter 1, “Using Cisco WebDialer”	This chapter is for end users and contains information on using Cisco WebDialer from web or desktop applications.
Chapter 2, “Administering Cisco WebDialer”	This chapter is for Cisco CallManager administrators who are administering Cisco WebDialer.
Chapter 3, “Cisco WebDialer API Reference”	This chapter is for developers who are using Cisco WebDialer to develop client applications for compatibility with the Cisco CallManager IP Telephony system.

Document Conventions

This publication uses the following conventions to convey instructions and information.

Convention	Description
boldface font	Commands and keywords.
<i>italic font</i>	Variables for which you supply values.
[]	Keywords or arguments that appear within square brackets are optional.
{x y z}	A choice of required keywords appears in braces separated by vertical bars. You must select one.
screen font	Examples of information displayed on the screen.
boldface screen font	Examples of information you must enter.
< >	Nonprinting characters, for example passwords, appear in angle brackets in contexts where italic font is not available.
[]	Default responses to system prompts appear in square brackets.

**Note**

Means *reader take note*. Notes contain helpful suggestions or references to additional information and material.

**Timesaver**

This symbol means *the described action saves time*. You can save time by performing the action described in the paragraph.

**Caution**

This symbol means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

**Tip**

This symbol means *the following information will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information, similar to a Timesaver.

Related Documentation

This section lists documents and URLs that provide information on Cisco CallManager, Cisco IP phones, and the technologies required to develop applications with Cisco WebDialer.

- *Cisco CallManager 3.3*— A suite of documents related to the installation and configuration of Cisco CallManager 3.3. Refer to the *Cisco CallManager Documentation Guide for Release 3.3(2)* for a list of documents on installing and configuring Cisco CallManager 3.3(2). Located at: http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/3_3/index.htm

- *Cisco CallManager Documentation Guide for Release 3.3(2)*— A documentation roadmap that lists documents for configuring and installing Cisco CallManager 3.3(2). Located at:
http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/3_3/doc_gd/dg332.htm
- *Cisco IP Phones and Services* — A suite of documents related to the installation and configuration of Cisco IP Phones. Located at:
http://www.cisco.com/univercd/cc/td/doc/product/voice/c_ipphon/index.htm
- *Cisco DistributedDirector*— A suite of documents related to the installation and configuration of Cisco DistributedDirector. Located at:
<http://www.cisco.com/univercd/cc/td/doc/product/iaabu/distrdir/index.htm>.
- *Cisco CallManager Extension Mobility*— Documents the installation and configuration of the Cisco CallManager Extension Mobility feature. Located at:
http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/3_3/sys_ad/3_3_2/ccmfeat/fsem.htm
- *Cisco IP Manager Assistant* — Documents the Cisco IP Manager Assistant feature which includes the configuration of dial rules. Located at:
http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/3_3/sys_ad/3_3_2/ccmfeat/fsipma.htm
- *Simple Object Access Protocol (SOAP) 1.1*
Located at: <http://www.w3.org/TR/SOAP/>
- *Web Service Definition Language (WSDL) 1.1*
Located at: <http://www.w3.org/TR/wsdl>
- *SOAP Tutorial*
Located at: <http://www.w3schools.com/soap/default.asp>
- *WSDL Tutorial* — Web Service Definition Language tutorial. Located at:
<http://www.w3schools.com/wsdl/default.asp>
- <http://www.soapagent.com/> — An open SOAP directory with links to articles, tutorials, and white papers.

Obtaining Documentation

Cisco provides several ways to obtain documentation, technical assistance, and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

<http://www.cisco.com>

International Cisco web sites can be accessed from this URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which may have shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

Registered Cisco.com users can order the Documentation CD-ROM (product number DOC-CONDOCCD=) through the online Subscription Store:

<http://www.cisco.com/go/subscription>

Ordering Documentation

You can find instructions for ordering documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products MarketPlace:

<http://www.cisco.com/en/US/partner/ordering/index.shtml>

- Registered Cisco.com users can order the Documentation CD-ROM (Customer Order Number DOC-CONDOCCD=) through the online Subscription Store:

<http://www.cisco.com/go/subscription>

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can submit comments electronically on Cisco.com. On the Cisco Documentation home page, click **Feedback** at the top of the page.

You can e-mail your comments to bug-doc@cisco.com.

You can submit your comments by mail by using the response card behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com, which includes the Cisco Technical Assistance Center (TAC) Website, as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from the Cisco TAC website. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC website, including TAC tools and utilities.

Cisco.com

Cisco.com offers a suite of interactive, networked services that let you access Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com provides a broad range of features and services to help you with these tasks:

- Streamline business processes and improve productivity
- Resolve technical issues with online support
- Download and test software packages
- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

To obtain customized information and service, you can self-register on Cisco.com at this URL:

<http://www.cisco.com>

Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two levels of support are available: the Cisco TAC website and the Cisco TAC Escalation Center. The avenue of support that you choose depends on the priority of the problem and the conditions stated in service contracts, when applicable.

We categorize Cisco TAC inquiries according to urgency:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

Cisco TAC Website

You can use the Cisco TAC website to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC website, go to this URL:

<http://www.cisco.com/tac>

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC website. Some services on the Cisco TAC website require a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

<http://tools.cisco.com/RPF/register/register.do>

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC website, you can open a case online at this URL:

<http://www.cisco.com/en/US/support/index.html>

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC website so that you can describe the situation in your own words and attach any necessary files.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The *Cisco Product Catalog* describes the networking products offered by Cisco Systems as well as ordering and customer support services. Access the *Cisco Product Catalog* at this URL:
http://www.cisco.com/en/US/products/products_catalog_links_launch.html
- Cisco Press publishes a wide range of networking publications. Cisco suggests these titles for new and experienced users: *Internetworking Terms and Acronyms Dictionary*, *Internetworking Technology Handbook*, *Internetworking Troubleshooting Guide*, and the *Internetworking Design Guide*. For current Cisco Press titles and other information, go to Cisco Press online at this URL:
<http://www.ciscopress.com>
- *Packet* magazine is the Cisco monthly periodical that provides industry professionals with the latest information about the field of networking. You can access *Packet* magazine at this URL:
http://www.cisco.com/en/US/about/ac123/ac114/about_cisco_packet_magazine.html
- *iQ Magazine* is the Cisco monthly periodical that provides business leaders and decision makers with the latest information about the networking industry. You can access *iQ Magazine* at this URL:
http://business.cisco.com/prod/tree.taf%3fasset_id=44699&public_view=true&kbns=1.html
- Training—Cisco offers world-class networking training, with current offerings in network training listed at this URL:

http://www.cisco.com/en/US/learning/le31/learning_recommended_training_list.html



Using Cisco WebDialer

This chapter contains the following sections:

- Desktop System Requirements, page 1-1
- Making a Call, page 1-1

Cisco WebDialer Version 1.0(3), used in conjunction with Cisco CallManager allows Cisco IP phone users to make calls from web and desktop applications. For example, Cisco WebDialer uses hyperlinked telephone numbers in a company directory which allow you to make calls by clicking on a telephone number. To use the hyperlinked telephone numbers in your company directory, the company directory search page must be enabled for Cisco WebDialer.

Desktop System Requirements

The recommended desktop system requirements for Cisco WebDialer are:

- Microsoft Windows 2000
- Netscape Communicator 4.7X or a later version, or
- Internet Explorer 5.5 or a later version

Making a Call

Figure 1-1 shows a sample directory page.

To make a call:

-
- Step 1** Go to your company directory, or the Cisco CallManager directory search page and click on the hyperlinked telephone number of the person you want to call. Contact your system administrator for the location of this directory. Figure 1-1 shows a sample company directory where telephone numbers appear as hyperlinks.

Figure 1-1 Sample Company Directory



An authentication dialog window opens after you click on a telephone number hyperlink. See Figure 1-2.

