HP Outbound Dialer for Cisco CallManager

Microsoft Windows NT®/2000

Version 2.0

Manufacturing Part Number: 5990-4383

September 2002

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1 Introduction

This reference guide describes how to install, configure and administer the HP Outbound Dialer solution. It is intended for consultants, administrators, and contact center representatives providing outbound capability for contact centers using Cisco CallManager, Cisco ICD, or Cisco IPCC.

The HP Outbound Dialer provides a software-based outbound capability to the Cisco CallManager in a VOIP network. The Outbound Dialer automates calls to customers in the context of marketing campaigns, selling opportunities, or registered callbacks.

Typically, the Outbound Dialer would be used in an IPCC or ICD environment, but the Outbound Dialer does not use either Cisco Enterprise CTI or CTI OS; it uses only JTAPI to control the call. Thus, the Dialer can be used to provide an outbound channel in the following environments:

- in a very small call center environment that only has a Cisco CallManager
- in a moderate-sized call center using the Cisco ICD environment
- in an IPCC environment for a large call center, but the Dialer does not offer inbound and outbound blending and is not integrated with ICM.

Audience

Outbound Dialer system administrators, Outbound Dialer supervisors, and other qualified installers who are familiar with their system environment, network, and resources can use this guide to understand, install, configure, use, and maintain the Outbound Dialer.

New Features in Version 2.0

This version of the HP Outbound Dialer for Cisco CallManager includes several new features:

- Predictive campaigns - overdialing campaigns which call from CTI ports rather than agent phones can be created to maximize agent utilization
- The amount of overdialing each predictive campaign is using can be adjusted while the campaign is running
- CTI port configuration - administrators can configure the CTI ports required by predictive campaigns and these ports are monitored by the Outbound Dialer when it starts
- Changes to call monitoring and customer monitoring screens to handle predictive campaigns, showing calls on the CTI ports as well as those with the agents
- Changes to call reporting to show nuisance calls, an important statistic for controlling predictive campaigns and the amount of overdialing
- Ability to filter call reports on call result (e.g., answered, busy, no answer, nuisance call)
- Updated web server. The Dialer now uses Apache Web Server 1.3.26, which has important enhanced security features compared with the previous version.

- Customizable fields on the customer screens. Two new customer attribute fields have been added.
- SQL script to upgrade an existing 1.3 database to 2.0, allowing existing sites to take advantage of the new features in 2.0 but keep their current agent and customer configuration
- Agents can set the time to call the customer back as a number of days, hours, or minutes, rather than being restricted to 1 hour in coarse steps
- Administrators can now import a list of agents from a file, simply uploading the file from their PC or shared network drive.

Related Documentation

You can download the following documentation from the Cisco website:

- *Troubleshooting Guide for Cisco CallManager*
- *Cisco CallManager Administration Guide*
- *Cisco CallManager System Guide*
- *Cisco CallManager Quick Start Guide*
- *Cisco CallManager Serviceability Administration Guide*
- *Cisco CallManager Serviceability System Guide*
- *Cisco CallManager Compatibility Matrix*
- *Cisco ICM Software IP Contact Center Installation Guide*
- *Bulk Administration Tool User Guide*
- *Backing Up and Restoring Cisco CallManager*

2 Requirements

This chapter describes the hardware and software requirements for the Outbound Dialer for Cisco CallManager.

Server Hardware Requirements

- 1 HP ProLiant DL320/360/380 (depending on the number of agents) or HP LP1000R NetServer System
- 1 GHz Intel Pentium III Processor
- 1 GB RAM
- 18 GB Hard Disk
- Agents need a Cisco IP phone or a softphone

Server Software Requirements

- Microsoft Windows 2000 Advanced Server/2000 Server/NT Server 4.0 with the Service Pack 2 or greater
- Microsoft Internet Explorer 5.5 SP2 or above
- Microsoft SQL Server 7.0 with Service Pack 3 or SQL Client Utility

NOTE A prerequisite is that your machine has a network connection to a machine with Cisco CallManager 3.1 (or later) installed and configured. For testing or demonstrations, the Cisco software can also be on the same machine where you are installing the Outbound Dialer software. For production, however, the Cisco software should be running on a separate machine.

Client Software Requirements

Microsoft Internet Explorer 5.5 SP2 or above.

Internationalization Requirements

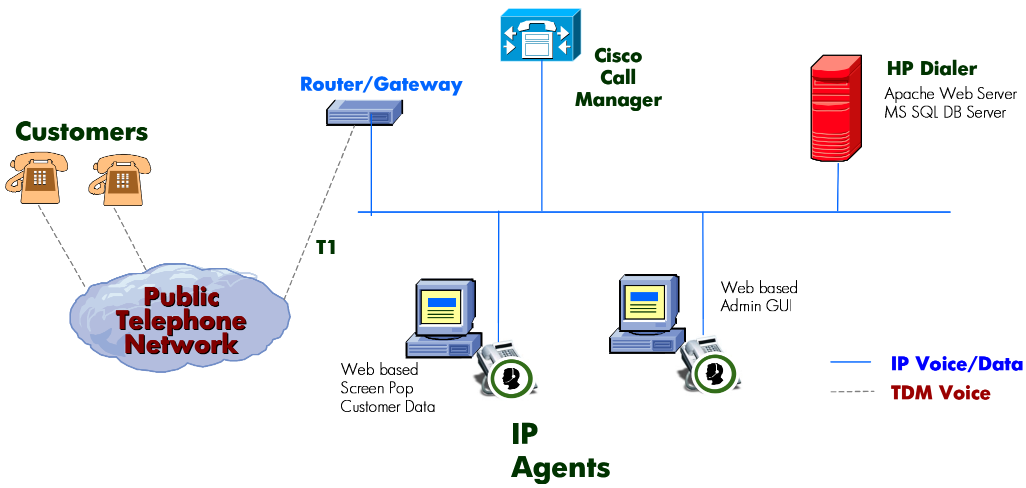
If you have a requirement to translate the Outbound Dialer into another language such as Chinese or Japanese, or you need to modify the date format, see Appendix C, “Internationalization,” on page 105.

3 Conceptual Overview

This section provides a technical overview of the Outbound Dialer, discussing the modes of operation and outlining how the Dialer works

Overview

Figure 3-1 **Overview of HP Outbound Dialer Solution**



An **Administrator** starts the database **service**, configures the server and uses the **tools** for loading customer and agent data quickly and for archiving information.

A **Supervisor** (or Administrator) logs in and does the following:

- creates a **skill**, which defines a set of agents that will be talking to a set of customers.
- adds **agents** to a skill
- creates a **customer** list
- adds **customers** to the customer list
- creates a **campaign** associated with a skill and a customer list, having a start and end time

Agents log in to the Dialer and make themselves available to participate in a campaign. The Dialer selects an agent with the appropriate skill to make the call. A “skill” enables you to group agents with similar capabilities. Agents with the same skill form a team to call a particular type of customer.

Campaigns tie together agents (who have a particular skill) with customers (who are in a particular customer list). In addition, campaigns have a start time and a stop time that control their execution.

Supervisors can monitor calls in progress, agent activity (by skill), and customers to be called (by customer list). They can run reports for calls or agents. Call reports can be filtered by campaign, agent, result, and date. Up to 16 columns of information can be displayed in the report. Agent reports can be filtered by agent and date.

Administration of the Dialer is through a web browser using pure HTML. For a small call center, typically the Apache web server runs on the same machine as the database server, and the Dialer service also runs on the same machine as the database server.

Processes can be on separate machines since communication between the web server and the database server, and the Dialer service and the database server is over a standard ODBC connection.

You can easily translate all the Outbound Dialer administration web pages to another language since the language encoding can be changed by a single modification, and all strings are gathered into one file for quick customization and localization. The web pages are processed using PHP as an execution engine.

Agents also use a web browser, which includes a small, signed applet that is downloaded to the agent's desktop. This uses the Java Telephony API (JTAPI) to detect events relevant for that agent (for example, the commencement of the call to the customer) and provides a "screen pop" containing customer details so the agent knows who the customer is when they answer. If the customer fails to answer within a configured time, the Outbound Dialer will call that customer again, possibly with a different agent, some time later. For each campaign, you can configure the time delay involved in the retry as well as the number of retries.

Dialer Modes—Progressive and Predictive

The HP Outbound Dialer can be used in either progressive or predictive modes, enabling your agents to conduct outbound campaigns in the most appropriate manner.

In **progressive** mode the Dialer obtains customer phone numbers from a database and makes calls to these numbers using the IP phones of available agents in the call center. Agents hear the dialing and the ringing tone of the customer's phone and the customer answer. (In some cases the agent may hear a busy tone, an invalid tone, the sound of a fax machine, or the sound of a modem answering the call). If an answering machine picks up, the agent hears that and can leave a message. Because the agent monitors the progress of the call, this outbound dialing strategy is called progressive. This gives the best possible quality of service to the customer.

Another strategy, often used for large, speculative outbound campaigns, working through untested lists of prospects, is to use CTI ports to dial more customers than the number of currently available agents (called "overdialing"). Because the phone numbers could include false numbers (fax machines, modems, invalid numbers), busy numbers, and "no answers", it is necessary to overdial to keep the agent utilization reasonably high. This strategy is called **predictive**. The amount of overdialing has to be predicted through statistical means, thus the term predictive dialing. Predictive-mode campaigns can provide a high return on investment at large outbound call centers, but they could result in some "nuisance" calls, which are calls made to customers when no agent is available. Nuisance calls are dropped immediately, and then they are treated in the same way as calls with "busy" signals; that is, the customer is called again after a predetermined time period. You can adjust the overdialing percentage with HP Outbound Dialer to minimize nuisance calls while maximizing agent productivity. This mode gives the best agent utilization rates.

Some call centers use a "preview" mode to enable agents to preview customer information for a while before actually making the call to the customer. If you want agents to be able to preview customer information, you should use the progressive mode.

Progressive mode generates a screen pop (displaying customer data) while the call is being dialed; that is, before the customer answers the call. By the time the customer answers, the agent has had a chance to review the customer information.

How the Outbound Dialer Works

The Outbound Dialer server checks the Outbound database for updates each time the polling timer fires; the server does not keep anything in memory. Basically, it works as follows:

```
for each active campaign (each campaign is mapped 1-1 to a customer list)
   if the campaign is progressive
      for each available agent (with the skill the campaign is using, sorted by longest idle)
         for all customers in the corresponding customer list who must be called
            agent1 calls customer1
            agent2 calls customer2
            agent3 calls customer3
            .
            .
            .
   if the campaign is predictive
      compute the number of calls to place (based on the number of available agents, calls
      ringing, and the overdial percentage)
         for all customers in the corresponding customer list who must be called
            CTI port1 calls customer1
            CTI port2 calls customer2
            CTI port3 calls customer3
            .
            .
            if and when a customer answers, find the longest available agent
            transfer the call from the CTI port to the agent
until either the campaign ends or all customers have been contacted.
```

First the Dialer makes a SQL query to get a list of active campaigns. An active campaign is a campaign with a start date is in the past, a finish date is in the future, and that is not set to "Paused".

Then the engine works through each campaign. The behavior of the engine is quite different for the two types of campaigns (progressive and predictive). Both types can be active at the same time, but skills and agents should not be shared between progressive and predictive campaigns.

Progressive Campaigns

Since each campaign is associated with only one skill, the engine uses that skill to find the agents that are available and sorts them based on idle time.

When the Dialer knows how many agents are available, it looks in the customer table to find the same number of customers in the appropriate customer list (the one the campaign is mapped to). The Dialer only selects customers who are to be called, and it only selects those customers for whom the time to call is in the past.

Then the Dialer places calls to these customers from a selected agent.

Predictive Campaigns

Since each campaign is associated with only one skill, the engine uses that skill to count the agents that are available. Each predictive campaign has an associated overdial percentage that controls the amount of overdialing. The engine also factors in the number of calls already on the CTI ports waiting for customers to answer, and the number of free CTI ports acts as an upper bound. The result of this predictive algorithm is the number of calls to place from the CTI ports.

When the Dialer knows how many calls to place, it looks in the customer table to find the same number of customers in the appropriate customer list (the one the campaign is mapped to). Customer selection is the same as for progressive campaigns.

Then the Dialer places calls to these customers from free CTI port. When a customer answers, the longest available agent with the required skill is selected and the call is transferred from the CTI port to the agent’s phone. The agent’s phone should be configured in “auto-answer mode” on the Cisco CallManager, and the agent should use a headset.

The engine is fired in two ways:

- a regular timer, configurable (normally 5 seconds)
- every time an agent becomes available.

Typically the query finds just one available agent—the agent that just became available. The Dialer either selects that available agent and places a call to a customer or places the call from a CTI port. The regular timer fires at the configured time interval, but usually finds no agents available.

If new agents log in or become ready, or new campaigns come on line, the timer picks up these changes and starts processing them.

4 Installation and Preliminary Configuration

This chapter describes prerequisites, installation steps, database configuration, and Cisco CallManager configuration.

Prerequisites

Microsoft SQL Server must be installed either on the same machine as the Outbound Dialer or another machine that is on the same network. If SQL Server is installed on a separate machine, the SQL Server Client Utility needs to be installed on the Outbound Dialer machine.

A user should be configured in the CallManager, and that user should be associated with all agent IP phones and CTI ports. The Dialer uses that user to log in to CallManager to make outbound calls from the IP phones and CTI ports.

If a Microsoft IIS web server is installed, stop it and make sure that it is set to start up as a Manual (i.e., not Automatic) service. If the Apache Web server is installed already, remove it. The Outbound Dialer setup executable will install Apache.

The Installer

The Outbound Dialer installation executable OutboundDialerSetup.exe is an InstallShield program. It installs the HP process as an NT service, installs and configures the Apache web server, builds the web site, and sets up security.

The installer does not build a database; this must be done manually. The steps are described in “Configuring the Database” on page 18.

Running the Installer

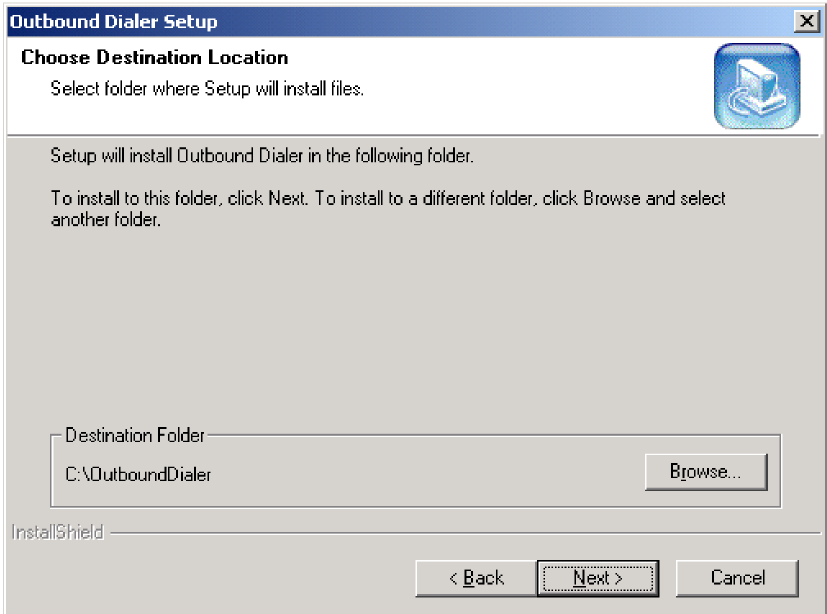
1. Download `OutboundDialerSetup.exe` (11.8 MB) from the site ftp://cislab.cup.hp.com/projects/outbound/

NOTE This website can only be accessed from within the HP firewall. If you can’t access the website, contact your HP sales consultant.

2. In Windows Explorer, double-click on OutboundDialerSetup.exe. The InstallShield Wizard for Outbound Dialer opens.
3. In the Welcome window, click Next. The License Key screen displays.
4. Type in the 8-character license key that you have been given, or, for demonstration usage, type: demodemo

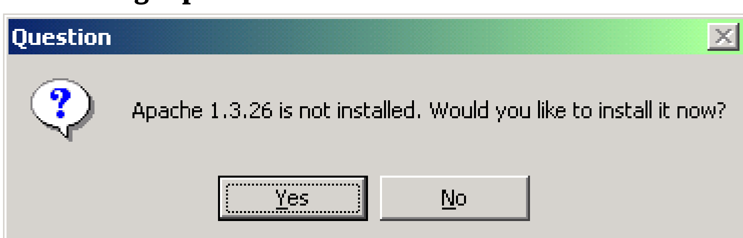
   The demo license allows up to 2 agents to be configured.
5. Click Next. The following window displays.

Figure 4-1 Choose Destination Location



6. In the Choose Destination Location window, either use the default folder or else click the Browse button to select the Destination Folder, select the desired folder, and click OK. The destination folder that you select is referred to later in this document as <OUTBOUND DIR>. Click Next. The Outbound Dialer installs, and a dialog box displays as shown in Figure 4-2, prompting whether you want to install Apache 1.3.26.

Figure 4-2 Installing Apache

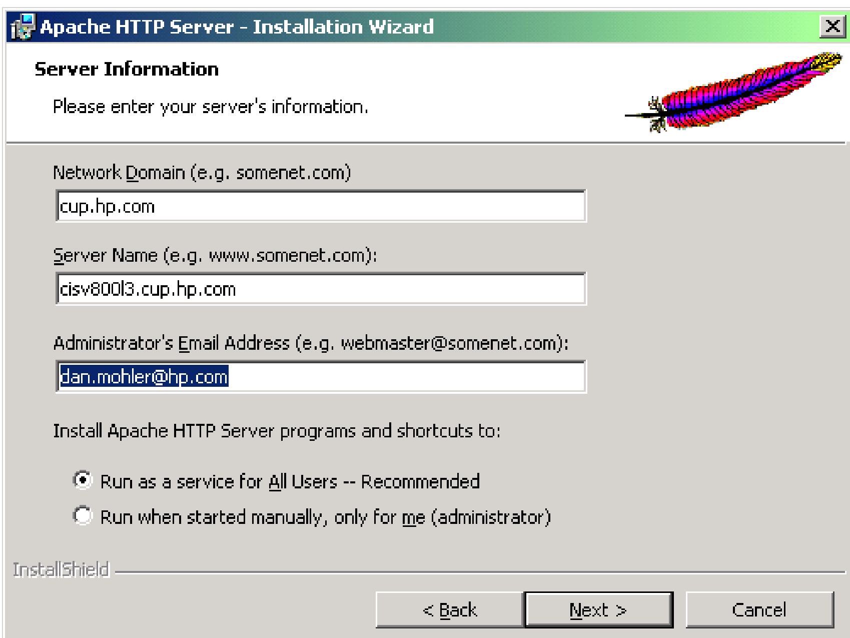


7. Click Yes, and the Installation wizard for Apache 1.3.26 opens as shown in Figure 4-3.

Figure 4-3 Apache Installation Wizard

8. Click Next. The License Agreement screen displays.
9. Click on the "I accept..." radio box, then click Next. The "Read This First" screen displays.
10. Click Next, and the Server Information screen displays.