Step 2 Enter your Cisco CallManager user ID and password in the authentication dialog window.

- For first time users, go to step 3.
- If you are not a first time user, go to step 4.

Figure 1-2 User Authentication Dialog



Step 3 If you are a first-time user,

- The Preference dialog window opens after successful authentication. Select your calling device, your calling line, and your language in the preference dialog window as shown in Figure 1-3.
- The calling device drop-down menu lists all the telephone devices assigned to you (the caller) and the calling line drop-down menu lists all the telephone numbers associated with those devices.
- Select a permanent device such as your Cisco IP phone, or select the extension mobility option. The Cisco Extension Mobility feature allows users to temporarily access their Cisco IP phone configuration from other Cisco IP phones. Contact your Cisco CallManager system administrator for more information on this feature.
- The Make Call dialog window opens after you click on a phone link. If you do not want this dialog window to open in the future, and want your call to be automatically connected after clicking on the phone link, select the check box **Do not display call confirmation dialog**.

Figure 1-3 Preferences Dialog



Step 4 If you are not a first time user,

- The MakeCall dialog window opens after successful authentication. Click the **Dial** button to place your call. You will hear a normal ring tone until the called party answers your call. If you hear a busy ring tone which indicates an unsuccessful connection, click the **Hangup** button in the Hangup dialog window and try again.
 - If you do not want this dialog window to open in the future, and want your call to be automatically connected after clicking on the phone link in your company directory, select the check box **Do not display call confirmation dialog** in the Preferences Dialog box.
 - To either reset your preferences, or logout of Cisco WebDialer, click the **Preferences** or **Logout** icons which are placed next to each other in the upper left corner of the MakeCall dialog window.
- The Hangup dialog window remains open for the duration of the call. That duration is set by the system administrator. At the end of that duration, the window disappears from the screen and you have to hangup from your IP phone. If you still cannot dial a number, refer to Chapter 4, “Troubleshooting.”.

Step 5 To end your call, click the **Hangup** button in the HangUp dialog window displayed on your screen, or hang up from your IP phone.



Administering Cisco WebDialer

This chapter provides information on how to administer Cisco WebDialer and contains the following sections:

- Audience, page 2-1
- Prerequisites, page 2-1
- Overview, page 2-1
- Installing and Configuring Cisco WebDialer, page 2-3
- Creating a Proxy User (Optional), page 2-6

Audience

This chapter is intended for Cisco CallManager administrators who are administering Cisco WebDialer Version 1.0(3), and assumes that the administrator is familiar with Cisco CallManager. For more information on Cisco CallManager, refer to the list of Cisco CallManager documents in the “Related Documentation” section on page -vi in the Preface.

Prerequisites

To configure your company directory search page for Cisco WebDialer or the Cisco CallManager directory search page, your system administrator must:

- Install and configure Cisco CallManager.
- Install and configure Cisco WebDialer.

For a list of documents on Cisco CallManager, refer to the “Related Documentation” section on page vi in the Preface.

Overview

Cisco WebDialer is installed on a Cisco CallManager server, and used in conjunction with Cisco CallManager to allow Cisco IP phone users to make calls from web and desktop applications. For example, Cisco WebDialer uses hyperlinked telephone numbers in a company directory, allowing users to make calls from the web page by clicking on the telephone number of the person they are trying to call.

The two main components of Cisco WebDialer are the Webdialer and Redirector servlets.

Webdialer Servlet

The WebDialer servlet is a Java servlet that allows Cisco CallManager users in a specific cluster to make and end calls, as well as access their phone and line configuration. For example, Microsoft Outlook calls the specific SOAP interface method on the Cisco WebDialer server and requests a list of all the phone devices, and the telephone numbers associate with those devices for a specific user. These Webdialer servlets are located on the Cisco CallManager servers that are configured by the Cisco CallManager system administrator.

Redirector Servlet

The Redirector servlet is a Java based Tomcat servlet that finds the Cisco CallManager cluster for a request made by a Cisco WebDialer user. It redirects that request to the specific Cisco WebDialer server located in that user's Cisco CallManager cluster. The Redirector servlet is used only for multi-cluster applications, and is available only for applications that are developed using HTML over HTTP interfaces.

Figure 2-1 Multiple Clusters

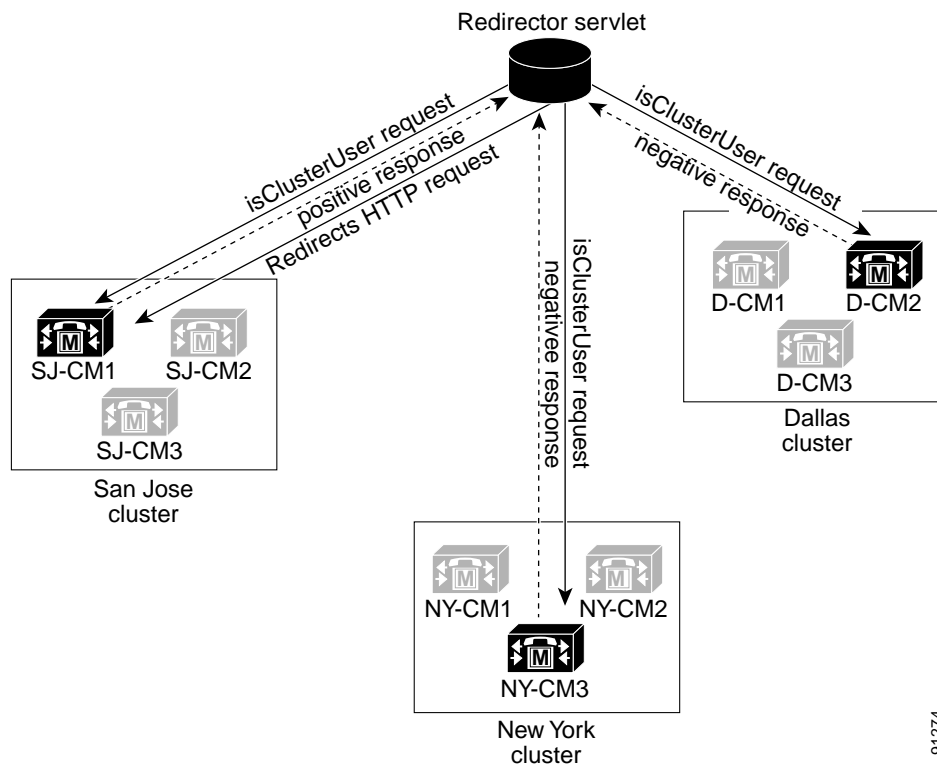


Figure 2-1 illustrates how a Redirector servlet redirects a call in a multi-cluster environment. For example, consider three clusters, each one in a single city such as San Jose (SJ-CM), Dallas (D-CM), and New York (NY-CM). Each cluster contains three Cisco CallManager servers with Webdialer servlets that have been configured for Cisco CallManager servers SJ-CM1, D-CM2, and NY-CM3.

The system administrator configures the Webdialer servlets on any of the Cisco CallManager servers by entering the IP address of that specific Cisco CallManager server in the *wdservers* service parameter. For information on configuring Webdialer and Redirector servlets, refer to the “Installing and Configuring Cisco WebDialer” section on page 2-3.

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When a user located in San Jose clicks on a telephone number in the corporate directory search page which is enabled by Cisco WebDialer:

1. The Cisco CallManager server sends an initial *makeCall* HTTP request to the Redirector servlet.
2. If this request is received for the first time, the Redirector servlet reads the Cisco WebDialer server cookie and finds it empty.

For a repeat request, the Redirector servlet reads the IP address of the Cisco WebDialer server that previously serviced the client and sends a *isClusterUser* HTTP request only to that server.

3. The Redirector servlet sends back a response asking for information, which results in the authentication dialog box opening up for the user.
4. The user enters the Cisco CallManager user ID and password and clicks the **Submit** button.
5. The Redirector servlet reads only the user identification from this information and sends a *isClusterUser* HTTP request to each of the Cisco WebDialer servers that have been configured by the system administrator.

Figure 2-1 illustrates how this request is sent to the Webdialer servlets that have been configured for SJ-CM1, D-CM2 and NY-CM3. Depending on the geographical location of the calling party, the WebDialer servlet from the cluster representing that location responds positively to the Redirector servlet. The remaining Webdialer servlets that were contacted, return a negative response. The WebDialer servlet SJ-CM1 responds positively to the request because the calling party is located in San Jose (SJ-CM).

6. The Redirector servlet redirects the original request from the user to SJ-CM1.

Installing and Configuring Cisco WebDialer

This section describes the tasks required to install and configure Cisco WebDialer.

Before you install and configure Cisco WebDialer, you must install and configure Cisco CallManager, release 3.3(3).



Caution

For a service or an engineering release of Cisco CallManager 3.3(3):

Upgrading to a new version of the same release on a server on which Cisco WebDialer has been installed breaks Cisco WebDialer functionality. To restore Cisco WebDialer functionality, follow the procedure in the section “Reinstalling Cisco WebDialer after Upgrading Cisco CallManager, release 3.3 (3).”

Reinstalling Cisco WebDialer after Upgrading Cisco CallManager, release 3.3 (3)

1. Uninstall Cisco WebDialer that currently runs on the Cisco CallManager server that you want to upgrade.
2. Upgrade Cisco CallManager to your desired version of release 3.3(3).
3. Reinstall Cisco WebDialer on that same Cisco CallManager server.

For documentation on installing and configuring Cisco CallManager 3.3(3), refer to the “Related Documentation” section on page -vi in the Preface.

To install and configure Cisco WebDialer:

1. Install Cisco WebDialer on a Cisco CallManager server running Cisco CallManager release 3.3(3).
2. Configure the Webdialer Servlet. See Configuring the WebDialer Servlet, page 2-4 for details.
3. Configure the Redirector Servlet. See Configuring the Redirector Servlet (Optional), page 2-5 for details.
4. Configure the application dial rules for multiple cluster applications. See Configuring Application Dial Rules (Optional), page 2-6 for details.
5. Enable the SOAP Interfaces. Use this procedure only if you install Cisco WebDialer on a Cisco CallManager server that is used as a subscriber server. See Enabling SOAP Interfaces (Optional), page 2-6 for details.

Installing Cisco WebDialer

Follow this procedure to install Cisco WebDialer Version 1.0(3) on a Cisco CallManager server running Cisco CallManager release 3.3(3):

-
- Step 1** Download the executable (.exe) file located at <http://www.cisco.com/cgi-bin/tablebuild.pl/callmgr-33>.
- Step 2** Launch the executable file which launches the InstallShield Wizard. The InstallShield Wizard leads you through the installation.
- Step 3** After you complete the installation using the InstallShield Wizard:
- Configure the WebDialer and Redirector servlets
 - Configure the application dial rules (optional)
 - Enable the SOAP interfaces (optional).
-

Configuring the WebDialer Servlet

The WebDialer servlet is located at <http://ipaddress/webdialer/Webdialer?destination=xxxx>, where ipaddress is the IP address of the Cisco CallManager server on which you are installing Cisco WebDialer.

To configure the Webdialer servlet:

-
- Step 1** The executable (.exe) file that was downloaded from CCO installs the initialization (.ini) file on your system hard drive at:
- C:\Program Files\Cisco\WebDialer\configwd.ini
- Step 2** Open the configwd.ini file located at C:\Program Files\Cisco\WebDialer\configwd.ini. There are five parameters in the file: *TraceOn*, *PrimaryCTIManager*, *BackupCTIManager*, *EndCallDialogDuration*, and *UserSessionExpiryInHours*.

Four of these parameters, *TraceOn*, *PrimaryCTIManager*, *EndCallDialogDuration*, and *UserSessionExpiryInHours* have default values already assigned to them. Enter new values if required by your application.

The parameter *BackupCTIManager* does not have any default values assigned to it. Enter values for this parameter if your application requires a backup CTI Manager.

<i>TraceOn</i>	Enter a value of <i>True</i> or <i>False</i> to turn debug traces <i>On</i> or <i>Off</i> for the Webdialer servlet.
<i>PrimaryCTIManager</i>	Enter the IP address of the primary Cisco CTIManager. The default IP address of the CTI Manager is 127.0.0.1, which is the local host server that is used to set up Cisco WebDialer. The maximum length is fifteen digits.
<i>BackupCTIManager</i>	Enter the IP address of the backup Cisco CTIManager. The maximum length is fifteen digits. No IP address implies that there is no backup CTI Manager.
<i>EndCallDialogDuration</i>	Enter the duration, in seconds, to display the dialog to end a call. This dialog indicates that the user must end their call if they dialed out in error. The default value is fifteen seconds, with a maximum value of sixty seconds and a minimum value of ten seconds.
<i>UserSessionExpiryInHours</i>	Enter the duration, in hours, for which the user's login session is valid. A default value of 0 indicates that the login session is valid for an indefinite amount of time.

Step 3 Restart the Cisco Tomcat Service for the parameter values to take effect.

Configuring the Redirector Servlet (Optional)

Configure the Redirector servlet only if your applications require multiple clusters. For single-cluster applications, use the Cisco CallManager directory search page (directory.asp) which is bundled in Cisco CallManager.

The Redirector servlet is located at <http://ipaddress/webdialer/Redirector?destination=xxxx>, where *ipaddress* is the IP address of the Cisco CallManager server on which you are installing Cisco WebDialer.



Note Do not download the executable file again. The executable file installs the Redirector servlet file (configrd.ini file) and the WebDialer servlet file (configwd.ini) when you download the executable file to install Cisco WebDialer.

To configure the Redirector servlet:

Step 1 Open the configrd.ini file located at C:\Program Files\Cisco\WebDialer\configrd.ini. There are two parameters in the file: *wdservers*, and *TraceOn*.

The parameter *TraceOn* has default values already assigned to it. Enter new values if required by your application. For *wdservers*, enter new values as required by your application.

wdservers Enter the IP address of the Cisco CallManager server on which Cisco WebDialer is enabled. Each IP address is separated by a space. Only one WebDialer servlet per cluster should be enabled. If more than one WebDialer servlet per cluster is enabled, the end user sees a drop-down menu on the computer screen when they click on the telephone number of the person they wish to call. This drop-down menu contains the different locations where the calling party (end user making the call) is located. The end user chooses the appropriate location and proceeds to make the call.

TraceOn Enter a value of *True* or *False* to turn debug traces *On* or *Off* for the Redirector servlet.

Step 2 Restart the Cisco Tomcat Service for the parameter values to take effect.

Enabling directory.asp

For single-cluster applications, access Cisco WebDialer through the Cisco CallManager directory search page (`directory.asp`) which is bundled with Cisco CallManager and located at:

`http://<CallManager_server_on_which_Cisco_WebDialer_is_installed>/CCMuser/directory.asp`.

For documentation on Cisco CallManager, refer to the “Related Documentation” section on page -vi in the Preface. Cisco WebDialer can also be accessed through customized directory search applications that can be developed using Simple Access Object Protocol (SOAP) or HTML interfaces. For information on these interfaces, refer to Chapter 3, “Cisco WebDialer API Reference”.

Enabling SOAP Interfaces (Optional)

If the SOAP interfaces are not enabled after installing Cisco WebDialer on a Cisco CallManager server, restart the Cisco Tomcat Service.

Configuring Application Dial Rules (Optional)

The application dial rules must be configured only for multiple cluster applications of Cisco WebDialer. You need not configure these dial rules if you are using the Cisco CallManager directory search page (`directory.asp`) for single-cluster applications.