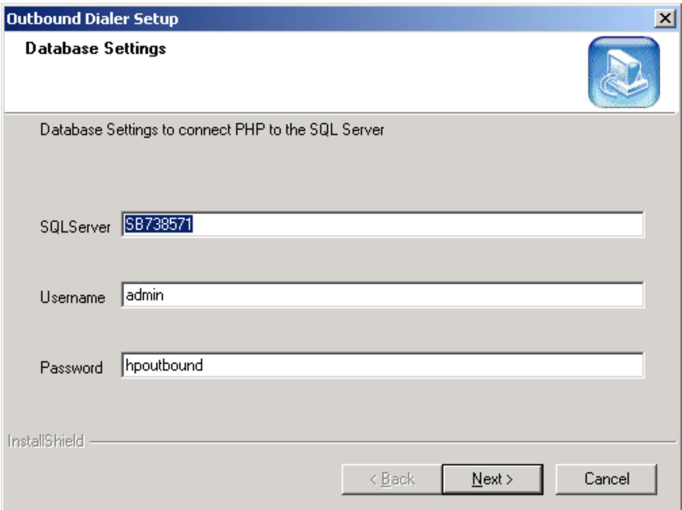
Figure 4-4 Apache Server Information Screen



11. If necessary, change the network domain, server name, and administrator's email address, then click Next. The Setup Type screen displays.
12. Click Next. The Destination Folder screen displays.

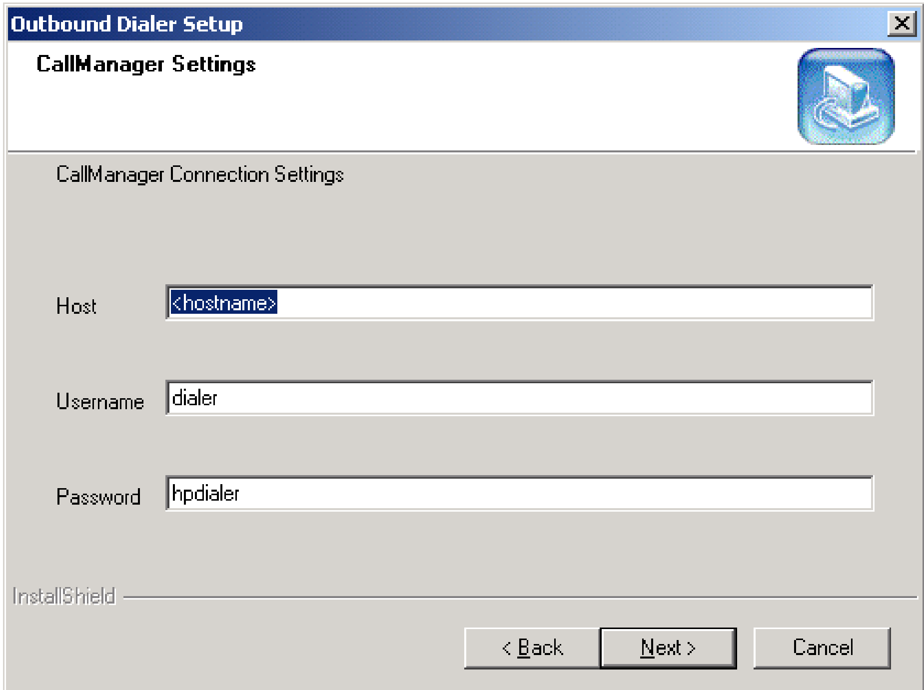
13. Click Next. The “Ready to Install…” screen displays.
14. Click Install. After Apache installs, the “Installation Wizard Completed” screen displays.
15. Click Finish. You are done with Apache installation; the Database Settings dialog displays.

Figure 4-5 Database Settings Screen



16. If the database is on the same machine as the Outbound Dialer, keep the default SQL Server name. Otherwise, type in the appropriate SQL Server name. Click Next.
17. In the CallManager Settings window, type your CallManager hostname in the Host field. Type in the username you have configured in the CallManager to associate all the Agent IP Phones, type in the user’s password, and then click Next.

Figure 4-6 CallManager Settings Screen



18. In the Wizard Complete window, click Finish to complete installation.

Configuring the Database

To create and configure the MS SQL Server 7.0 database for Outbound Dialer, follow the instructions in the sections below.

- Create the Database.
- Create a new Login.
- Create Tables and load default values.
- Create ODBC DataSource.

NOTE If you are upgrading from Outbound Dialer 1.3, skip this section and follow the steps for upgrading described under “Steps to Remove and Upgrade the Dialer” on page 92.

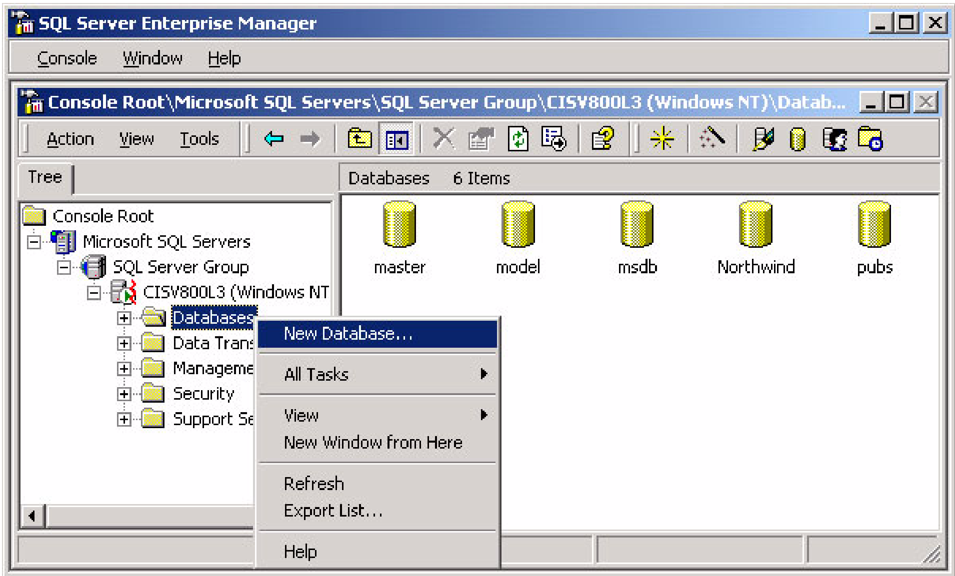
Step 1: Create the Database

To create the database, take the following steps.

1. Open up the MS SQL Server Enterprise Manager (Start > Programs > Microsoft SQL Server 7.0 > Enterprise Manager).

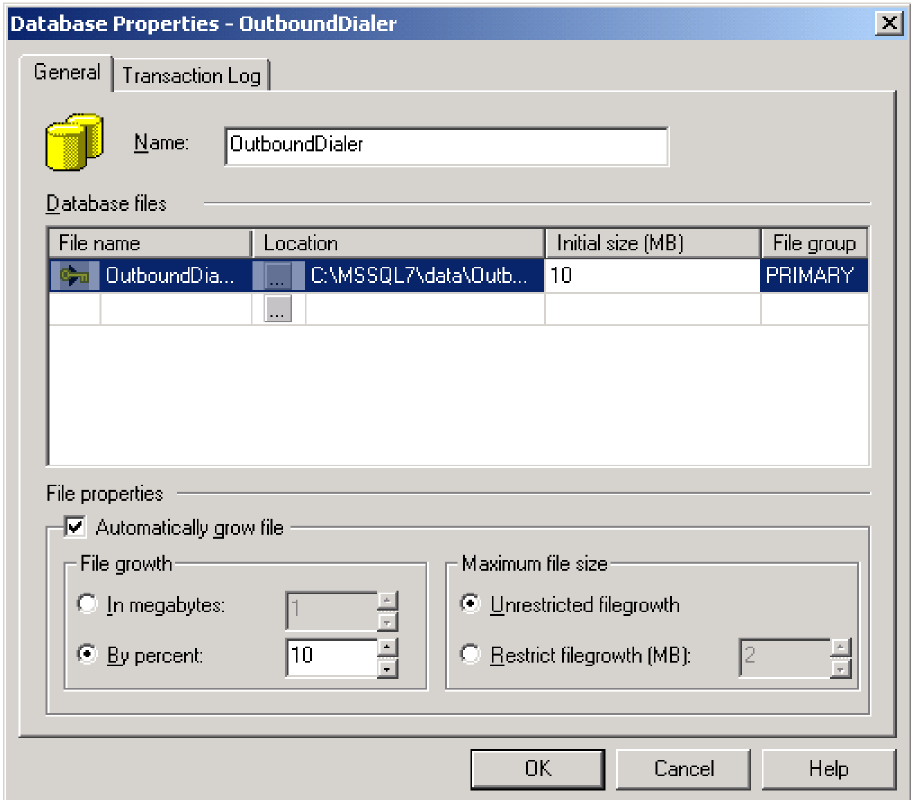
2. In the SQL Server Enterprise Manager tree view, navigate to the server where you will create your database. If you accepted the default setup, you will find your local machine in the SQL Server Group.
3. Expand the server contents.
4. Right click on Databases and select New Database from the shortcut menu.

Figure 4-7 Creating a New Database



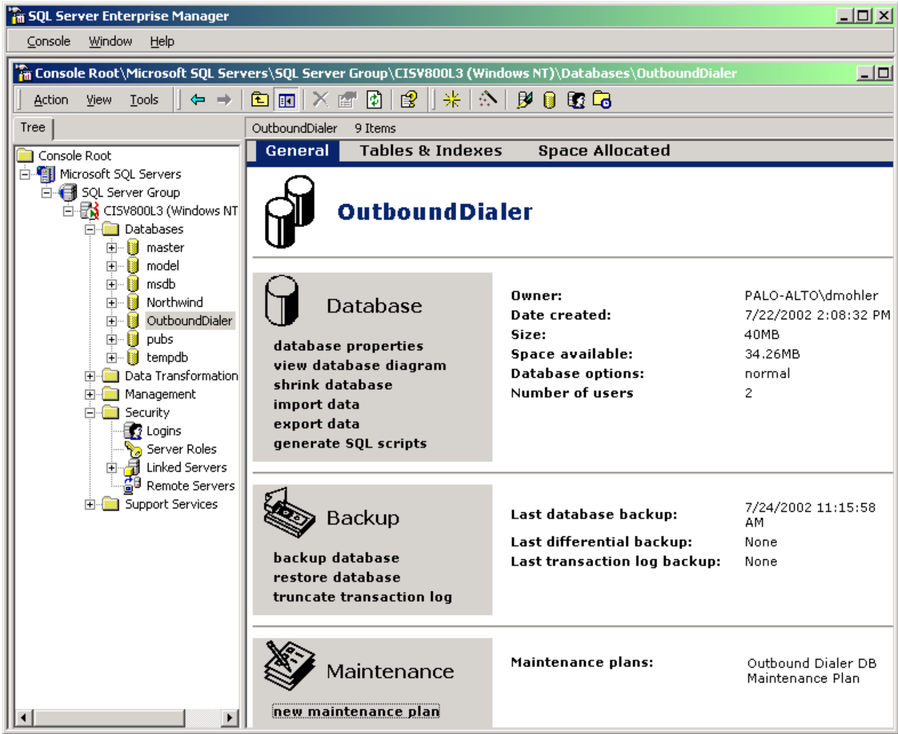
5. In the Database Properties dialog box, under the General tab:
   a. In the Name field, type the name of the database as OutboundDialer.
   b. In the Database files frame, under Initial size (MB), enter 10.
   c. In the Database files frame, under File group, accept the default “PRIMARY”.
   d. In the File Properties frame, accept the default values.

Figure 4-8 Database Properties



6. In the Transaction Log tab, enter 10 for the initial size of the log.
7. Click OK to save and exit the Database Properties dialog box.
8. In the SQL Server Enterprise Manager tree view, expand the Databases folder to verify that the database OutboundDialer database has been created.
9. (Optional.) If desired, create a maintenance plan for scheduled backups of the database and transaction log. To do this, click on “OutboundDialer” (in the left pane), click on “new maintenance plan” in the right pane, and follow the instructions in the Database Maintenance Plan Wizard.

Figure 4-9 OutboundDialer Database Information



Step 2: Create a New Login

To create a login, do the following.

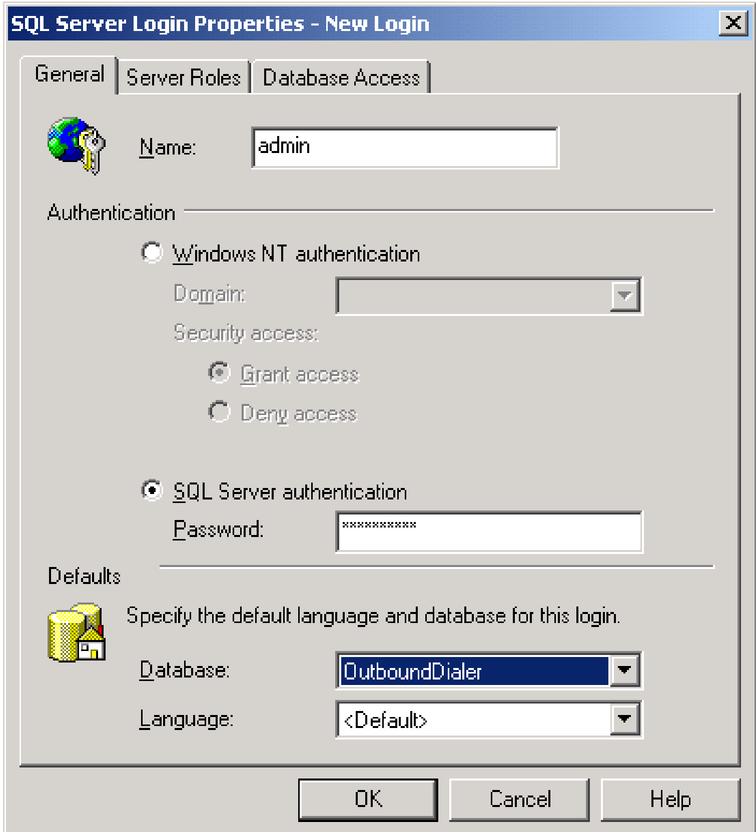
1. In the SQL Server Enterprise Manager tree, expand the database server Security folder (i.e., click on the '+' next to the Security folder).
2. Right click on Logins and select New Login.
3. In the SQL Server Login Properties - New Login dialog box, under the General tab:

   a. In the Name field, enter the OutboundDialer database user name `admin`.

   b. In the Authentication frame, select the SQL Server authentication radio button and enter password `hpoutbound` in the Password field. The Outbound Dialer and PHP authenticate with this password, so if you change the password, you need to change it in other places as well. It is easiest to use the suggested password.

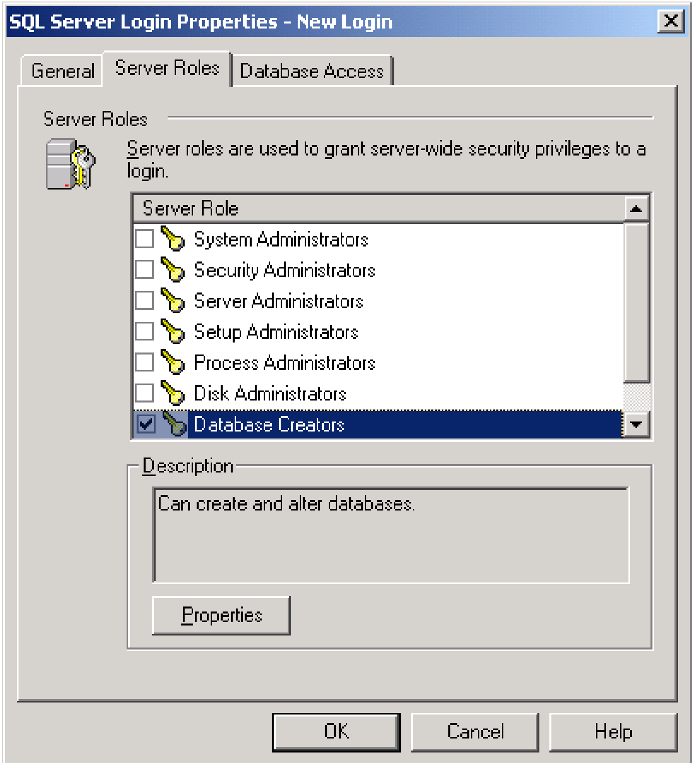
   c. In the Defaults frame, select the database OutboundDialer.

Figure 4-10 SQL Server Authentication



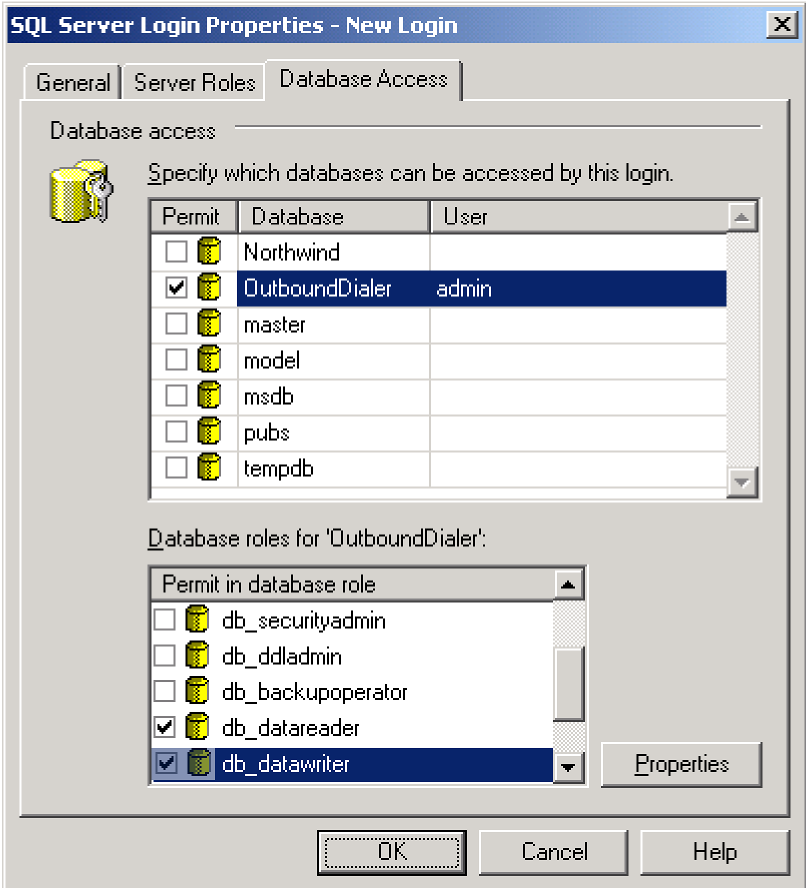
4. Click the Server Roles tab. In the Server Role table, scroll down and select the checkbox next to Database Creators.

Figure 4-11 Setting Server Roles



5. Click the Database Access tab. In the Permit column, select the checkbox next to the OutboundDialer database. In the ‘Permit in database role’ field, select public, db_owner, db_datareader and db_datawriter.

Figure 4-12 Setting Database Access



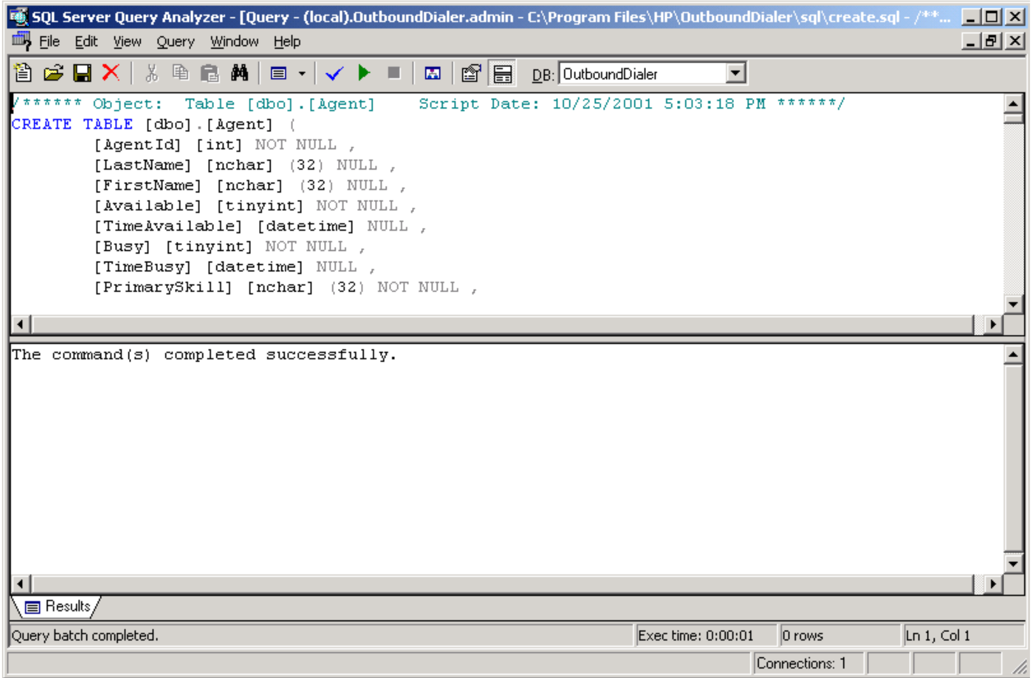
6. Click OK to close the SQL Server Login Properties - New Login dialog box.
7. In the Confirm Password dialog box, retype the password hpoutbound. Click OK.
8. In the SQL Server Enterprise Manager window, select Logins (in Security folder) to verify that the admin user exists and that the default database is OutboundDialer.
9. Exit the SQL Server Enterprise Manager console.

Step 3: Create Tables and Load Default Values

1. Open up the MS SQL Server 7.0 Query Analyzer (Start > Programs > Microsoft SQL Server 7.0 > Query Analyzer).
2. In the Connect to SQL Server dialog box:
   a. Select the appropriate SQL Server from the pull-down menu.
   b. In the Connection Information frame, select the Use SQL Server Authentication radio button and type admin as username and hpoutbound as password.
   c. Click OK. The SQL Server Query Analyzer opens.
   d. Ensure that the DB field displays “OutboundDialer”.

3. Load the create.sql file, which will be in your <OUTBOUND DIR>\sql directory, and execute the query. This creates the tables for Outbound Dialer.

Figure 4-13 Creating Tables for the Outbound Dialer



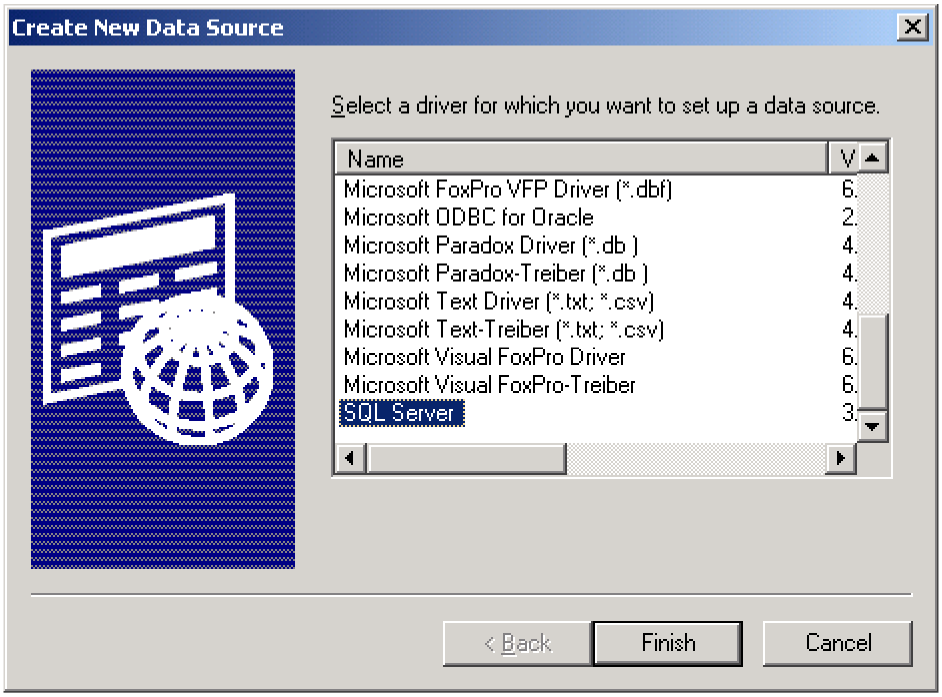
4. Similarly, open loaddefaults.sql, which is also in the `<OUTBOUND DIR>\sql` directory and execute the query. This loads the default values for tables.
5. Exit the SQL Server Query Analyzer.

Step 4: Create the ODBC Data Source

To create the ODBC Data Source for MS SQL Server, do the following.

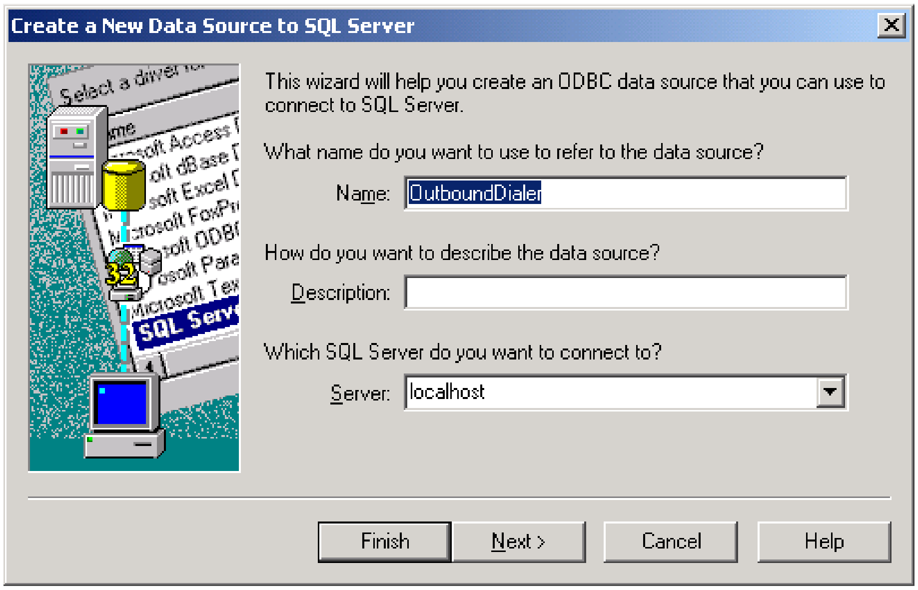
1. In your Windows Control Panel, double-click on the Data Sources (ODBC) icon. Select the System DSN tab.
2. Click Add button to add DSN. Select the SQL Server and click Finish (as shown below).

Figure 4-14 Creating a New Data Source



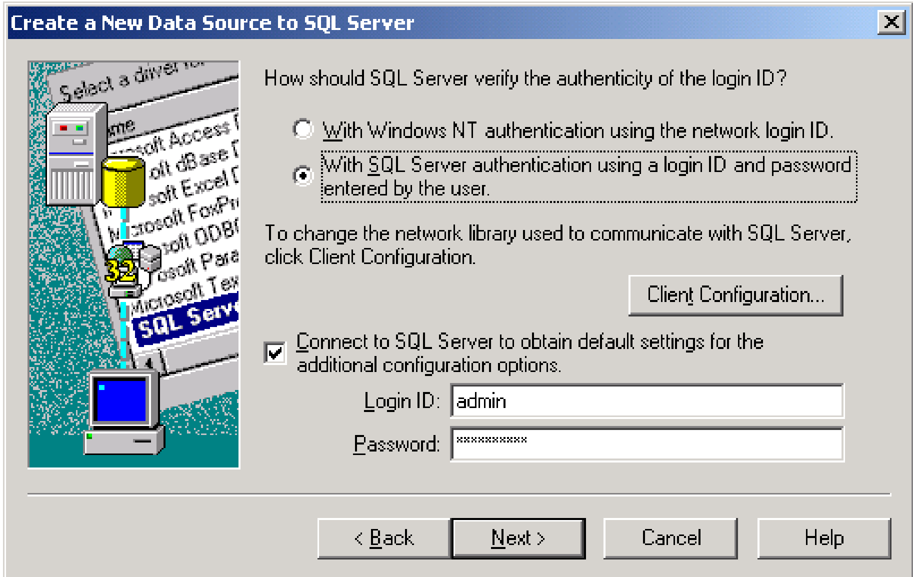
3. Enter the Data Source name as OutboundDialer. Select the SQL Server that you want to connect to, and click Next.

Figure 4-15 OutboundDialer Data Source



4. Select “With SQL Server Authentication...”, and enter admin as Login ID and hpoutbound as password. Click Next and complete the wizard accepting the default values.

Figure 4-16 Data Source Authentication



Configuring the Cisco CallManager

Make sure that the "Enable CTI Application Use" box is checked in the Cisco CallManager's user configuration. Otherwise, the OutboundDialer service will not start.

If you will be running campaigns in predictive mode, make sure the IP phones are in “auto answer” mode and CTI ports are configured in Cisco CallManager. These CTI ports must be available only for the Outbound Dialer. The CTI ports can't be shared with the IP/IVR or any other applications. You should configure at least as many CTI ports as the number of expected simultaneous predictive calls. For example, if you have 20 agents in predictive campaigns and you're overdialing 100%, you should configure at least 40 CTI ports. Also, the CTI ports should have an appropriate calling search space setting to enable them to make external calls.

NOTE The CTI ports and the agents' IP phones should be associated with the CallManager username specified on page 18.

For more information, see “User Configuration Settings” and “CTI Port Configuration Settings” in the *Cisco CallManager Administration Guide*.

5 Configuring the Outbound Dialer

As an Outbound Dialer Administrator, you need to configure the following:

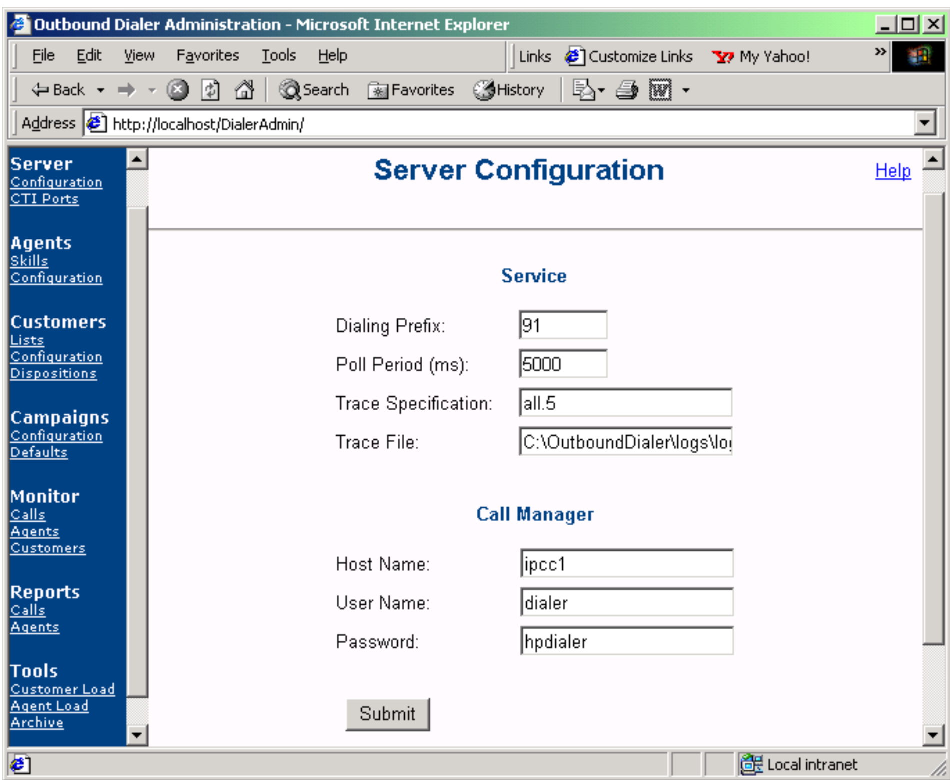
- The server (and CTI ports)
- Agents
- Customers and Campaigns

- "Configuring the Server"
- "Configuring CTI Ports (for Predictive Only)"
- "Configuring Agents"
- "Configuring Customer Lists"
- "Adding a Customer Disposition"
- "Configuring Campaigns"

Configuring the Server

1. In your web browser, go to the HP Outbound Dialer page, http://localhost/ where "localhost" is the hostname of your Outbound Dialer server.
2. Click on "Administration Login", which takes you to the login page.
3. Log in with username **admin** and password **hpoutbound**.

Figure 5-1 Server Configuration



4. On the left side, click on Server. Configure the server as follows:

- Set the **Dialing Prefix** field to dial an outside number. The Dialer prepends the prefix to all the customer numbers being called. With long distance numbers in the database, you type in the number the switch needs here. For example, if your switch needs 9 for an outside line and 1 to dial long distance, you set the prefix to "91" and store all the customer numbers in your database with only the area code prepended. Only digits are allowed. The Dialing prefix can be up to five digits.
- The Outbound Dialer **polls** the database every few seconds to see if it has work to do. This might include finding a campaign that is now active, finding a customer in a list that was previously empty, or finding an agent that has just logged in. Since an agent becoming available triggers the Outbound Dialer, usually the Outbound Dialer would only find available agents through the poll when starting up. This field is the value in milliseconds between each successive cycle by the Outbound Dialer. Only digits are allowed in this field. The default value is 5000 (i.e., 5 seconds).
- The trace specification consists of two parts: a number representing the **package** and the **level**. These are separated by a period.

  There are 4 packages in the Outbound Dialer:

  0 - the server package

  1 - the database package

  2 - the IP Phone package

  3 - the utility package

  There are 8 levels that you can specify. If a package is set to trace at a given level, then all trace messages that are marked at that value or lower in the code will be written to the trace file. The levels are as follows:

  0 - no tracing

  1 - LOG (not used)

  2 – FATAL

  3 – CRITICAL

  4 – MINOR

  5 – INFO

  6 – ENTRY

  7 – EXIT

  For example, 0.5 indicates that the trace is set for the Server package at level 5 or less. Trace at a given level can be applied over a range of packages (e.g., 0-2.5), or the trace level for individual packages can be set at different levels (e.g., 0.5,1.7).

  There are several shorthand expressions that can be used.

  "all" specifies all packages without having to know what their numbers are. In the Outbound Dialer, this is equivalent to "0-3".

  "max" is equivalent to specifying all levels (i.e., 1-7).

Thus the most verbose trace setting is "all.max". Typically the function EXIT and ENTRY trace is not useful to call centers, so the recommended level for production is 4. For testing, level 5 is recommended, which includes informational messages in the log file.

- Check the trace file path. It will have logs of Dialer trace messages.
- Check the CallManager properties.

Hostname is the name or fully qualified host name (as appropriate) of the JTAPI server for the Cisco CallManager. Maximum of 32 characters. The Outbound Dialer can make use of clustered (or backup) CallManagers. To do this, use the syntax: `ccmserv1, ccmserv2`. This will make use of CallManager `ccmserv2` if `ccmserv1` goes out of service.

User Name is the name of the user in the Cisco CallManager that "owns" all of the IP phones used by the agents. Maximum of 32 characters.