To configure these application dial rules, refer to the *Cisco IP Manager Assistant* document located at: www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/3_3/sys_ad/3_3_2/ccmfeat/fsipma.htm

Creating a Proxy User (Optional)

Create a proxy user if you are using the `makeCallProxy` HTML over HTTP interface to develop your Cisco WebDialer application. For information on the `makeCallProxy` interface, refer to “`makeCallProxy`” section on page 3-12 in Chapter 3, “Cisco WebDialer API Reference.”

For information on administering Cisco CallManager and its related features, refer to the list of documents in the “Related Documentation” section on page -vi in the Preface.

You can enable authentication proxy rights either for an existing user or a new user.

To enable authentication proxy rights for an existing user:

-
- Step 1** Launch the Cisco CallManager Administration page locally by selecting **Start > Programs > Cisco CallManager 3.3**.
 - Step 2** Click **User > Global Directory**
 - Step 3** Enter the name of the Cisco CallManager user and click **Search**. A user information page opens, listing the **Last Name**, **First Name**, **User ID**, and **Department** of the user.
 - Step 4** Click on any of the fields listed in step 3. A user configuration page opens for that user.
 - Step 5** Click the **Extension Mobility** link from the left panel of the page. The Extension Mobility page opens for that user.
 - Step 6** Scroll down the page and select the option “Enable Authentication Proxy Rights” by clicking in the box.
 - Step 7** Click **Update Selected**.
-

To enable authentication proxy rights for a new user:

-
- Step 1** Launch the Cisco CallManager Administration page locally by selecting **Start > Programs > Cisco CallManager 3.3**.
 - Step 2** Click **User > Add New User**
 - Step 3** Enter the following mandatory fields:
First Name; Last Name; User ID; User Password; Confirm Password; PIN; and Confirm PIN. Click **Insert**.
 - Step 4** Click the **Extension Mobility** link from the left panel of the page. The Extension Mobility page opens for that user.
 - Step 5** Scroll down the page and click the check box **Enable Authentication Proxy Rights**.
 - Step 6** Click **Update Selected**.
-

Redundancy

Redundancy is important for applications running in a multi-cluster environment. This section describes one of the methods used to achieve that redundancy.

If a single Redirector servlet is used to run on multiple clusters in a multi-cluster environment, it becomes a single point of failure. For example, in Figure 2-1, a Redirector servlet runs on the San Jose cluster, and also services the New York and Dallas clusters. If this Redirector servlet fails to run on the San Jose cluster, the users serviced by all three clusters cannot use Cisco WebDialer.

To avoid this single point of failure, configure Redirector servlets for each cluster. If the directory search page points to a URL such as <http://SanJoseCluster.company.com/webdialer/Redirector>, change that URL to a virtual link such as <http://webdialer-service.company.com/webdialer/Redirector>. This virtual link points to a virtual machine using a Cisco DistributedDirector. All the Redirector servlets operate behind this virtual link.

For more information on installing and configuring Cisco DistributedDirector, refer to the suite of documents for Cisco DistributedDirector.



Cisco WebDialer API Reference

This chapter documents the Simple Object Access Protocol (SOAP) and HTML over HTTP interfaces that are used to develop customized directory search applications for Cisco WebDialer Version 1.0(3), and contains the following sections:

- Audience, page 3-1
- Definitions, page 3-2
- Call Flows, page 3-2
- Interfaces, page 3-6
- Cisco WebDialer WSDL, page 3-13
- Sample JavaScript, page 3-16

Audience

This chapter is intended for software developers who are using Cisco WebDialer to develop client applications compatible with the Cisco CallManager IP Telephony system. This chapter assumes that the developer is familiar with the following technologies and languages:

- Simple Object Access Protocol (SOAP)
- Extensible Markup Language (XML)
- Hypertext Transfer Protocol (HTTP)
- Hypertext Markup Language (HTML)
- Web Service Definition Language (WSDL)

The developer must also have an understanding of Cisco CallManager and its applications. Documents on Cisco CallManager and other related technologies are listed in the “Related Documentation” section on page vi in the Preface.

Definitions

Cisco WebDialer Server	A Cisco CallManager server that hosts the Cisco WebDialer application
Cisco WebDialer Application	The software that is installed on a Cisco CallManager server. It enables the click-to-dial functionality by creating hyperlinked telephone numbers in a company directory. This functionality allows users to make calls from the web page by clicking on the telephone number of the person they are trying to call. The Cisco WebDialer application consists of two Java servlets, the WebDialer servlet and the Redirector servlet.
WebDialer Servlet	A Java servlet that allows Cisco CallManager users in a specific cluster to make and end calls, as well as access their phone and line configuration.
Redirector Servlet	A Java servlet that finds the Cisco CallManager cluster for a request made by a Cisco WebDialer user. It redirects that request to the specific Cisco WebDialer server located in that user's Cisco CallManager cluster.

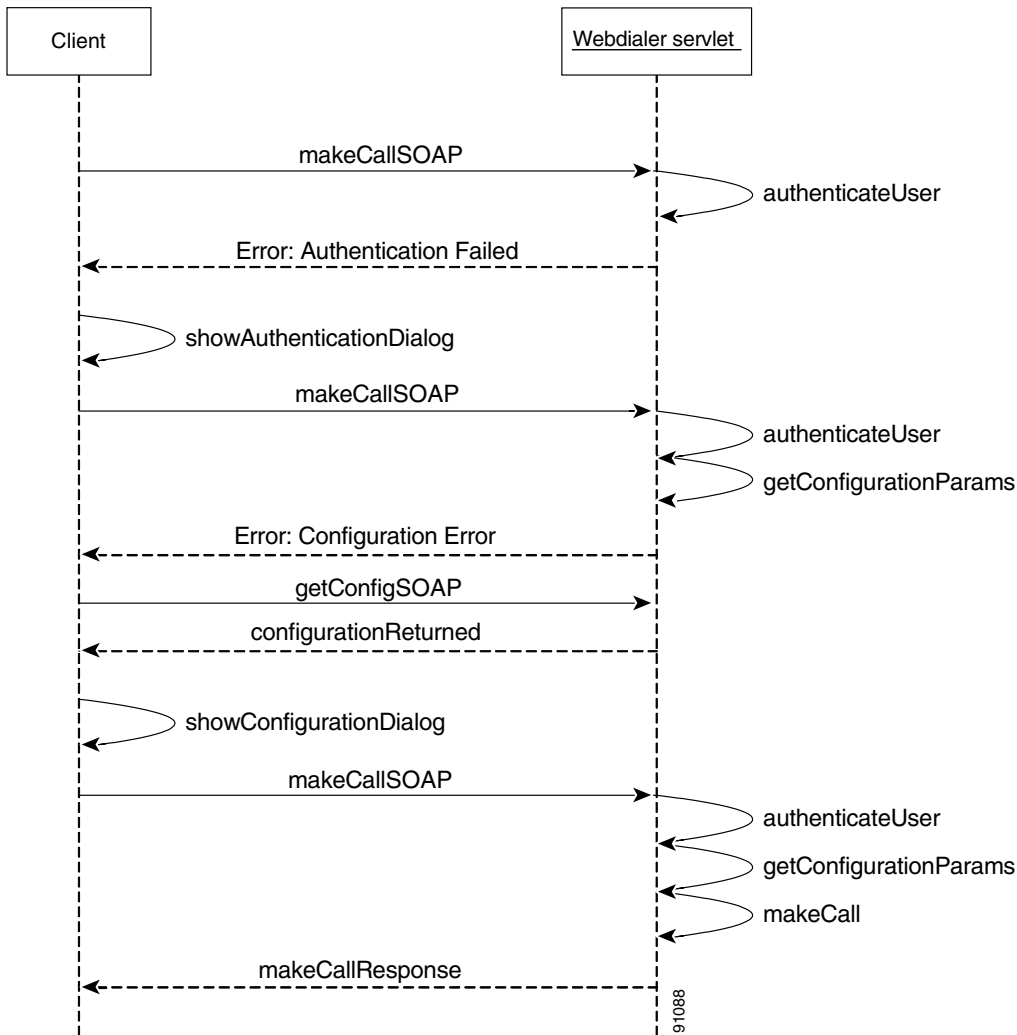
Call Flows

The call flows in this section describe the flow of events for client and browser-based applications that use Cisco WebDialer, and should help you design customized applications for Cisco WebDialer.

Desktop-based Client Application Call Flow

Figure 3-1 shows the call flow for an outgoing call from a client application such as Microsoft Outlook Plug-in to a WebDialer servlet. The user clicks the **Dial** or **Make Call** button in the address book of the client application. If the user is making a call for the first time, the application does not have authentication or configuration information on the user.

Figure 3-1 Cisco WebDialer Call Flow for a Client-based Application



If the user makes a call for the first time:

1. The client sends a makeCallSoap request to the configured WebDialer servlet.
2. The WebDialer servlet attempts to authenticate the user. Figure 3-1 shows an authentication failure because the authentication information is incomplete or does not exist.
3. The WebDialer servlet sends an authentication failure response to the client application.
4. The client application displays a dialog box on the computer screen of the user asking for the user ID and password. The user enters this information and clicks the **submit** button. The user ID and password is now stored for future invocations of the application.
5. The application sends a repeat SOAP request to the WebDialer servlet. The request contains credential information on the user.
6. The WebDialer servlet authenticates the user.
7. The WebDialer servlet reads any missing configuration information in the request.
8. The WebDialer servlet returns a configuration error message to the client application.

9. The client application sends a getConfigSoap request to the WebDialer servlet.
10. The WebDialer servlet responds with the user's configuration information stored in the directory.
11. The client application displays a configuration dialog box on the user's computer screen asking the user to select or update the configuration. The user enters the information and clicks the **submit** button. The user's configuration information is now stored for future invocations of the application.
12. The client resends the makeCallSoap request to the WebDialer servlet. This request contains the user's configuration information.
13. The WebDialer servlet authenticates the user and dials the telephone number using the information contained in the makeCallSoap request. It responds back to the client with a success or failure message.

**Note**

The call flow goes directly to step twelve:

- If the credential and configuration information is already stored when the application is installed.
 - For all subsequent requests made by the user.
-

Browser-based Application Call Flow

Figure 3-2 shows the call flow for an HTTP based browser application such as a directory search page, personal address book, or the Cisco CallManager directory search page (directory.asp) which is bundled with Cisco CallManager.

The user clicks the **Dial** or **Make Call** button in the address book of the client application. If the user is making a call for the first time, the application does not have authentication or configuration information on the user.

If the user makes a call for the first time:

1. The client sends a makeCall HTTP request to the configured WebDialer servlet. The query string contains the number to be called.
2. The WebDialer servlet authenticates the user. Authentication fails because the authentication information is incomplete or does not exist.

**Note**

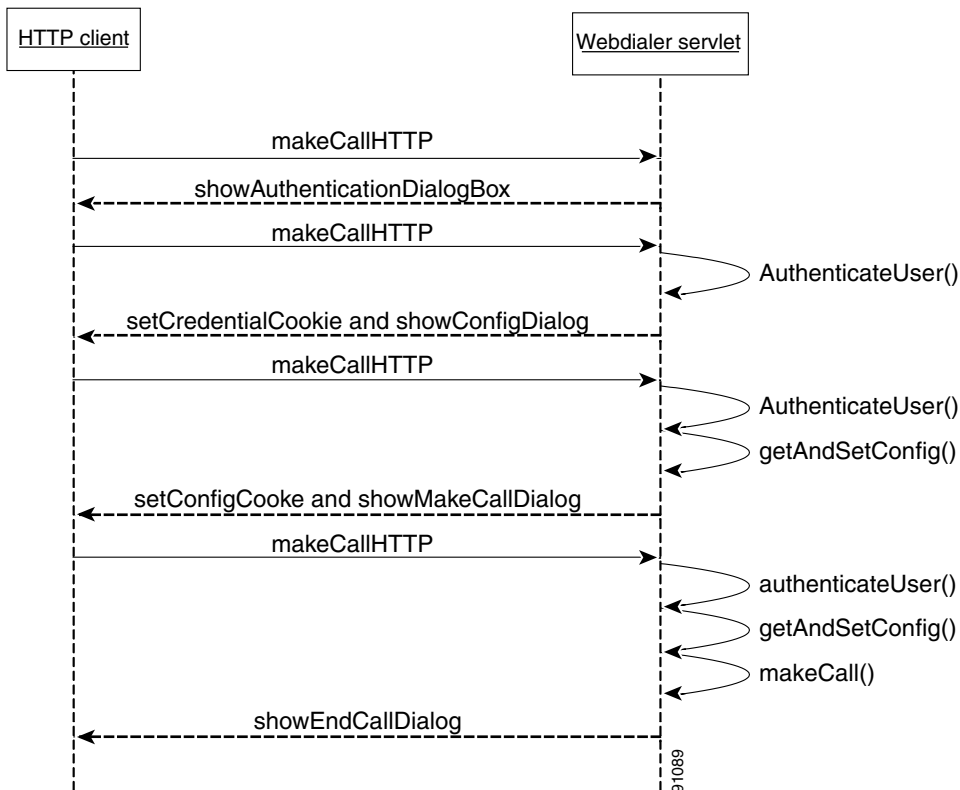
Authentication is successful if the user's credentials are sent with the request, and the call flow goes directly to number seven.

3. The WebDialer servlet sends an authentication dialog to the client browser for user authentication.
4. The user enters the user ID and password and clicks the **Submit** button.
5. The client sends a makeCallHTTP request containing the user's credentials to the WebDialer servlet.
6. The WebDialer servlet authenticates the user.
7. The WebDialer servlet reads the configuration information in the cookie which is sent with the request.
8. Assuming that the request is made for the first time, the servlet sends a response containing a cookie to the the client's browser. The cookie containing the client's credentials is stored on the client's browser. The client's credentials are user ID, IP address, and the time of the request.
9. The user enters the updates in the configuration dialog box and clicks the **Submit** button.

10. The client's browser sends a makeCall HTTP request to the WebDialer servlet. The request contains a cookie with the credential and configuration information in parameter form.
11. The WebDialer servlet uses the credentials to authenticate the user and saves the configuration information in its memory.
12. The WebDialer servlet sends a makeCall confirmation dialog to the client's browser with the configuration information stored in a cookie. The cookie is stored on the client's browser for future invocations.
13. The Make Call dialog box appears on the user's computer screen. The user clicks the **Dial** button which sends another makeCall HTTP request to the WebDialer servlet.
14. The WebDialer servlet authenticates the user using the credentials in the cookie, retrieves the configuration information from the cookie, and makes the call.
15. The servlet responds by sending an endCall confirmation dialog to the user to end the call. The End Call dialog box appears on the user's computer screen and stays there for the amount of time configured in the service parameters.

For all subsequent requests, the call flow starts at number 12 and ends at number 15.

Figure 3-2 Cisco WebDialer Call Flow for a Browser-based Application



Interfaces

Cisco WebDialer applications interact with the WebDialer servlet through two interfaces:

- The SOAP over HTTP interface— This interface is based on the Simple Object Access Protocol (SOAP) and is used to develop desktop applications such as Microsoft Outlook Add-in and SameTime Client Plug-in. Developers can use the `isClusterUserSoap` interface to design multi-cluster applications that require functionality similar to a Redirector servlet.
- HTML over HTTP interface— This interface is based on the HTTP protocol and is used to develop web-based applications such as the Cisco CallManager directory search page (`directory.asp`). Developers using this interface can use the Redirector servlet for designing multi-cluster applications.