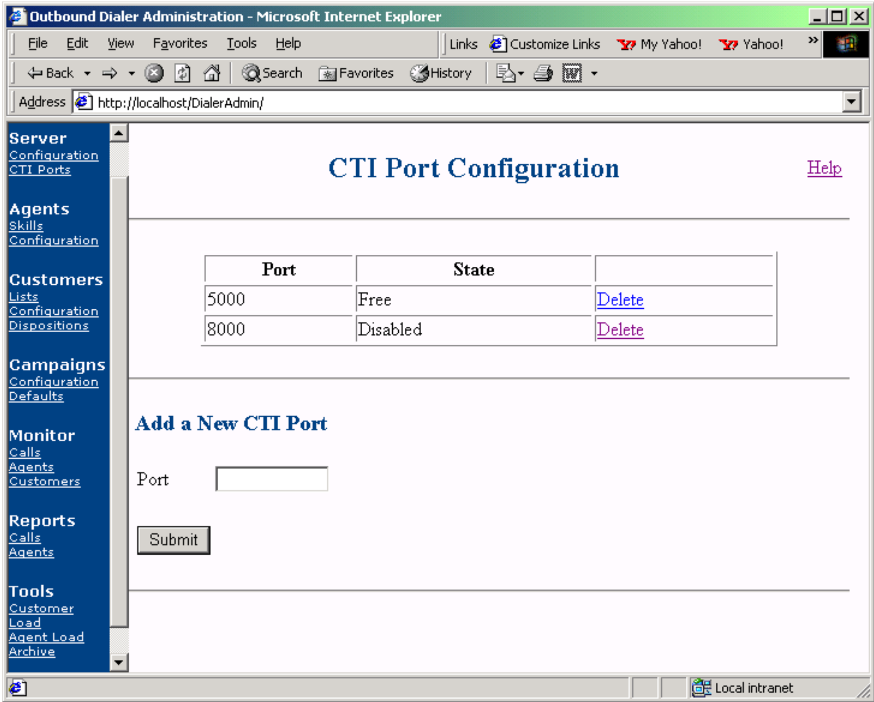
Password is the password for the CallManager user above. Maximum of 32 characters.

NOTE Changes to the Server parameters take effect after you restart the OutboundDialer service.

Configuring CTI Ports (for Predictive Only)

Click on “CTI Ports”, and the CTI Port Configuration screen displays.

Figure 5-2 CTI Port Configuration



NOTE CTI ports must be configured in Cisco CallManager. See “Configuring the Cisco CallManager” on page 27.

For each CTI port that you intend to use with the Outbound Dialer, type in the port number and click Submit. The port number displays on the screen along with its state. The state can be:

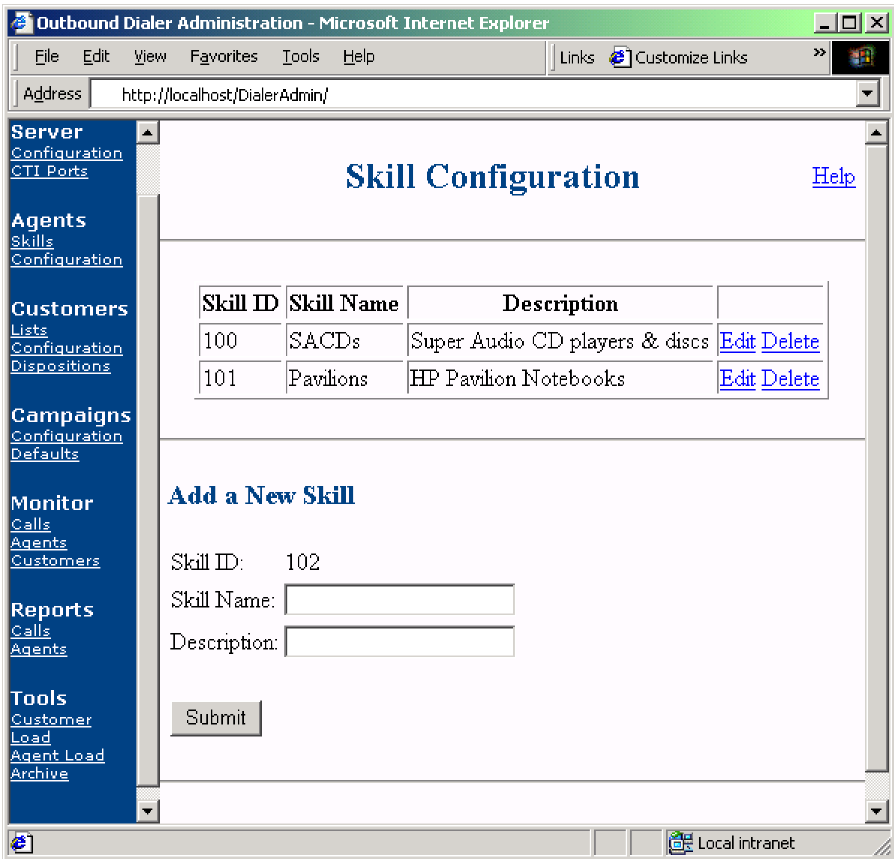
- Free - the CTI port is not associated in any way
- Reserved - the CTI port is in an interim state. An association is being set up
- In Use - the CTI port is associated. It cannot be deleted
- Disabled - the CTI port could not be monitored when the Outbound Dialer started. It will not be used

If desired, you can delete free or disabled ports by clicking the Delete link on the same row.

Configuring Agents

Before you can add an agent, you need to add a Skill group. On the left side, click on Skills. Add the Skill(s); skills are used to group agents with similar capabilities. Skill Name can be up to 32 characters, and Description can be up to 64 characters. You need to have at least one skill defined. You can also delete an existing skill, if no agent is currently associated with the skill.

Figure 5-3 Skill Configuration

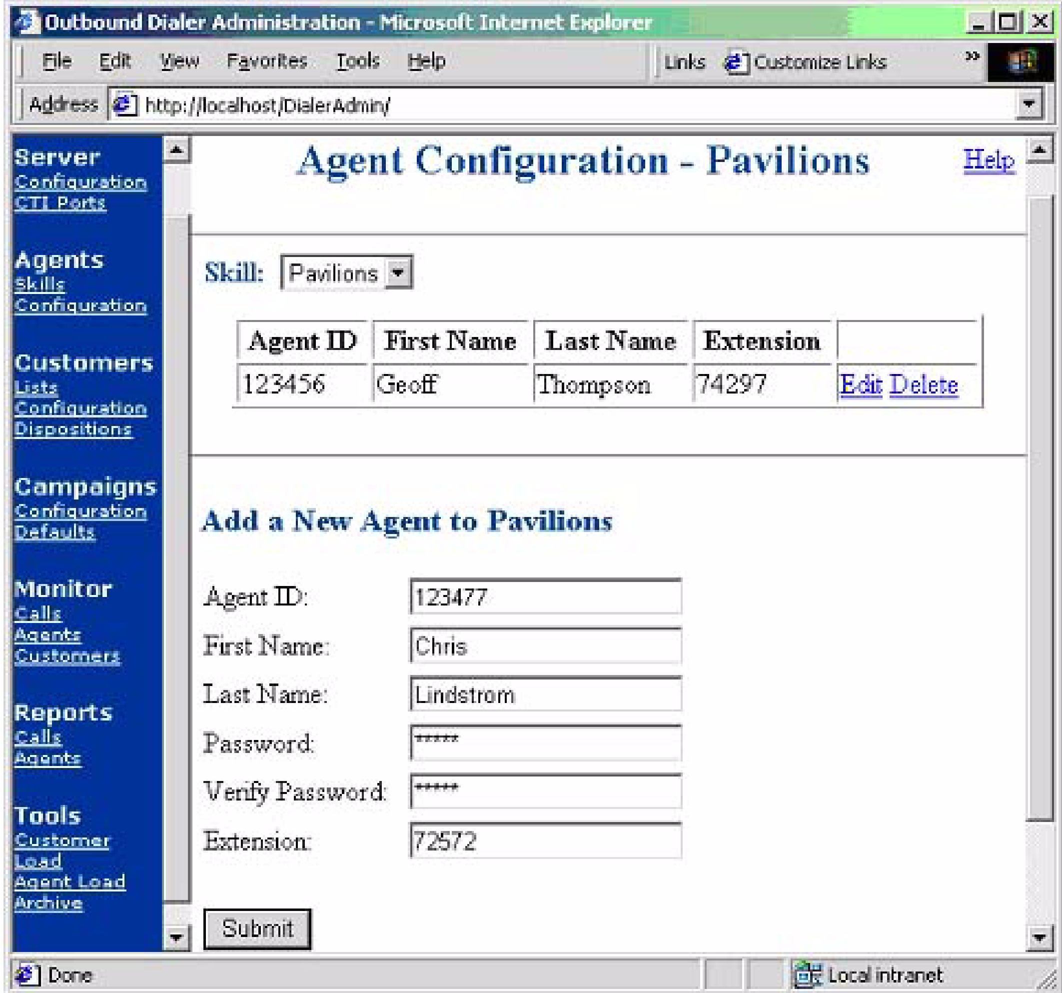


On the left side under Agents, click on Configuration. Add the agent(s) corresponding to each skill by entering their agent ID (up to 10 digits, must be numeric), first name (optional, up to 32 characters), last name (optional, up to 32 characters), password (optional, up to 32 characters), and phone number extension (e.g., 72883).

Agent IDs must be a unique number, and cannot be easily reused. In the example, the employee ID number has been used. Another possibility would be to simply follow a numeric sequence (e.g., 1, 2, 3, 4, etc.).

NOTE To import a list of agents, click on Agent Load on the left side, browse for the CSV file containing the list, and click Submit. For the definition of the CSV file, see “Appendix A: Importing Customer and Agent Lists” on page 69.

Figure 5-4 Agent Configuration - Add a New Agent



Configuring Customer Lists

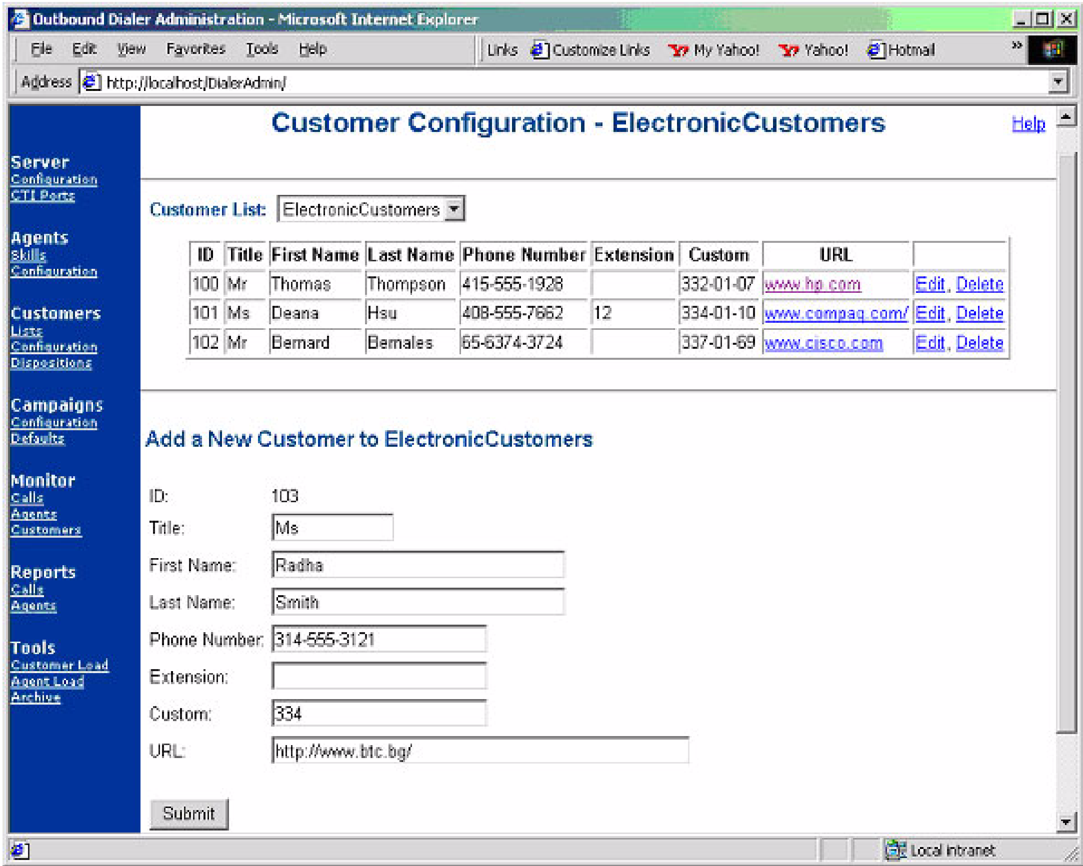
On the left side, click on Lists to create a list of customers to be called by the Dialer.

1. Type in the List name (e.g., ElectronicCustomers), which can be up to 32 characters.
2. Click Submit. The Dialer automatically generates a list ID.
3. On the left side under Customers, click on Configuration. To add a customer, type in a customer's title*, first name, last name, phone number, extension*, custom field(s)*, and URL*.

   * optional

   For more information on using custom fields and modifying the settings.php file, see Appendix B, "Customizing the Settings," on page 101.

Figure 5-5 Customer Configuration



Field	Description of “Customer Configuration” Fields
ID	The unique numerical ID of the customer. This is generated by the Outbound Dialer and cannot be edited.
Title	Optional. The customer’s title or salutation. Maximum of 10 characters.
First Name	The customer’s first name. Up to 32 characters.
Last Name	The customer’s last name. Up to 32 characters.
Phone Number	The customer’s phone number. Up to 22 characters; only digits and dashes. The number here is prepended by the Dialing Prefix, which you set during server configuration. The same prefix is used for all calls, so you cannot mix local and long distance calls if your switch prefix is different.

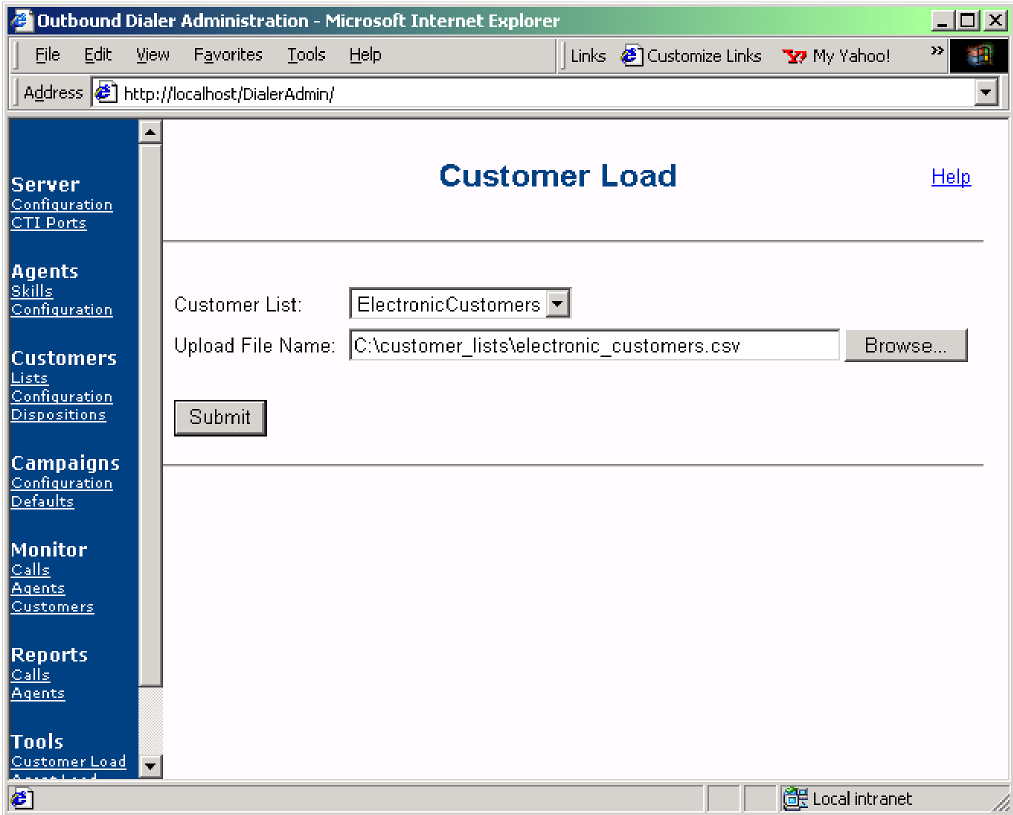
Field	Description of "Customer Configuration" Fields
Extension	Optional. Up to 22 characters; only digits and dashes allowed. This field specifies the customer's extension. In this case, the customer does not have a direct in-dial number and the customer's phone number above is a PBX. The agent refers to the screen-pop and uses the extension shown there to manually dial the customer's internal extension. The Outbound Dialer does not automatically dial the extension.
Custom	Optional. Up to 64 characters. This is a customizable field that you can use to store cross-referencing information about the customer. For example, this could hold the true customer ID in the customer database, or the customer's account number. If configured, displays in the agent screen-pop.
Custom2	Optional. Up to 64 characters. If configured, displays in the agent screen-pop.
Custom3	Optional. Up to 64 characters. If used, displays in the agent screen-pop.
URL	Optional. Up to 128 characters. This column is designed to contain the URL of the customer's website or home page. It should be specified with the protocol - typically http:// - so that clicking on this URL will open a new browser page at the address. When this field is displayed in the table above or on the agent screen-pop, the protocol is hidden. Note that this field can be considered as simply another custom field and the automatic conversion into a clickable link can be turned off via a flag in settings.php.

To edit or delete a customer list, click on "Edit" or "Delete", respectively, on the right of the list name on the Customer List Configuration page. If a customer list is being used in an active campaign, you must stop the campaign before the list can be deleted.

NOTE

To import a list of customers, click on **Customer Load** on the left side, browse for the CSV file containing the list, and click Submit. For the definition of the CSV file, see "Appendix A: Importing Customer and Agent Lists" on page 61.