SOAP over HTTP Interface

To access the SOAP interfaces for Cisco WebDialer, use the Cisco WebDialer Web Service Definition Language (WSDL) in the “Cisco WebDialer WSDL” section on page 3-13.

makeCallSoap

The `makeCallSoap` interface is accessed by initiating a SOAP request to the URL `http://ipaddress/wdsoap/servlet/rpcrouter` for the service name `WebdialerSoap`. In this URL, `ipaddress` is the IP address of the Cisco CallManager server. This SOAP interface is used by plug-in clients such as Microsoft Outlook Plug-in.

Parameters

Table 3-1 *makeCallSoap Parameters*

Parameter	Mandatory	Description	Data Type	Range of Values	Default Value
Destination	Mandatory	Standard canonical form. For example +1 408 5551212 or extensions such as 2222.	String	None	None
Credential	Mandatory	The user ID or password of the user or proxy user. For more information on creating a proxy user, refer to the “Creating a Proxy User (Optional)” section on page 2-6.	Refer to the credential data type in the “Cisco WebDialer WSDL” section on page 3-13.	None	None
Profile	Mandatory	The profile that is used to make a call. An example of a typical profile is a calling device such as an IP phone or line.	Refer to the profile data type in the “Cisco WebDialer WSDL” section on page 3-13.	None	None

Results

Refer to the “Cisco WebDialer WSDL” section on page 3-13 for return values and their data type.

Table 3-2 *makeCallSoap Results*

Error Code	Name	Type	Description	Action by application
0	responseCode	Integer	Success	Displays a dialog box on the computer screen.
	responseDescription	String	Success	
1	responseCode	Integer	Call failure error	Displays a relevant error message.
	responseDescription	String	Call failure error	
2	responseCode	Integer	Authentication error	Displays the authentication dialog where the user enters ID and password information.
	responseDescription	String	User authentication error	
3	responseCode	Integer	No authentication proxy rights	Void for user-based applications.
	responseDescription	String	No authentication proxy rights	
4	responseCode	Integer	Directory error	Displays an appropriate directory error message.
	responseDescription	String	Directory error	
5	responseCode	Integer	No device is configured for the user, or, there are missing parameters in the request.	The application initiates a getConfigSOAP request and displays the selected device and line to the user.
	responseDescription	String	No device is configured for the user, or, there are missing parameters in the request.	
6	responseCode	Integer	Service is temporarily unavailable.	Displays the appropriate error dialog with an option to try again.
	responseDescription	String	Service is temporarily unavailable.	
7	responseCode	Integer	Destination cannot be reached.	Displays the appropriate error dialog that allows the user to edit the dialed number.
	responseDescription	String	Destination cannot be reached.	
8	responseCode	Integer	Service error	Displays the appropriate error dialog.
	responseDescription	String	Service error	
9	responseCode	Integer	Service overloaded	Displays the appropriate error dialog with an option to try again.
	responseDescription	String	Service overloaded	

endCallSoap

The endCallSoap interface is accessed by initiating a SOAP request to the URL `http://ipaddress/wdsoap/servlet/rpcrouter` for the service name *WebdialerSoap*. In this URL, ipaddress is the IP address of the Cisco CallManager server on which Cisco WebDialer is configured.

This SOAP interface is used by plug-in based clients such as Microsoft Outlook Add-in.

Parameters

Table 3-3 endCallSoap Parameters

Parameter	Mandatory	Description	Data Type	Range of Values	Default Value
Credential	Mandatory	The user ID or password of the user or proxy user. For information on creating a proxy user, refer to the “Creating a Proxy User (Optional)” section on page 2-6.	Refer to the credential data type in the “Cisco WebDialer WSDL” section on page 3-13.	None	None
Profile	Mandatory	The profile that is used to make a call. An example of a typical profile is a calling device such as an IP phone or line.	Refer to the profile data type in the “Cisco WebDialer WSDL” section on page 3-13.	None	None

Results

Refer to the “Cisco WebDialer WSDL” section on page 3-13 for return values and their data type.

Table 3-4 endCallSoap Results

Error Code	Name	Type	Description	Action by application
0	responseCode	Integer	Success	Displays a dialog box on the computer screen.
	responseDescription	String	Success	
1	responseCode	Integer	Call failure error	Displays a relevant error message.
	responseDescription	String	Call failure error	
2	responseCode	Integer	Authentication error	Displays the authentication dialog for the user to enter their user ID and password.
	responseDescription	String	User authentication error	
3	responseCode	Integer	No authentication proxy rights	Void for user-based applications.
	responseDescription	String	No authentication proxy rights	

Table 3-4 *endCallSoap Results (continued)*

Error Code	Name	Type	Description	Action by application
4	responseCode	Integer	Directory error	Displays an appropriate directory error message.
	responseDescription	String	Directory error	
5	responseCode	Integer	No device is configured for the user, or, there are missing parameters in the request.	The application initiates a getConfigSOAP request and displays the selected device and line to the user.
	responseDescription	String	No device is configured for the user, or, there are missing parameters in the request.	
6	responseCode	Integer	Service is temporarily unavailable.	Displays the appropriate error dialog with an option to try again.
	responseDescription	String	Service is temporarily unavailable.	
7	responseCode	Integer	Destination cannot be reached.	Displays the appropriate error dialog that allows the user to edit the dialed number.
	responseDescription	String	Destination cannot be reached.	
8	responseCode	Integer	Service error	Displays the appropriate error dialog.
	responseDescription	String	Service error	
9	responseCode	Integer	Service overloaded	Displays the appropriate error dialog with an option to try again.
	responseDescription	String	Service overloaded	

getProfileSoap

The getProfileSoap interface is accessed by initiating a SOAP request to the URL `http://ipaddress/wdsoap/servlet/rpcrouter` for the service name *WebdialerSoap*. In this URL, *ipaddress* is the IP address of the Cisco CallManager server on which Cisco WebDialer is configured.

This SOAP interface is used by plug-in based clients such as Microsoft Outlook Add-in.

Parameters

Table 3-5 *getProfileSoap Parameters*

Parameter	Mandatory	Description	Data Type	Range of Values	Default Value
Credential	Mandatory	The user ID or password of the user or proxy user. For information on creating a proxy user, refer to the “Creating a Proxy User (Optional)” section on page 2-6.	Refer to the credential data type in the “Cisco WebDialer WSDL” section on page 3-13.	None	None
UserID	Mandatory	The user ID for which the configuration is requested.	String	None	None

Results

Refer to the “Cisco WebDialer WSDL” section on page 3-13 for return values and their data type.

Table 3-6 *get ProfileSoap Results*

Error Code	Name	Type	Description	Action by plug-in application
0	responseCode	Integer	Returns an array of phones or lines on the phone associated with the user. Refer to the Cisco WebDialer WSDL for the WDDeviceInfo data type.	Displays a dialog box on the computer screen.
	responseDescription	String	Success	
	deviceInfoList	Array	Returns an array of the the WDDeviceInfo data type.	
1	responseCode	Integer	No device is configured for the user.	Displays an appropriate error message.
	responseDescription	String	No device is configured for the user.	
2	responseCode	Integer	Authentication error	Displays the authentication dialog where the user enters ID and password information.
	responseDescription	String	User authentication error	
3	responseCode	Integer	No authentication proxy rights.	Void for user-based applications.
	responseDescription	String	No authentication proxy rights.	

Table 3-6 *get ProfileSoap Results (continued)*

Error Code	Name	Type	Description	Action by plug-in application
4	responseCode	Integer	Directory error	Displays an appropriate directory error message.
	responseDescription	String	Directory error	
6	responseCode	Integer	Service is temporarily unavailable.	Displays the appropriate error dialog with an option to try again.
	responseDescription	String	Service is temporarily unavailable.	
9	responseCode	Integer	Service is overloaded.	Displays the appropriate error dialog with an option to try again.
	responseDescription	String	Service is overloaded.	

isClusterUserSoap

The `isClusterUserSoap` interface is accessed by initiating a SOAP request to the URL `http://ipaddress/wdsoap/servlet/rpcrouter` for the service name `WebdialerSoap`. In this URL, `ipaddress` is the IP address of the Cisco CallManager server on which Cisco WebDialer is configured.

This SOAP interface is used by plug-in based clients such as Microsoft Outlook Add-in. It is used for multi-cluster applications that require functionality, similar to a Redirector servlet, for redirecting calls to the various locations where Cisco WebDialer is installed on a network. The application uses this interface to locate and verify the Cisco WebDialer servicing the user, followed by `makeCall`, `endCall` or `getProfile` requests to that Cisco WebDialer.

Parameters

Table 3-7 *isClusterSoap Parameters*

Parameter	Mandatory	Description	Data Type	Range of Values	Default Value
UserID	Mandatory	The user ID for which the request is made.	String	None	None

Results

Refer to the “Cisco WebDialer WSDL” section on page 3-13 for return values and their data type.

Table 3-8 *isClusterSoap Results*

Name	Type	Description
result	Boolean	The result is true if the user is present in the directory of the cluster. The result is false if the user is not present in the directory of the cluster.

HTML over HTTP Interface

This section describes the HTML over HTTP interfaces.

makeCall

The makeCall interface is used in customized directory search applications. It is also used by the directory search page (directory.asp) that is bundled with Cisco CallManager. The makeCall interface is accessed by initiating an HTTP request to the URL `http://ipaddress/webdialer/Webdialer`. In this URL, ipaddress is the IP address of the Cisco CallManager server for which Cisco WebDialer is configured.

This interface is used by browser-based applications in which the browser accepts cookies. The user profile exists only for the length of the session if the cookies are disabled in a browser. For a sample script that is used to enable directory search pages, go to the “Sample JavaScript” section on page 3-16.

Parameters

Table 3-9 makeCall Parameters

Parameter	Mandatory	Description	Data Type	Range of Values	Default Value
destination	Mandatory	The destination number called by the application. This number is converted to a regular telephone number by applying the application dial rules. For information on dial rules, refer to the “Configuring Application Dial Rules (Optional)” section on page 2-6.	String	None	None

Results

Table 3-10 makeCall Results

Name	Description
result	Cisco WebDialer displays the appropriate dialog and its applicable success or error message. It displays an authentication dialog if there is no active session.

makeCallProxy

The makeCallProxy interface is accessed by initiating an HTTP request to the URL `http://ipaddress/webdialer/Webdialer?cmd=doMakeCallProxy`. This interface is used by browser-based applications in which the browser accepts cookies. If the cookies are disabled in a browser, the user profile exists for only the length of the session.

The makeCallProxy interface is used by applications such as a personal address book, defined in the CCMUser pages at `http://cmserver/CCMUser`. The credential of the application is used, as a proxy, to make calls on behalf of users. Since these users have authenticated themselves before accessing the

CCMUser page, they are not prompted again for their user ID and password. The application sends the user ID and password of the proxy user in the form of a query string in the request, or as a parameter in the body of the POST message.

For a sample script that is used to enable directory search pages, go to the “Sample JavaScript” section on page 3-16.

Parameters

Table 3-11 *makeCallProxy Parameters*

Parameter	Mandatory	Description	Data Type	Range of Values	Default Value
uid	Mandatory	The user ID for which the the request is made.	String	None	None
appid	Mandatory	The userid of the application making a request on behalf of the user. For example, consider a Cisco CallManager personal address book where the application allows authentication proxy rights. The appid parameter is used when the user logs in once; for example in the CCMUser pages. After this login, other pages do not require the user to log in again. For web page applications that are not integrated, appid is the same as userid.	String	None	None
pwd	Mandatory	The password of the appid.	String	None	None
destination	Mandatory	The number to be called. This number is converted to an E.164 number by the dial plan service.	String	None	None

Results

Table 3-12 *makeCallProxy Results*

Name	Description
result	Cisco WebDialer displays the appropriate dialog and its applicable success or error message.

Cisco WebDialer WSDL

The Web Service Definition Language (WSDL) for Cisco WebDialer mentioned below is based on the WSDL specification. This WSDL for Cisco WebDialer is also available on the Cisco WebDialer server installation at:

http://<WebDialer_server_name>/webdialer/wsd/WebdialerSoap.wsdl

Use this specific WSDL and the interfaces mentioned in this document to develop customized applications for Cisco WebDialer. For a list of references on Cisco CallManager, SOAP, and WSDL, refer to the “Related Documentation” section on page vi in the Preface.

```

<wsdl:definitions xmlns:tns="urn:WebdialerSoap"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:wSDL="http://schemas.xmlsoap.org/wsdl/" xmlns="http://schemas.xmlsoap.org/wsdl/"
targetNamespace="urn:WebdialerSoap" name="urn:WebdialerSoap">
  <wsdl:types>
    <xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:tns="urn:WebdialerSoap" targetNamespace="urn:WebdialerSoap">
      <xsd:import namespace="http://schemas.xmlsoap.org/soap/encoding/" />
      <xsd:complexType name="CallResponse">
        <xsd:sequence>
          <xsd:element name="responseCode" type="xsd:int" />
          <xsd:element name="description" nillable="true" type="xsd:string" />
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="Credential">
        <xsd:sequence>
          <xsd:element name="userID" nillable="true" type="xsd:string" />
          <xsd:element name="password" nillable="true" type="xsd:string" />
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="UserProfile">
        <xsd:sequence>
          <xsd:element name="user" nillable="true" type="xsd:string" />
          <xsd:element name="deviceName" nillable="true" type="xsd:string" />
          <xsd:element name="lineNumber" nillable="true" type="xsd:string" />
          <xsd:element name="supportEM" type="xsd:boolean" />
          <xsd:element name="locale" nillable="true" type="xsd:string" />
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="GetConfigResponse">
        <xsd:sequence>
          <xsd:element name="responseCode" type="xsd:int" />
          <xsd:element name="description" nillable="true" type="xsd:string" />
          <xsd:element name="deviceInfoList" nillable="true"
type="tns:ArrayOfWDDeviceInfo" />
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="WDDeviceInfo">
        <xsd:sequence>
          <xsd:element name="deviceName" nillable="true" type="xsd:string" />
          <xsd:element name="lines" nillable="true" type="tns:ArrayOfstring" />
        </xsd:sequence>
      </xsd:complexType>
      <xsd:complexType name="ArrayOfWDDeviceInfo">
        <xsd:complexContent>
          <xsd:restriction base="soapenc:Array">
            <xsd:attribute ref="soapenc:arrayType"
wsdl:arrayType="tns:WDDeviceInfo[]" />
          </xsd:restriction>
        </xsd:complexContent>
      </xsd:complexType>
      <xsd:complexType name="ArrayOfstring">
        <xsd:complexContent>
          <xsd:restriction base="soapenc:Array">