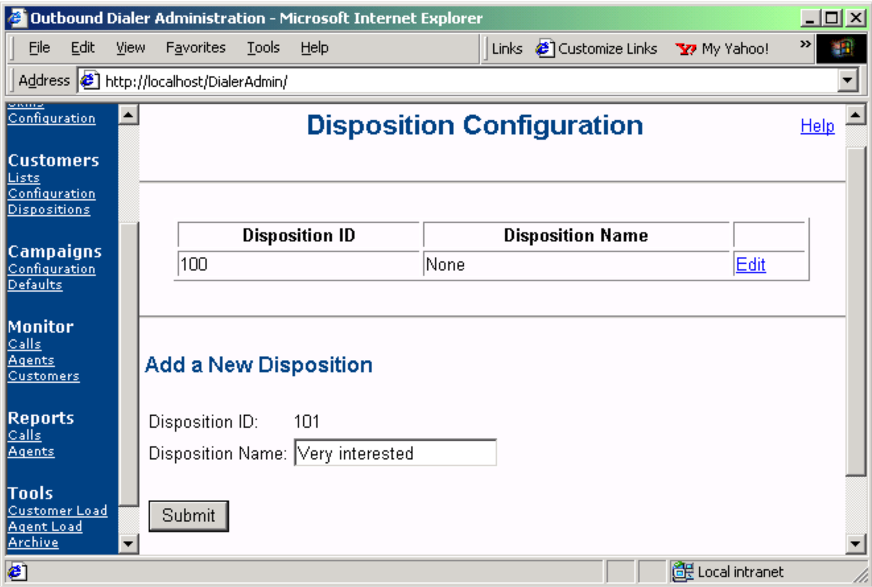
Figure 5-6 Customer Load Tool



Adding a Customer Disposition

(Optional.) If desired, you can add some customer dispositions to record the outcome of the call. On the left side of your browser window, click on “Dispositions” (under Customers). By default, the first disposition is “None”. You can rename the “None” disposition, but you cannot delete it. You can add additional dispositions, such as “Purchased service” or “Plans to purchase next week”. To do this, type in the Disposition Name (up to 25 characters), and click Submit. The new disposition displays in the list of dispositions, and you can later edit or delete the disposition.

Figure 5-7 Disposition Configuration



To edit or delete a disposition, click on “Edit” or “Delete”, respectively, on the right of the disposition record on the Disposition Configuration page.

Configuring Campaigns

On the left side, click on Configuration under “Campaigns”. Add a new campaign. Select the Customer list to be called and the corresponding skill group. The campaign ties together the customer list to be called and the required skill of the agents who need to call them. Specify the start time and finish time for the campaign. If desired, change the default values for no answer timeout, number of retries, busy delay, and no answer delay.

NOTE If each customer list is already assigned to a campaign, you can't add a new campaign until a customer list is unassigned.

Figure 5-8 Campaign Configuration

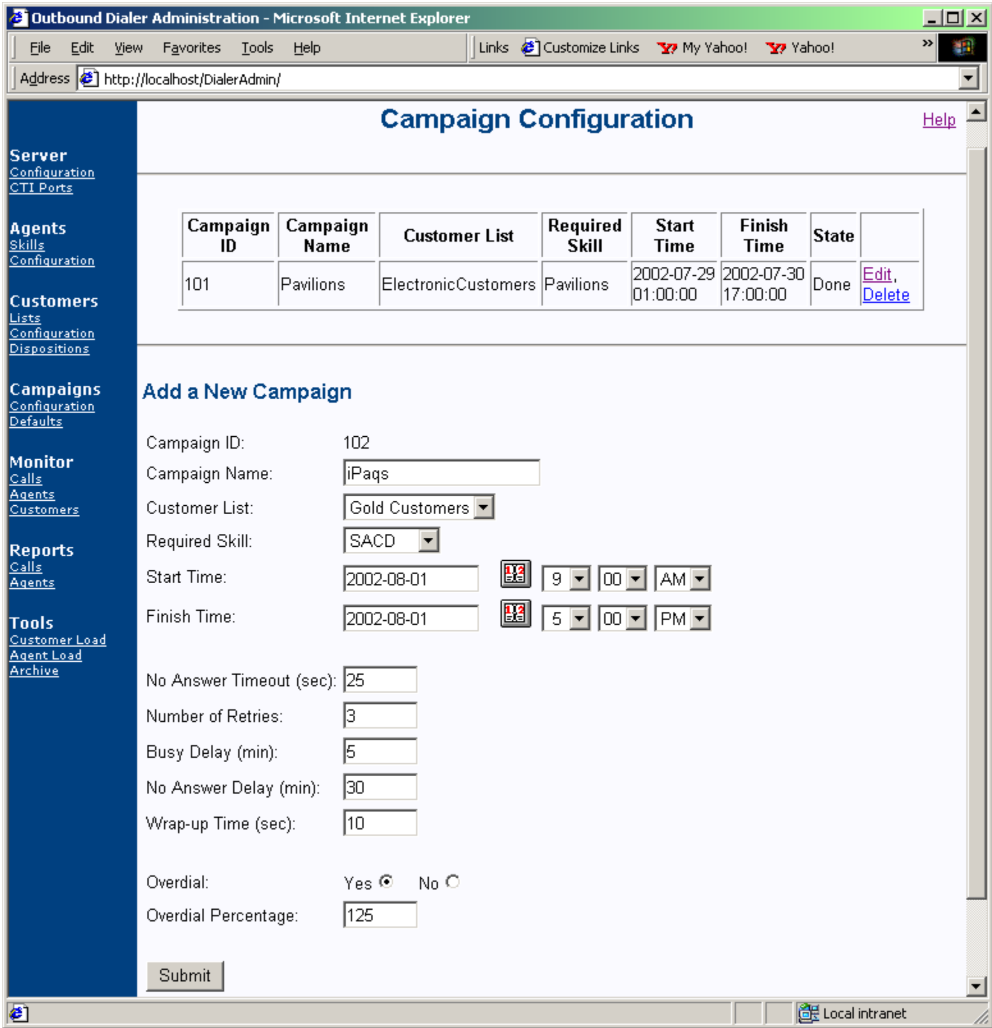


Table 5-1 Campaign Configuration Fields

Field	Description of "Campaign Configuration" Fields
Campaign ID	The unique numerical identifier of the campaign. This is generated by the Outbound Dialer and cannot be edited.
Campaign Name	A name for the campaign. Maximum of 32 characters.
Customer List	The associated customer list selected from the drop-down list. There is a one-to-one correspondence between campaigns and customer lists. Each campaign can be associated with one and only one customer list. If there are no unassociated customer lists you will not be able to create a campaign - a new list must first be created.

Table 5-1 Campaign Configuration Fields (Continued)

Field	Description of "Campaign Configuration" Fields
Required Skill	The required skill selected from the drop-down list. Creating a predictive campaign and a progressive campaign with the same required skill is not recommended.
Start Time	The date and time the campaign starts. Default date is the current date. Click on the calendar icon to pop up a date picker. Use the drop-down lists to set the time. The start time can be set to the nearest five minutes.
Finish Time	The date and time the campaign finishes. Default date is the current date. Click on the calendar icon to pop up a date picker. Use the drop-down lists to set the time. The finish time can be set to the nearest five minutes. Note that campaigns are always created in the enabled state - that is, they are not "Paused". The Outbound Dialer continually checks each campaign to see if its Start Time has passed, and if so commences dialing the customers in the associated customer list on behalf of agents in the required skill, unless the "State" is "Paused".
No Answer Timeout	The time in seconds the Outbound Dialer will allow the customer's phone to ring before hanging up and marking the call for retry. See "No Answer Delay". This field is automatically populated with the value set in the Campaign Defaults page but can be changed on a campaign-by-campaign basis.
Number of Retries	The number of times the Outbound Dialer will retry a customer's number after no answer or if the phone is busy. This field is automatically populated with the value set in the Campaign Defaults page but can be changed on a campaign-by-campaign basis.
Busy Delay	The time in minutes the Outbound Dialer will wait before retrying a number that was previously busy. This field is automatically populated with the value set in the Campaign Defaults page but can be changed on a campaign-by-campaign basis.
No Answer Delay	The time in minutes the Outbound Dialer will wait before retrying a number that was previously not answered. This field is automatically populated with the value set in the Campaign Defaults page but can be changed on a campaign-by-campaign basis.

Table 5-1 Campaign Configuration Fields (Continued)

Field	Description of "Campaign Configuration" Fields
Wrap-up Time	The time in seconds the Outbound Dialer will consider an agent ineligible for selection after they disconnect. This pause is not applied if the number called was busy or did not answer. The wrap-up time allows the agent to update customer information relevant to the call that just finished. This field is automatically populated with the value set in the Campaign Defaults page but can be changed on a campaign-by-campaign basis.
Overdial	This pair of radio-buttons control whether the Outbound Dialer is dialing more customers than it has available agents in order to maximize agent utilization. The default is "No". When "No" is selected, the Outbound Dialer calls customers from agent phones, and requires an available agent before commencing a call. This is called a progressive campaign. The agent monitors the complete progress of the call, and hears the ringing tone, busy tone, invalid number tone, etc. When "Yes" is selected, the Outbound Dialer dials customers from CTI ports configured on the Call Manager. The Outbound Dialer uses the "Overdial Percentage" combined with a predictive algorithm to overdial customers. A campaign that uses overdialing is called a predictive campaign. Many outbound calls made by the Outbound Dialer are not answered and are timed out by the Dialer, or they are to busy numbers. In a predictive campaign, the Outbound Dialer makes more calls from the CTI ports than it has agents for, and only transfers the call to an available agent when the outbound call is answered. Note that this characteristic cannot be changed once the campaign is created.
Overdial Percentage	This is only relevant when the campaign is being overdialed. The number entered is an integer interpreted as a percentage. Negative numbers are not allowed. Entering 0 defines a predictive campaign with no overdialing. In this case, the Outbound Dialer places a call from one of the CTI ports to a customer only when an agent in the matching skill becomes free. Such a setting would not be recommended, as it would be better to use a progressive campaign. Some overdialing is often desirable to maximize agent utilization. For instance, entering 100 will cause the Outbound Dialer to dial, on average, twice as many customers as it has available agents in the campaign.

Customize the sample campaign script to provide directions to agents. Campaign scripts are stored in the scripts directory on the Outbound Dialer web server. The name of the script file should be the campaign ID, followed by the ".html" file extension. For example, if the campaign ID is "100", the associated script would be `http://<localhost>/scripts/100.html`. By default, this file would be on the server machine at `C:\OutboundDialer\wwwroot\scripts\100.html`.

When the Wrap-up window pops up on an agent's screen, the agent clicks on the Campaign Name to access the campaign script.

(Optional). If you want to change the default campaign values for all campaigns, on the left side under Campaigns, click on Defaults.

These settings are used to prepopulate identically named fields for "Add a New Campaign" on the Campaign Configuration page. They can be individually adjusted.

Changing these values will only impact new campaigns. Existing campaigns are not affected, but they can be changed individually.

Figure 5-9 Campaign Defaults

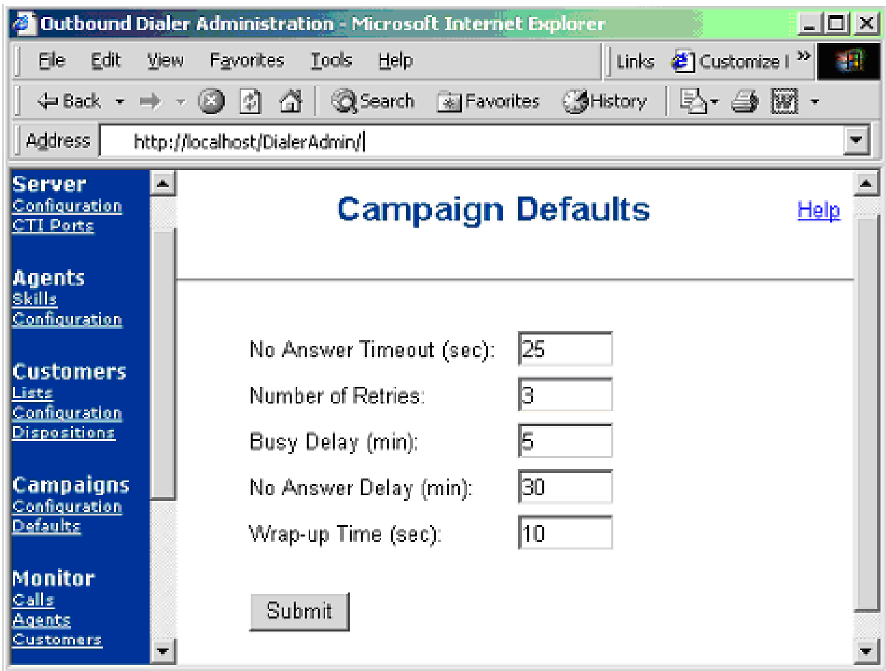


Table 5-2 Campaign Defaults Fields

Field	Description of Campaign Defaults
No Answer Timeout (sec)	The time in seconds that the Outbound Dialer allows the customer's phone to ring before hanging up and marking the call for retry. See "No Answer Delay".
Number of Retries	The number of times that the Outbound Dialer retries a customer's number after no answer or if the phone is busy.
Busy Delay (min)	The time in minutes the Outbound Dialer will wait before retrying a number that was previously busy.
No Answer Delay (min)	The time in minutes that the Outbound Dialer waits before retrying a number that was previously not answered.

Table 5-2 Campaign Defaults Fields (Continued)

Field	Description of Campaign Defaults
Wrap-up Time (sec)	The time in seconds after an agent disconnects from a call that the Dialer waits before the Dialer considers selecting that agent for another call. This pause is not applied if the number called was busy or did not answer. The wrap-up time allows the agent to update customer information relevant to the call that just finished. From the agent's point of view, the polling period in the database increases the wrap-up time. For example, if Wrap-up Time is set to 10 and the polling period in the database is set to 6, the mean polling period will be 3. Therefore, the true average wrap-up time for the agent would be 10 seconds plus 3 seconds, a total of 13 seconds.

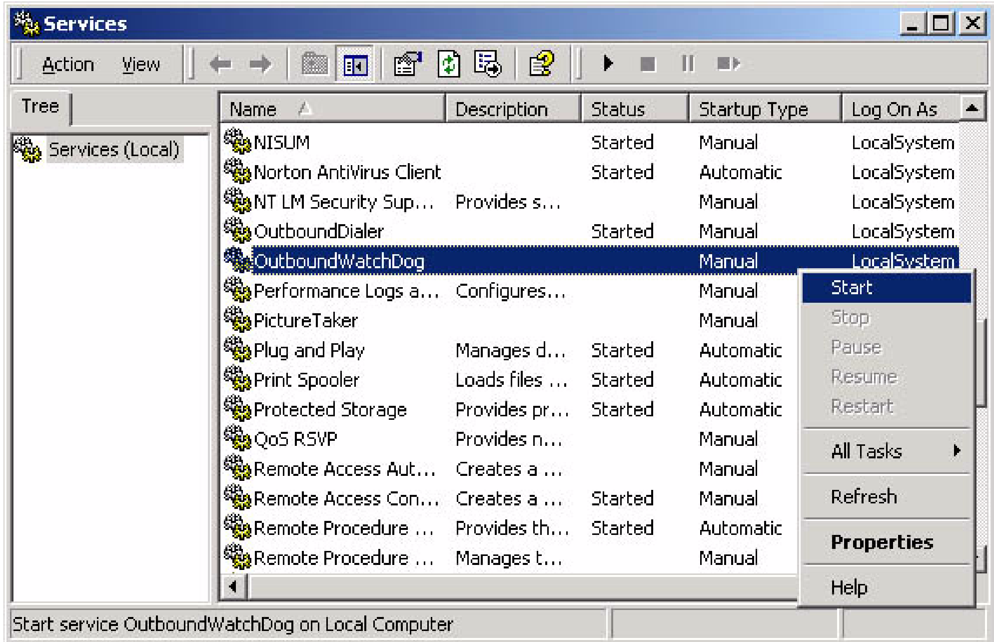
Having completed initial configuration, you are ready to start the OutboundDialer service.

6 Starting and Stopping the Outbound Dialer

The Outbound Dialer is installed as a Service. Run it by starting Service OutboundDialer on your Windows Services panel. To do this, right-click on the OutboundDialer service (in the Services panel), and click on Start. To stop the dialer, right-click on the OutboundDialer service in the Services panel, and click on Stop.

NOTE The MSSQL Server must first be running before you can start the Dialer.

Figure 6-1 Starting the OutboundDialer Services



The OutboundDialer service is installed as a Manual service. If you want it to automatically start after each reboot, change its Startup Type to “Automatic”.

NOTE If you have more agents configured than your license allows, the service will not start. In this case, either upgrade your license or delete some agents.

When the OutboundDialer service stops or starts, it writes information to its log file and also writes events to the Application Event log, which you can view with the Event Viewer.

The OutboundWatchDog Service

The OutboundWatchDog service can be used for production sites that want very high availability of the dialer. The OutboundWatchDog service watches over the OutboundDialer service and restarts it, if the OutboundDialer service fails or has a scheduled reboot. For details on how to set up the Outbound WatchDog for high availability, please see the appropriate technical brief.

For non-production usage, it is not necessary to start the OutboundWatchDog service.

To start the OutboundWatchDog service, right-click on the OutboundDialer service (in the Services panel), and click on Start as shown in Figure 6-1.

7 Monitoring Status

Supervisors and Administrators can monitor the following:

- Calls in progress
- Agent state and agent’s phone state
- Customers to be called

Calls in Progress

To monitor calls in progress, click on Calls (under Monitor) on the left side. This displays in a table the calls currently in progress in the Outbound Dialer.

A call is "In Progress" for a progressive campaign if:

- the agent has been selected to call the customer but the JTAPI layer has not yet started the call. The agent is "Reserved".
- the Outbound Dialer is using the agent's phone to call the customer
- the customer has been dialed and their phone is ringing, but they have not answered
- the customer has answered and they are talking to the agent.