```

```

        <xsd:attribute ref="soapenc:arrayType"
wsdl:arrayType="xsd:string[]" />
        </xsd:restriction>
        </xsd:complexContent>
        </xsd:complexType>
    </xsd:schema>
</wsdl:types>
<wsdl:message name="makeCallSoap0In">
    <wsdl:part name="cred" type="tns:Credential" />
    <wsdl:part name="dest" type="xsd:string" />
    <wsdl:part name="prof" type="tns:UserProfile" />
</wsdl:message>
<wsdl:message name="makeCallSoap0Out">
    <wsdl:part name="Result" type="tns:CallResponse" />
</wsdl:message>
<wsdl:message name="endCallSoap1In">
    <wsdl:part name="cred" type="tns:Credential" />
    <wsdl:part name="prof" type="tns:UserProfile" />
</wsdl:message>
<wsdl:message name="endCallSoap1Out">
    <wsdl:part name="Result" type="tns:CallResponse" />
</wsdl:message>
<wsdl:message name="getProfileSoap2In">
    <wsdl:part name="cred" type="tns:Credential" />
    <wsdl:part name="userid" type="xsd:string" />
</wsdl:message>
<wsdl:message name="getProfileSoap2Out">
    <wsdl:part name="Result" type="tns:GetConfigResponse" />
</wsdl:message>
<wsdl:message name="isClusterUser3In">
    <wsdl:part name="userid" type="xsd:string" />
</wsdl:message>
<wsdl:message name="isClusterUser2Out">
    <wsdl:part name="Result" type="xsd:boolean" />
</wsdl:message>
<portType name="WebdialerSoapService">
    <wsdl:operation name="makeCallSoap">
        <wsdl:input message="tns:makeCallSoap0In" />
        <wsdl:output message="tns:makeCallSoap0Out" />
    </wsdl:operation>
    <wsdl:operation name="endCallSoap">
        <wsdl:input message="tns:endCallSoap1In" />
        <wsdl:output message="tns:endCallSoap1Out" />
    </wsdl:operation>
    <wsdl:operation name="getProfileSoap">
        <wsdl:input message="tns:getProfileSoap2In" />
        <wsdl:output message="tns:getProfileSoap2Out" />
    </wsdl:operation>
    <wsdl:operation name="isClusterUserSoap">
        <wsdl:input message="tns:isClusterUser3In" />
        <wsdl:output message="tns:isClusterUser2Out" />
    </wsdl:operation>
</portType>
<binding name="WebdialerSoapService" type="tns:WebdialerSoapService">
    <soap:binding style="rpc" transport="http://schemas.xmlsoap.org/soap/http" />
    <wsdl:operation name="makeCallSoap">
        <soap:operation soapAction="urn:makeCallSoap" />
        <input>
            <soap:body use="encoded"
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" namespace="urn:WebdialerSoap" />
        </input>
        <output>
            <soap:body use="encoded"
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" namespace="urn:WebdialerSoap" />

```

```

        </output>
    </wsdl:operation>
    <wsdl:operation name="endCallSoap">
        <soap:operation soapAction="urn:endCallSoap"/>
        <input>
            <soap:body use="encoded"
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" namespace="urn:WebdialerSoap"/>
        </input>
        <output>
            <soap:body use="encoded"
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" namespace="urn:WebdialerSoap"/>
        </output>
    </wsdl:operation>
    <wsdl:operation name="getProfileSoap">
        <soap:operation soapAction="urn:getProfileSoap"/>
        <input>
            <soap:body use="encoded"
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" namespace="urn:WebdialerSoap"/>
        </input>
        <output>
            <soap:body use="encoded"
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" namespace="urn:WebdialerSoap"/>
        </output>
    </wsdl:operation>
    <wsdl:operation name="isClusterUserSoap">
        <soap:operation soapAction="urn:isClusterUserSoap"/>
        <input>
            <soap:body use="encoded"
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" namespace="urn:WebdialerSoap"/>
        </input>
        <output>
            <soap:body use="encoded"
encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" namespace="urn:WebdialerSoap"/>
        </output>
    </wsdl:operation>
</binding>
<service name="WebdialerSoap">
    <port name="WebdialerSoapService" binding="tns:WebdialerSoapService">
        <soap:address location="http://WebDialer_server_name/wdsoap/servlet/rpcrouter"/>
    </port>
</service>
</wsdl:definitions>

```

Sample JavaScript

This JavaScript is a sample script that is used to enable Cisco WebDialer from a directory search page.

Single Cluster Applications

This script is used for single cluster applications if all users are in only one cluster.

```

function launchWebDialerWindow( url ) {
    webdialer=window.open( url, "webdialer", "status=no, width=420, height=300,
scrollbars=no, resizable=yes, toolbar=no" );
}

function launchWebDialerServlet( destination ) {
    url = 'http://<%=server_name%>/webdialer/Webdialer?destination=' +
escape(destination);
}

```

```
        launchWebDialerWindow( url );
    }
!These functions can be called from the HTML page which has a hyperlink to the phone
number to be called. An example of it is:
<TD><A href="javascript:launchWebDialerServlet( <%= userInfo.TelephoneNumber %> )" ><%=
userInfo.TelephoneNumber %></A>&nbsp;</TD>
```

Multiple Cluster Applications

This script is used if all users are spread across different clusters.

```
function launchWebDialerWindow( url ) {
    webdialer=window.open( url, "webdialer", "status=no, width=420, height=300,
scrollbars=no, resizable=yes, toolbar=no" );
}

function launchWebDialerServlet( destination ) {
    url= 'http://<%=server_name%>/webdialer/Redirector?destination='+escape(destination);
    launchWebDialerWindow( url );
}
!These functions can be called from the HTML page which has a hyperlink to the phone
number to be called. An example of it is:
<TD><A href="javascript:launchWebDialerServlet( <%= userInfo.TelephoneNumber %> )" ><%=
userInfo.TelephoneNumber %></A>&nbsp;</TD>
```




Troubleshooting

This chapter describes some of the error messages that may appear on an end user's screen, the probable cause of each error message, and the corrective action that should be taken for each error message. Contact your Cisco CallManager system administrator if the error exists after taking corrective action.

Error Messages

The following error messages may appear on an end user's screen:

Authentication Error

Probable Cause

Wrong user ID or password

Corrective Action

Check your user ID and password. You must log in with your Cisco CallManager user ID and password.

This service not enabled for you

Probable Causes

- The user is not configured on a Cisco WebDialer server in any of the Cisco CallManager clusters.
- Cisco WebDialer servicing the user is not configured in the Redirector servlet.
- Cisco WebDialer servicing the caller is not responding.

Corrective Action

Contact your Cisco CallManager system administrator.

Service temporarily unavailable

Probable Cause

The Cisco CallManager service is overloaded because it has reached its throttling limit of two concurrent sessions.

Corrective Action

Allow a short time lapse and retry your connection. If the error occurs again, contact your Cisco CallManager system administrator.

Directory service down

Probable Cause

The Cisco CallManager directory service may be down.

Corrective Action

Allow a short time lapse and retry your connection. If the error occurs again, contact your Cisco CallManager system administrator.

Cisco CTIManager down

Probable Causes

- There is an error with the Cisco CallManager directory installation. Cisco WebDialer uses the user ID and password in the registry that is populated by this directory installation to connect the Cisco CTIManager as a super provider.
- Cisco CTIManager service configured for Cisco WebDialer is down.

Corrective Action

Allow a short time lapse and retry your connection. If the error occurs again, contact your Cisco CallManager system administrator.

Session expired, please login again

Probable Cause

A Cisco WebDialer session expires after eight hours.

Corrective Action

Login with your Cisco CallManager user ID and password.

User not logged in on any device

Probable Cause

The user chooses to use Cisco CallManager Extension Mobility from the Cisco WebDialer preference page but is not logged into any IP phone.

Corrective Action

- Log into a phone before using Cisco WebDialer.
- Select a device from the Cisco WebDialer preference list in the dialog box instead of selecting the option **Use Extension Mobility**.

Failed to open device/line

Probable Cause

- The Cisco IP phone selected by the user is not registered with Cisco CallManager. For example, the user selects a Cisco IP SoftPhone as the preferred device before starting the application.
- The user has a new phone and selects an old phone which is no longer in service.

Corrective Action

Contact your Cisco CallManager system administrator.

Destination not reachable

Probable Cause

- User dialed the wrong number.
- The administrator has not applied the correct dial rules. For example, the user is dialing 5550100 instead of 9550100.

Corrective Action

Check with your Cisco CallManager system administrator for the correct dial rules.