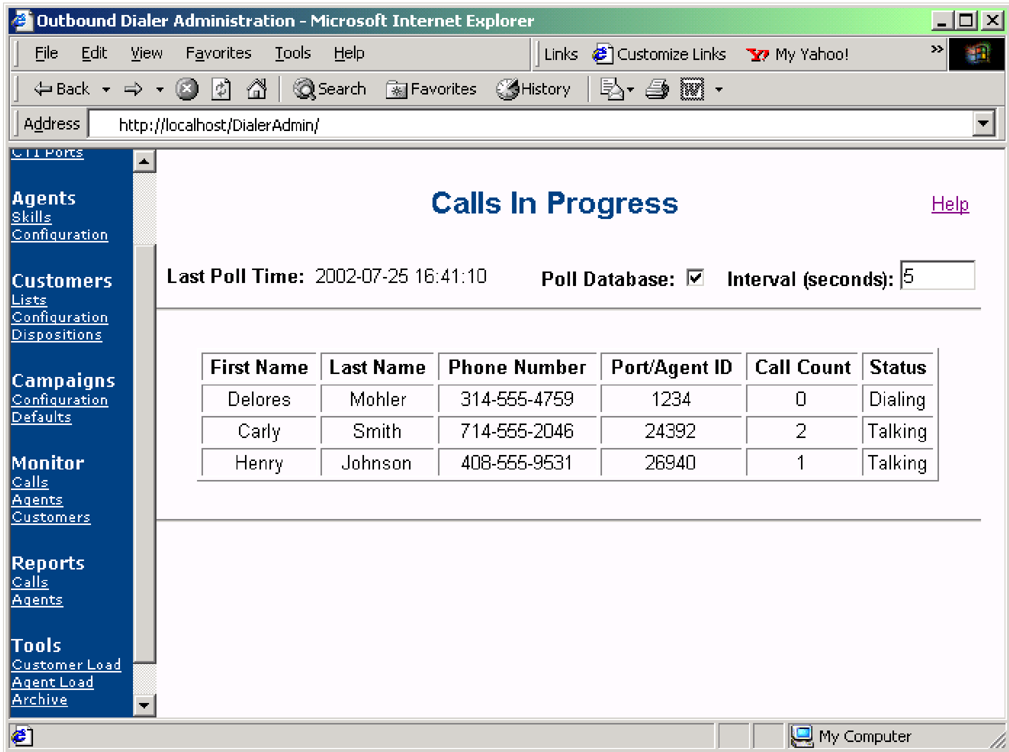
A call is "In Progress" for a predictive campaign if:

- a CTI port is being used to call the customer but the JTAPI layer has not yet started the call. The CTI port is "Reserved". This state occurs only for a very short time.
- the Outbound Dialer is calling the customer from one of the CTI ports
- the customer has been dialed and their phone is ringing, but they have not answered
- the customer has answered the call from the CTI port. When the customer answers, the Outbound Dialer transfers the call to the agent that has been waiting the longest. The Status column changes to "Talking" and the Port/Agent ID column changes from the CTI port to the agent selected.

Calls are removed from this list when:

- the customer (or agent) terminates the call
- the Outbound Dialer determines that the no answer timeout has been reached.

Figure 7-1 Calls in Progress



This page automatically refreshes (by default) every five seconds, showing the latest information in the database. If you don't want to wait for the next poll, refresh the web page. Above the table on the web page, the last poll time displays (e.g., 2002-08-01 12:51:42). There's also a checkbox to turn polling off/on, and a field to change the polling interval value (in seconds).

Table 7-1 "Calls in Progress" Table

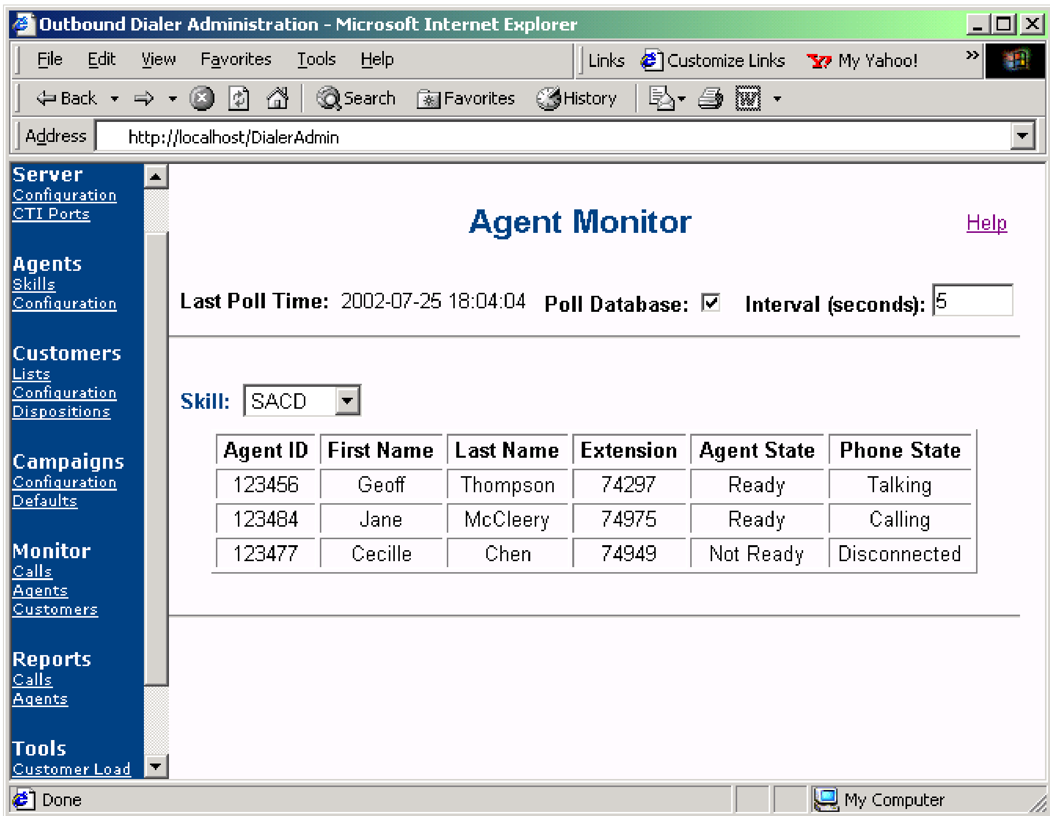
Column	Description of "Calls in Progress" Columns
First Name	The customer's first name
Last Name	The customer's last name
Phone Number	The customer's phone number the Outbound Dialer is calling
Port/Agent ID	The unique identifier of the agent, or the number of the CTI port, making the call.
Call Count	The number of times the customer has previously been called. It does not include the current call.
Status	Dialing - the agent or CTI port is dialing the customer or the customer's phone is ringing. Talking - the agent is talking to the customer.

Agent State and Agent’s Phone State

To monitor agent activity, click on Agents (under Monitor) on the left side. This page is automatically refreshed (by default) every five seconds. It queries all the agents in the Outbound Dialer database and determines their state (whether they are logged out, ready, not ready, etc.) and the state of their phone (disconnected, off hook, calling, etc.).

If you don’t want to wait for the next poll, refresh the page. Above the table on the web page, the last poll time displays (e.g., 2002-08-01 12:51:42). There’s also a checkbox to turn polling off/on, and a field to change the polling interval value (in seconds).

Figure 7-2 Agent Monitor



Column	Description of “Agent Monitor” Columns
Agent ID	Displays the unique numeric ID for the agent.
First Name	The agent’s first name.
Last Name	The agent’s last name.
Extension	The internal extension number of the IP phone the agent is assigned to in the database.

Column	Description of "Agent Monitor" Columns
Skill	The skill group this agent belongs to.
Agent State	The agent can be in one of the following states: Not Ready - logged in but unwilling to be selected by the Outbound Dialer. Ready - logged in and ready to be selected by the Outbound Dialer to place an outgoing call (non-predictive campaign), or as a target for an internal transfer because the customer has answered a call placed by one of the Outbound Dialer's CTI ports (predictive campaign). To be selected, the agent must not be on a call (see Phone State). Logged Out – Indicates that an agent has not yet logged in, or if the agent was logged in, has logged out. When logged out, the agent is not selected to make calls. Unknown – Indicates that an agent was added, but the OutboundDialer process has not yet started.

Column	Description of “Agent Monitor” Columns
Phone State	The agent’s phone can be in one of the following states: Disconnected - the agent’s phone is available for a call. This means that the agent is not talking to anyone, hearing ringback, dialing, nor has the phone gone off-hook. The phone must be in this state and the agent must be "Ready" to be selected by the Outbound Dialer. Reserved - This is an interim state, which means that the Outbound Dialer has selected this agent to place a call, and is in the process of doing so, but the event from JTAPI that signals this has not been received. Calling - The agent’s phone is being used by the Outbound Dialer to call the customer, and is either still dialing the number or the customer’s phone is ringing. The JTAPI gateway cannot differentiate between these two across the PSTN. Talking - The agent is connected to the customer and they are talking. Out of Service – Indicates that either the OutboundDialer service has just started and phone subscription is not yet confirmed, or the phone is not functional. This can happen to an individual IP Phone or SoftPhone when the CallManager issues an out of service event through the JTAPI gateway on behalf of that particular phone. If the CallManager itself goes out of service, all of the agent phones are set to "Out of Service". After CallManager restarts, the phones automatically rebind and move to the "Disconnected" state, but the agent status is set to “Not Ready”. Alerting – An inbound call; the agent's phone is ringing. Unknown - The initial state in the database. When the Outbound Dialer starts, it sets up monitors on all the IP phones in the Agent table of the database. Once these monitors are working, each Phone State will change to "Disconnected". If the Outbound Dialer is not running, the Phone State of all agents will be "Unknown". Off Hook - The agent's phone is not disconnected, but the Outbound Dialer did not select the agent and is not dialing from their phone. This state occurs if the agent simply lifts the handset (goes off hook) to place a call himself or herself. Created - Added for completeness. Never seen. Failed – An unusual failure when placing a call.

Customers To Be Called

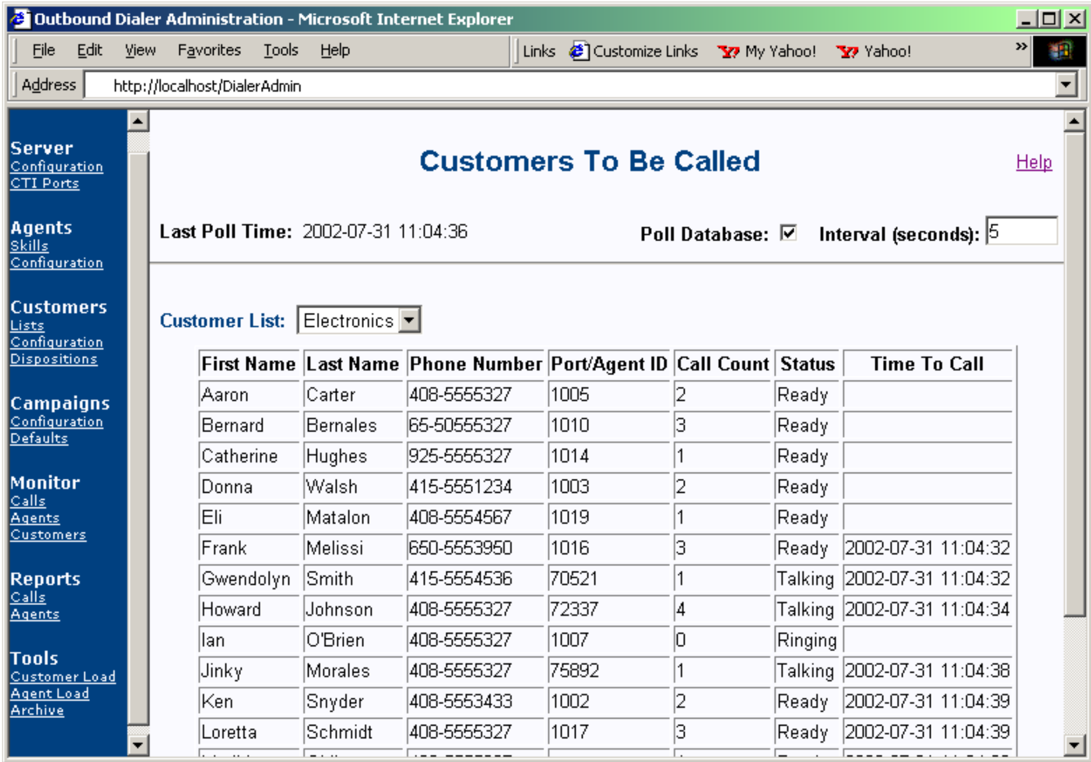
To monitor the list of customers to be called, click on Customers (under Monitor) on the left side. This page shows, for the selected Customer List, the customers to be called. Changing the selected Customer List causes the page to be refreshed. Entries in this list show:

- customers who have not been called yet. The Port/Agent ID column is empty. The Time To Call column is usually empty, although scheduled callbacks will set the time when the Outbound Dialer must make the call.
- customers who have been called but they did not answer or the phone was busy and the Outbound Dialer will call them again. The agent ID column is empty. The Time To Call column will show the time when the Outbound Dialer will place the call again. The Call Count will be greater than zero.
- For progressive campaign: customers who are currently associated with an agent but are not yet talking to them. The Port/Agent ID column shows which agent is associated. Typically, the customer's phone is ringing although other more transient conditions are possible.
- For predictive campaign: customers who are being called from a CTI port. The Port/Agent ID column displays the CTI Port that is being used.
- For predictive campaign: customers who have answered and are being transferred to an agent. The agent ID appears in the Port/Agent ID column, and the status is set to Talking. The row is removed two seconds after the customer answers.

Once a customer or answering machine answers, the customer is removed from this table either immediately (progressive campaign) or after two seconds (predictive campaign).

By default this page is automatically refreshed every five seconds. If you don't want to wait for the next poll, refresh the page. Above the table on the web page, the last poll time displays (e.g., 2002-07-25 18:39:46). There’s also a checkbox to turn polling off/on, and a field to change the polling interval value (in seconds).

Figure 7-3 Customers to be Called



Column	Description of “Customers To Be Called” Columns
First Name	The customer’s first name.
Last Name	The customer’s last name.
Phone Number	The customer’s phone number the Outbound Dialer is calling.
Port/Agent ID	The unique identifier of the agent making the call (progressive campaign) or the CTI port number making the call (predictive campaign). Predictive campaign: there is a brief interval where the agent to whom the call has been transferred on customer answering can appear in this column. This column can be empty.
Call Count	Depending on the setting for the Number of Retries for the associated campaign in the Campaign Configuration page, customers may be called multiple times. Call count is the number of times this customer has been called so far. It does not include the current call.

Column	Description of “Customers To Be Called” Columns
Status	Status will be one of the following: • Ready - the customer will be called at some time in the future. • Ringing - the agent or the CTI Port is dialing the customer or the customer's phone is ringing. • Talking - predictive campaign: the agent was selected for blind transfer on customer answer. The agent's phone is typically configured in auto-answer mode so this status usually implies that the agent is talking to the customer. This condition can only appear for a maximum of 2 seconds, and may not always appear as it depends on the polling timer.
Time to Call	When a campaign starts, the Time To Call for all customers in the associated customer list is set to null, and this column will be empty. Customers with a null Time To Call are ordered alphabetically on Last Name. If a customer doesn't answer or is busy when the first call is made, the call is scheduled to be made again sometime later, and the Time To Call value will show this. Callback requests may be registered to be performed at a particular time. In these cases, the Time To Call will not be empty.

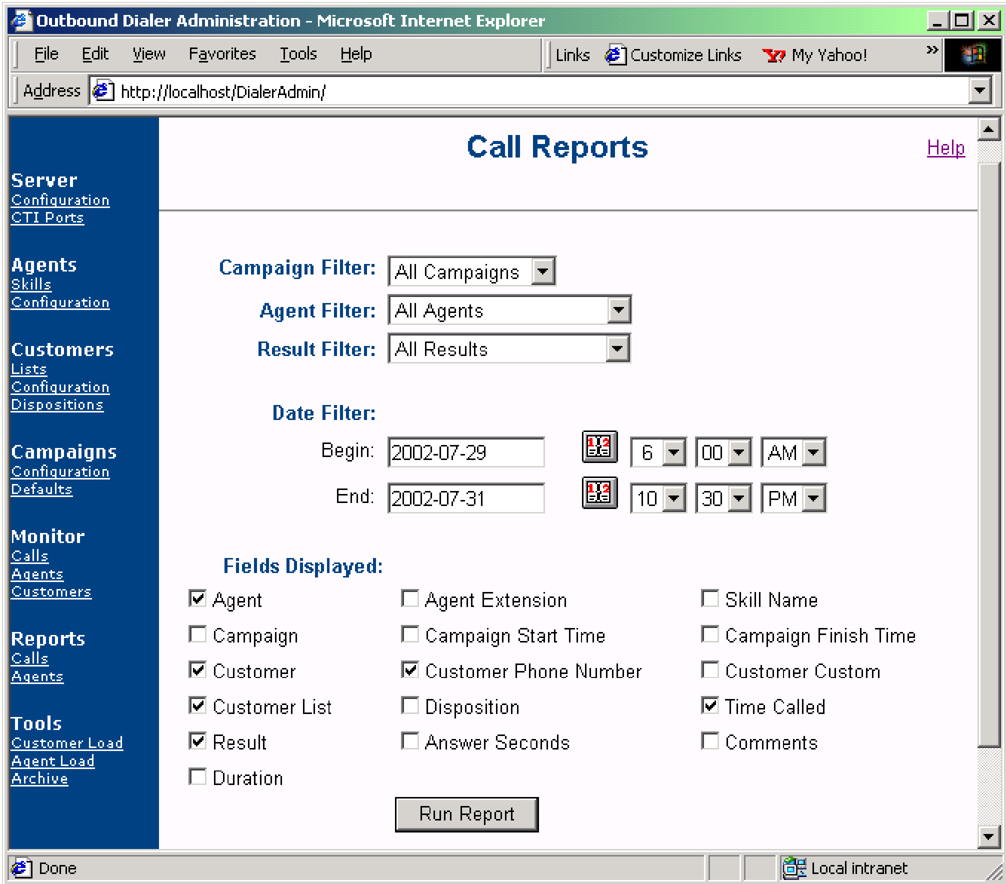
8 Running Reports

You can query and view information stored in the Outbound Dialer database in your browser by running a Call report or an Agent report.

Running a Call Report

You can limit the results displayed in your report to a particular campaign, a particular agent, a particular result, and a time period.

Figure 8-1 **Call Reports**



Filtering by Campaign

Select the campaign name from the Campaign Filter drop-down list. Unless you select a specific campaign, all campaigns are included in the report.

Filtering by Agent

Select the Agent name from the Agent Filter drop-down list. Unless you select a specific agent, all agents associated with the campaign(s) are included in the report.

Filtering by Result

Select the Result from the Result Filter drop-down list. Unless you select a specific result, all results associated with the campaign(s) are included in the report.

Filtering by Time Period

To specify the begin date, click on the Calendar icon to open a Calendar, and click on the desired date (the default value is the current date). Next, select the begin time from the drop-down lists for hour, minutes, and am/pm. Similarly, specify the end date (which also defaults to the current date) and time.

Selecting Fields to Display in Your Report

By default, the report includes the following columns: Agent, Customer, Customer Phone Number, Customer List, Time Called, and Result.

Click the checkbox next to each column name that you want included in the report. Choose from the following columns:

Column	Description of Report Columns
Agent	The first and last name of the agent selected to place the outbound call (e.g., Radha Smith).
Agent Extension	The extension of the agent's IP phone or SoftPhone selected for the call.
Skill Name	The name of the skill required by the campaign (e.g., Pavilions).
Campaign	The name of the campaign for which the customer is being called.
Campaign Start Time	Date/time when the campaign began (e.g., Jul 17 2002 1:00AM).
Campaign Finish Time	Date/time when the campaign finished or is scheduled to finish (e.g., Jul 17 2002 8:00PM).
Customer	The first and last name of the customer the Outbound Dialer called.
Customer Phone Number	The phone number called (e.g., 408-555-4297)
Custom	The custom field in the Customer database table. This could be their account number, customer identifier, etc. in a larger database.
Customer List	The name of the customer list that this campaign operates on.
Disposition	The customizable customer disposition. This is a string that the agent selects from the choices provided in the screen-pop. It represents the customer's attitude at the end of the call.
Time Called	The date/time stamp when the row was added to the History table. A row is added when the call is initiated.

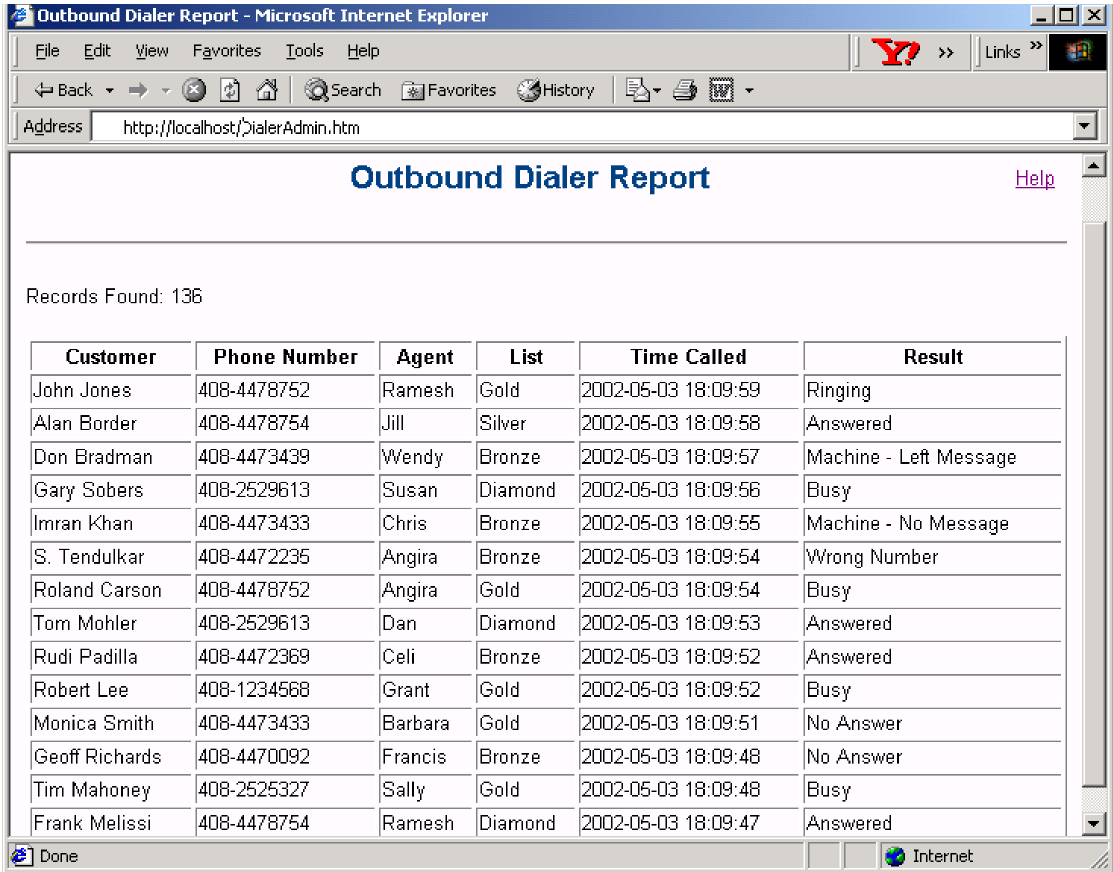
Column	Description of Report Columns
Result	The call result. This can have one of the following values: Busy – The customer's phone was busy on this occasion. The Outbound Dialer will retry this phone a configurable number of times. Each attempt is noted in the History. No Answer – The customer did not answer. The customer's phone was ringing for the configured No Answer Timeout (set per campaign) and they never answered. The Outbound Dialer hangs up the call and retries later. Answered – The customer answered the call. Machine – Left Message – The agent heard the phone being answered and determined that it was in fact an Answering Machine. The agent left a suitable message. Machine – No Message – As above, but no message was left. Wrong Number – set by the agent in one of the following situations: no one answers and the agent hears invalid number tones from the PSTN. the agent hears a modem or fax machine answer. Someone answered the phone but provided enough information to convince the agent that the number dialed was incorrect. Setting the call result to Wrong Number updates the customer in the OutboundDialer database and they will not be called again for this particular campaign. An Administrator could do a SQL query to search for wrong numbers and, if desired, remove those numbers from the customer database and investigate further. Ringing – This is an interim state when the customer phone is ringing. Nuisance Call – This can only occur for a predictive campaign. This result indicates that when the customer answered the call from the CTI port, no agent with the required skill was available for the transfer. The customer will answer the phone and then hear the line being dropped. The Outbound Dialer treats this error as if there was no answer and calls the customer back later. Nuisance Calls must be avoided. If the reports indicate too many nuisance calls, reduce the Overdial Percentage for the campaign.
Answer Seconds	This is only set when the Result above is Answered, Machine - Left Message or Machine - No Message. It represents the number of seconds between the Outbound Dialer placing the call (call initiation) and the customer answering. It will always be less than the No Answer Timeout for the campaign.
Comments	Any comments entered for this call in the agent screen pop.

Column	Description of Report Columns
Duration	The number of minutes and seconds between call initiation and call completion for answered calls. Duration minus the value of “Answer Seconds” gives you the actual time that agent talked with the customer.

NOTE If more than 200 records match your search criteria, a message similar to the following displays: “Your query found 974 records. Only 200 records can be displayed. Please refine your query.” To limit matches, narrow the search by adding an additional filter, such as a particular time period, agent, result, or campaign. If you consistently get this message you should contact your System Administrator and ask them to increase sql_topcount in settings.php.

Viewing the Call Report

Figure 8-2 Sample Outbound Dialer Report



Customer	Phone Number	Agent	List	Time Called	Result
John Jones	408-4478752	Ramesh	Gold	2002-05-03 18:09:59	Ringing
Alan Border	408-4478754	Jill	Silver	2002-05-03 18:09:58	Answered
Don Bradman	408-4473439	Wendy	Bronze	2002-05-03 18:09:57	Machine - Left Message
Gary Sobers	408-2529613	Susan	Diamond	2002-05-03 18:09:56	Busy
Imran Khan	408-4473433	Chris	Bronze	2002-05-03 18:09:55	Machine - No Message
S. Tendulkar	408-4472235	Angira	Bronze	2002-05-03 18:09:54	Wrong Number
Roland Carson	408-4478752	Angira	Gold	2002-05-03 18:09:54	Busy
Tom Mohler	408-2529613	Dan	Diamond	2002-05-03 18:09:53	Answered
Rudi Padilla	408-4472369	Celi	Bronze	2002-05-03 18:09:52	Answered
Robert Lee	408-1234568	Grant	Gold	2002-05-03 18:09:52	Busy
Monica Smith	408-4473433	Barbara	Gold	2002-05-03 18:09:51	No Answer
Geoff Richards	408-4470092	Francis	Bronze	2002-05-03 18:09:48	No Answer
Tim Mahoney	408-2525327	Sally	Gold	2002-05-03 18:09:48	Busy
Frank Melissi	408-4478754	Ramesh	Diamond	2002-05-03 18:09:47	Answered

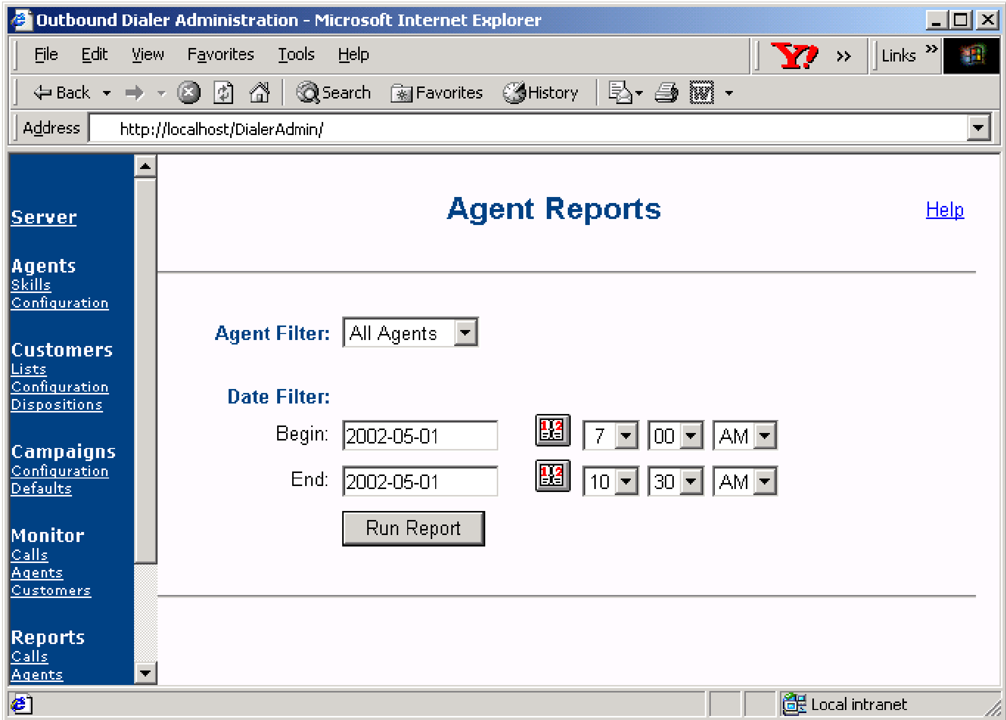
When you click the Run Report button, the information that you requested displays in a new browser window. You can come back to the “Call Reports” page and your settings will be unchanged, so you can adjust your settings and run a new query. Displaying reports in separate browser windows enables you to easily compare results. For example, you could compare and contrast time periods or agents. The sample report displayed above.

Running an Agent Report

The Agent Report displays the agent name, extension, the agent’s skill name, the agent’s state (e.g., ready, not ready (login), or logged out), and the time (to the nearest second). The report contains a row for each time an agent’s state changed.

You can filter the Agent report by agent and date/time. To specify a date, click on the Calendar icon, then click on the desired day. After selecting the desired agent or “all agents” and the begin and end date/time for the report, click on the “Run Report” button.

Figure 8-3 Agent Reports

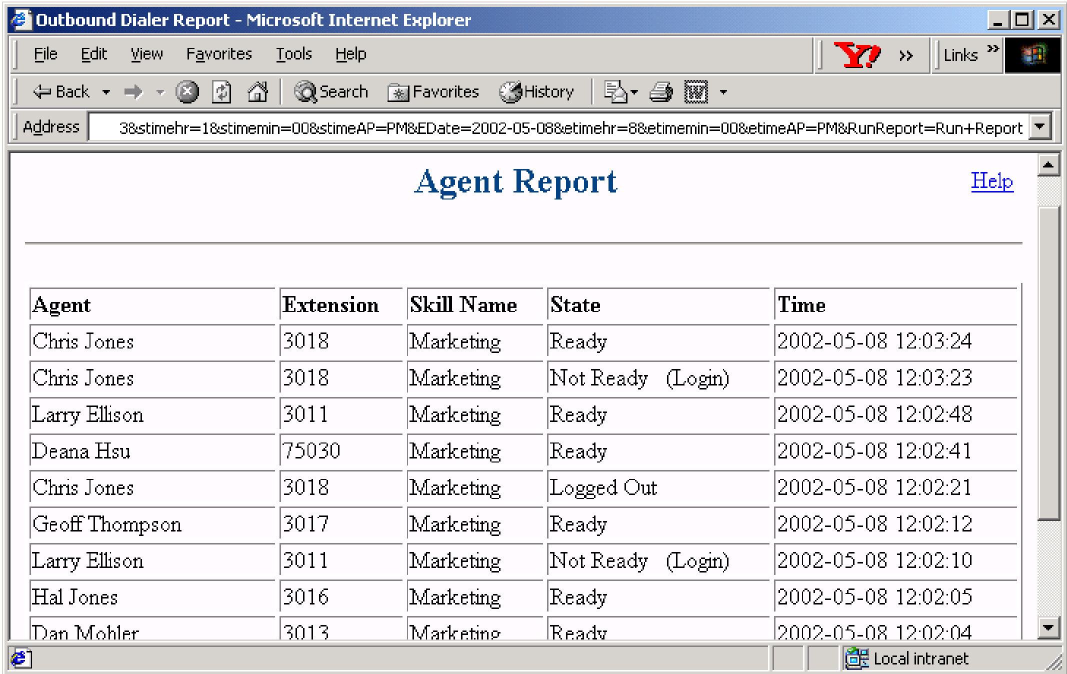


The report format varies depending on whether you select “All Agents” or a particular agent in your criteria. For “All Agents”, five columns of information display. If you select a particular agent, the agent’s name, extension and skill display above a 2-column table, the columns being “State” and “Time” as shown.

Viewing the Agent Report

When you click the Run Report button, the information that you requested displays in a new browser window. You can come back to the “Agent Reports” page and your settings will be unchanged, so you can adjust your settings and run a new query. Displaying reports in separate browser windows enables you to easily compare results. For example, you could compare and contrast time periods or agents.

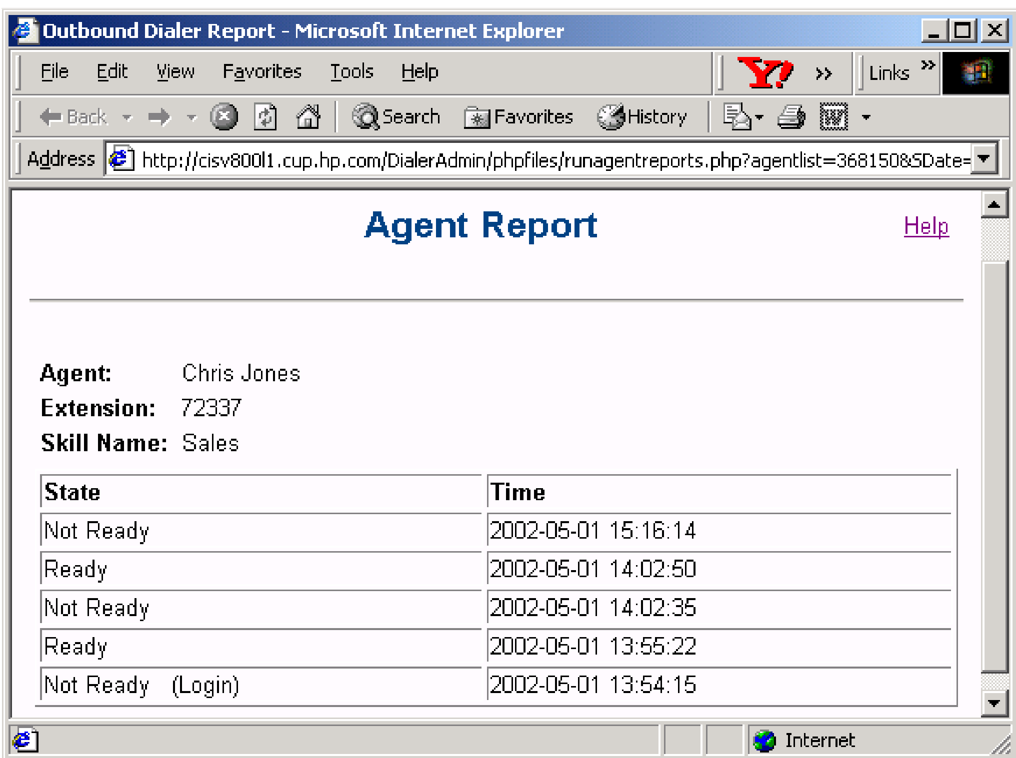
Figure 8-4 Sample Agent Report



Agent	Extension	Skill Name	State	Time
Chris Jones	3018	Marketing	Ready	2002-05-08 12:03:24
Chris Jones	3018	Marketing	Not Ready (Login)	2002-05-08 12:03:23
Larry Ellison	3011	Marketing	Ready	2002-05-08 12:02:48
Deana Hsu	75030	Marketing	Ready	2002-05-08 12:02:41
Chris Jones	3018	Marketing	Logged Out	2002-05-08 12:02:21
Geoff Thompson	3017	Marketing	Ready	2002-05-08 12:02:12
Larry Ellison	3011	Marketing	Not Ready (Login)	2002-05-08 12:02:10
Hal Jones	3016	Marketing	Ready	2002-05-08 12:02:05
Dan Mohler	3013	Marketing	Ready	2002-05-08 12:02:04

The following screen shows a sample of how the report looks when you run the report for one agent only.

Figure 8-5 Sample Report for One Agent



State	Time
Not Ready	2002-05-01 15:16:14
Ready	2002-05-01 14:02:50
Not Ready	2002-05-01 14:02:35
Ready	2002-05-01 13:55:22
Not Ready (Login)	2002-05-01 13:54:15

Saving Reports to a File

To save a report, simply click Save As (under File in the browser window displaying the report), and select the directory where you want to save the file.

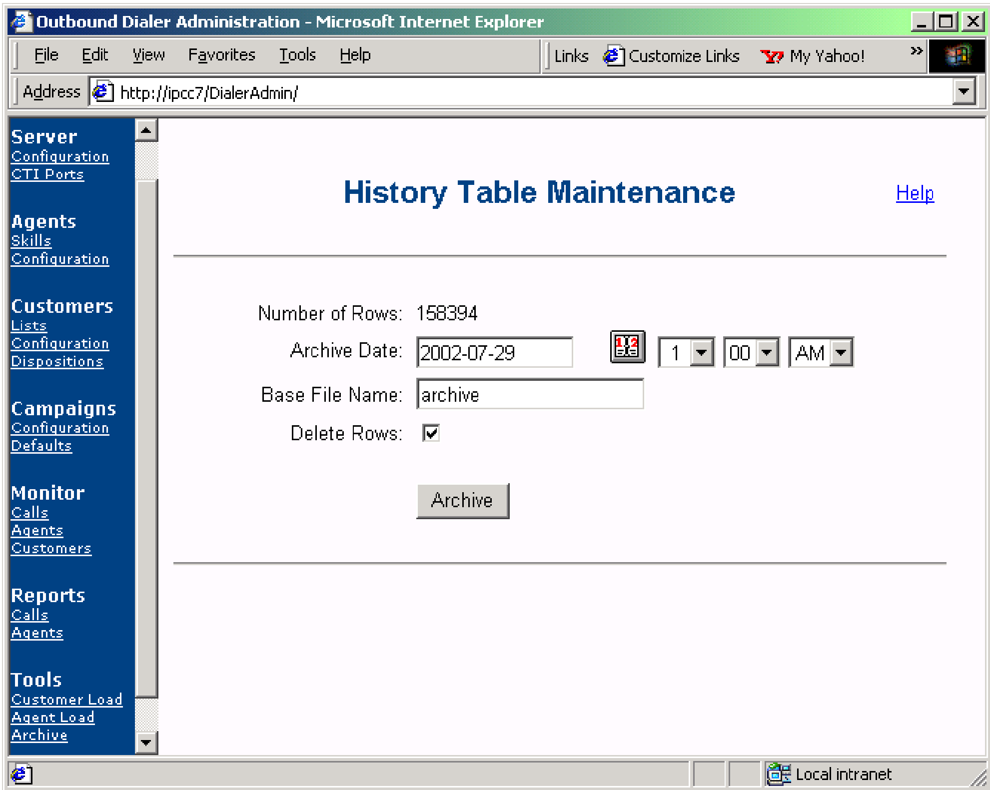
Printing Reports

To print the report, simply click Print (under File in the browser window displaying the report), change Print options (if desired), and click the Print button.

9 Archiving Contact Information

The History Table Maintenance page allows maintenance on the database to be performed remotely. The Outbound Dialer inserts a new row in the History table for every attempted call (whether answered, busy, or no answer). Because History rows accumulate, it is good practice to regularly archive old rows from the History table and delete them, so that the performance of the database is not compromised. The resulting archive file might also be useful for examining a set of records that is too large to display in a report (i.e., exceeds the default of 200 records).

Figure 9-1 History Table Maintenance



Note that archiving can be a very intensive operation. While it is possible to archive while dialing is in operation, it is a good practice to perform archives at off-peak time periods.

To access the History Table Maintenance page, click on Archive on the left side of your browser window under Tools. On this page, you type in a file name on the Web server into which rows the Dialer writes rows from the History table. Foreign keys in the History table are used to perform joins on other tables in the database to produce a line of comma-separated values with the following information:

- history ID
- customer's first name
- customer's last name
- customer's phone number
- customer's custom field(s) (e.g., account number)
- agent ID
- agent's first name
- agent's last name
- agent's extension

- campaign name
- customer list name
- time the call was initiated
- time the call was completed
- call duration (time between initiation and completion for answered calls)
- call disposition
- call result (no answer, busy, answered, wrong number, etc.)
- seconds between call initiation and answer
- agent comments

When archiving, you normally want the History rows older than the specified date to be deleted, which is done if the checkbox is selected. If the checkbox is not selected, no rows are deleted.

Field	Description of History Table Maintenance Fields
Number of Rows	Displays the number of rows currently in the History table in the database (read-only). When you click the Archive button and Delete Rows is checked, this screen is refreshed and the new value will be less than the old value by the number of rows that were deleted. If Delete Rows is not checked, the number of rows stays the same.
Archive Date	The date and time used to select entries for archiving and possible deletion. Only History rows older than the specified time are archived. The text input window is read-only, and the Date Picker should be used to set the date.
Base File Name	This string is used as the base of a file name for the archive process. Maximum of 32 characters. The date and time are appended using underscores as a separator, and .txt is added as a file name extension. For example, you might enter "archive" as the base file name, and the file might be saved as archive_2002-07-06_3_00.txt. The location of this file is defined on the server by the installation and cannot be changed. If you see an error during the archive process indicating that the archive directory cannot be located, please contact your System Administrator.
Delete Rows	Normally one wants the rows in the History table deleted after archiving. The checkbox should be selected if this is required. Under some circumstances, you might wish to dump part of the History to file for other purposes and to leave the table intact. The checkbox should be cleared in this case.

Field	Description of History Table Maintenance Fields
Archive	When the Archive button is pressed, the History table will be examined. All rows older than the specified Archive Date are written to disk, with joins being performed on the relevant tables. Internal IDs are replaced with names and the joins extract information from other tables to produce a meaningful and self-consistent line of text. If the Delete Rows check box is selected, all archived rows will be permanently removed from the History table; this action is not reversible.

Downloading Results

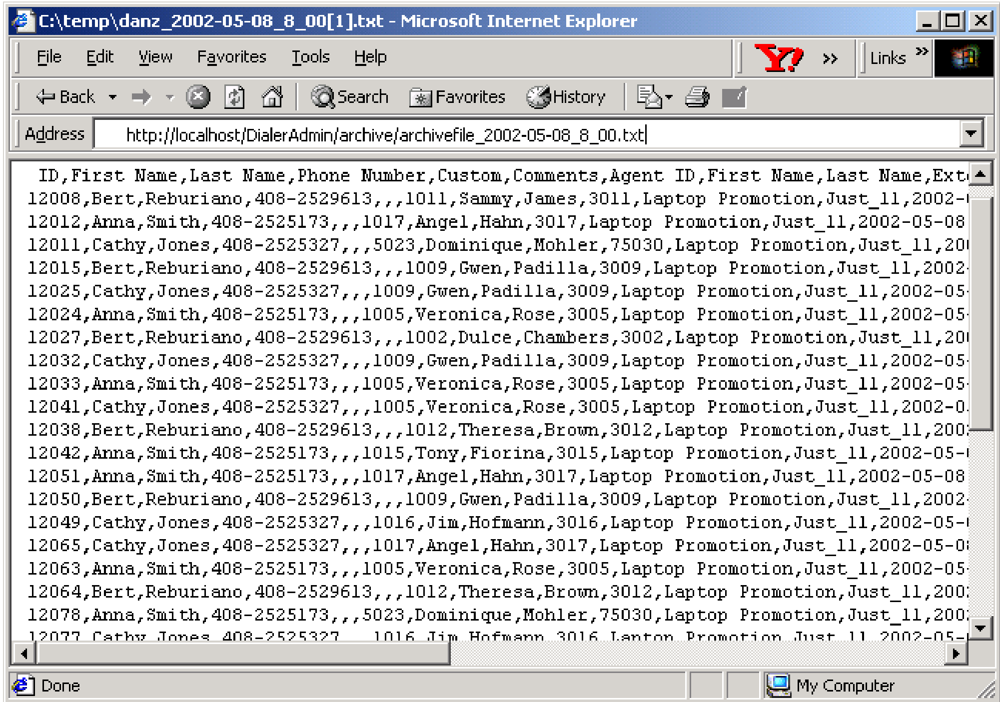
The results file is created on the Web server, but can be viewed and saved to your hard drive. The name of the file appears on the Archive page as a link after the process is completed.

For example:

```
Archive successful.
Number of history records archived = 59345
Archive file = ..\archive\archivefile_2002-05-22_5_00.txt
```

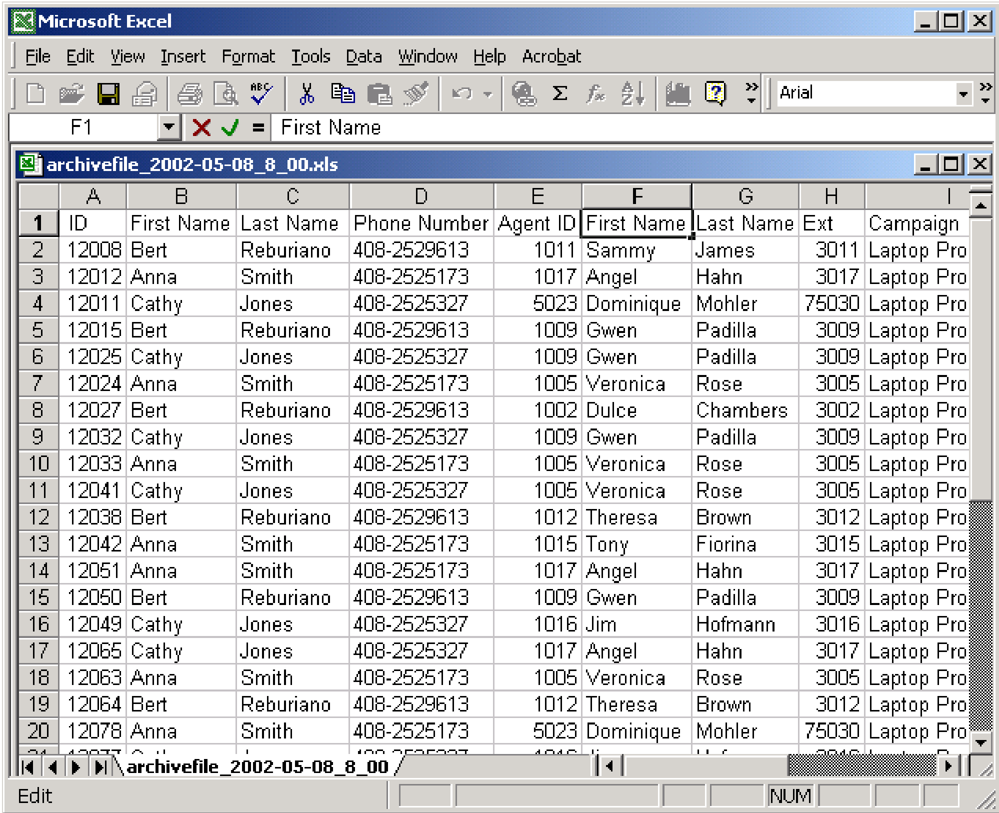
Click on the link to view the file, or use File - Save As from the browser menu to download the file to your hard drive.

Figure 9-2 **Sample History Table**



After saving the file to your hard drive, you can open the file in Microsoft Excel (for example), and load the results into a spreadsheet specifying comma-delimited fields. The first row will have headings for the various columns, similar to the following example.

Figure 9-3 Viewing the History Table in Excel



	A	B	C	D	E	F	G	H	I
1	ID	First Name	Last Name	Phone Number	Agent ID	First Name	Last Name	Ext	Campaign
2	12008	Bert	Reburiano	408-2529613	1011	Sammy	James	3011	Laptop Pro
3	12012	Anna	Smith	408-2525173	1017	Angel	Hahn	3017	Laptop Pro
4	12011	Cathy	Jones	408-2525327	5023	Dominique	Mohler	75030	Laptop Pro
5	12015	Bert	Reburiano	408-2529613	1009	Gwen	Padilla	3009	Laptop Pro
6	12025	Cathy	Jones	408-2525327	1009	Gwen	Padilla	3009	Laptop Pro
7	12024	Anna	Smith	408-2525173	1005	Veronica	Rose	3005	Laptop Pro
8	12027	Bert	Reburiano	408-2529613	1002	Dulce	Chambers	3002	Laptop Pro
9	12032	Cathy	Jones	408-2525327	1009	Gwen	Padilla	3009	Laptop Pro
10	12033	Anna	Smith	408-2525173	1005	Veronica	Rose	3005	Laptop Pro
11	12041	Cathy	Jones	408-2525327	1005	Veronica	Rose	3005	Laptop Pro
12	12038	Bert	Reburiano	408-2529613	1012	Theresa	Brown	3012	Laptop Pro
13	12042	Anna	Smith	408-2525173	1015	Tony	Fiorina	3015	Laptop Pro
14	12051	Anna	Smith	408-2525173	1017	Angel	Hahn	3017	Laptop Pro
15	12050	Bert	Reburiano	408-2529613	1009	Gwen	Padilla	3009	Laptop Pro
16	12049	Cathy	Jones	408-2525327	1016	Jim	Hofmann	3016	Laptop Pro
17	12065	Cathy	Jones	408-2525327	1017	Angel	Hahn	3017	Laptop Pro
18	12063	Anna	Smith	408-2525173	1005	Veronica	Rose	3005	Laptop Pro
19	12064	Bert	Reburiano	408-2529613	1012	Theresa	Brown	3012	Laptop Pro
20	12078	Anna	Smith	408-2525173	5023	Dominique	Mohler	75030	Laptop Pro

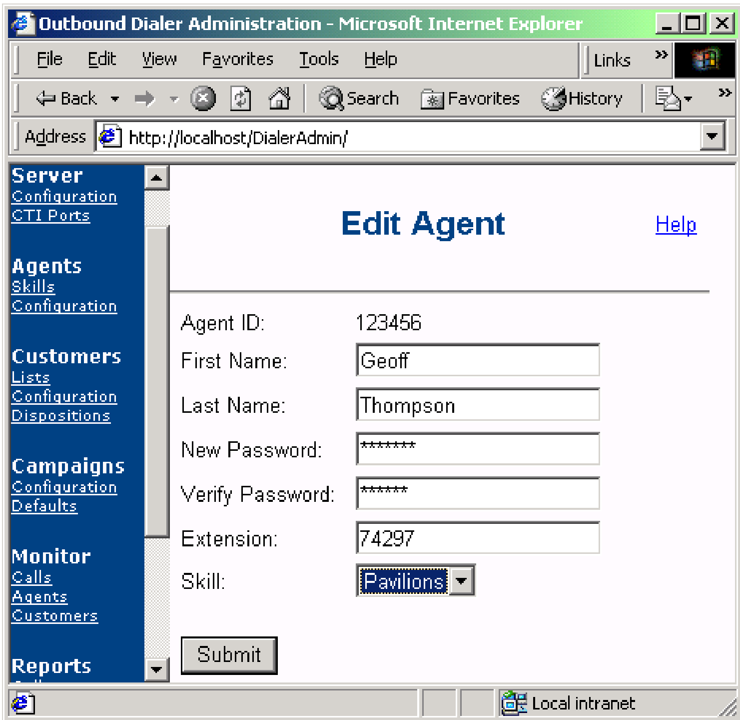
10 Managing Agents

After you have added an agent, you might want to update the agent's password, or delete the campaign after completion.

Editing Agent Information

To edit agent information, first click on Configuration under “Agents” on the left side. That displays the Agent Configuration screen, which shows the list of configured agents. For the displayed agent whose information you want to edit, click “Edit” (on the right of the agent information). The Edit Agent screen displays, similar to the following screen.

Figure 10-1 Edit Agent Screen



You can update the agent’s name, password, extension, and skill.

Deleting an Agent

Click on “Delete” next to the agent’s information on the Agent Configuration screen. You’ll be asked to confirm. Select Yes, and the Dialer marks the agent as deleted.

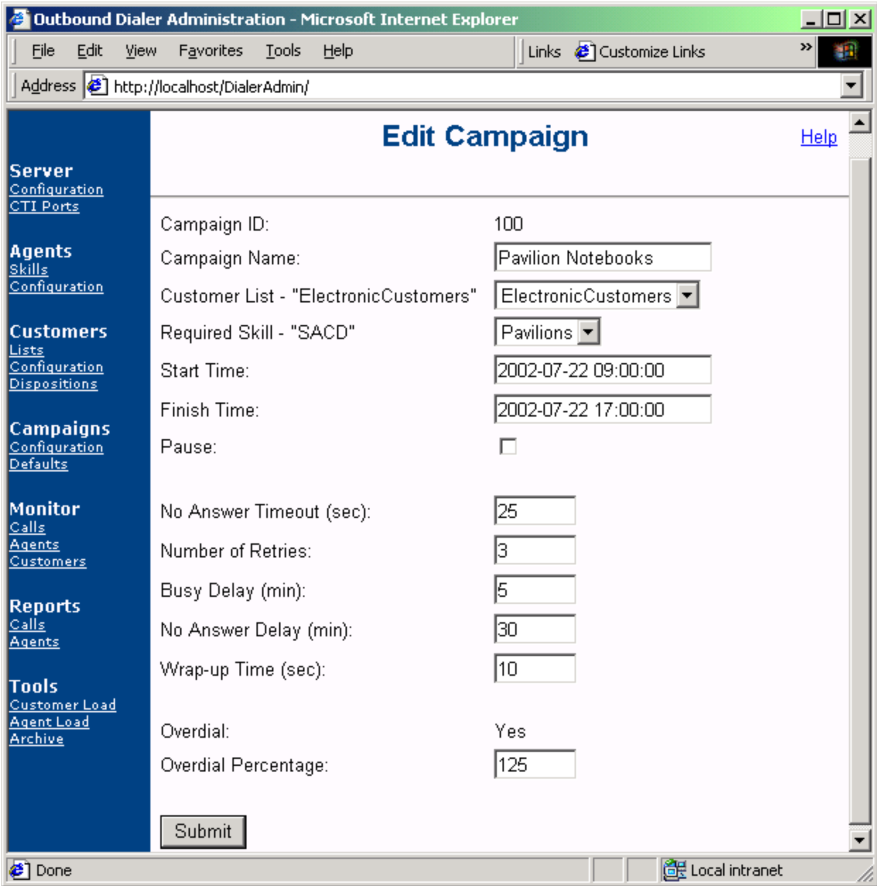
11 Managing Campaigns

After you have created a campaign, you might want to update the campaign, or delete the campaign after completion.

Editing a Campaign

To edit a campaign, first click on Configuration under “Campaigns” on the left side. That displays the Campaign Configuration screen, which shows a list of available campaigns. For the displayed campaign that you want to edit, click “Edit” (on the right of the campaign information). The following screen displays.

Figure 11-1 Edit Campaign Screen



Change the campaign information as required, and click Submit.

Deleting a Campaign

Before you can delete a campaign, you must deactivate it. Select “Edit” next to the campaign information. When the campaign details display, select the “Pause” checkbox. You’ll be asked to confirm. Select Yes, and the old campaign is deleted, and you can add a new campaign if desired.

Creating a Campaign Script

The campaign script provides direction to agents who are interacting with customers targeted by the campaign. The Outbound Dialer provides a default script file (\OutboundDialer\wwwroot\scripts\100.html) that you can modify for each campaign.

For each of your campaigns, create a file containing agent directions using your favorite HTML editor. Name the file using the format

`<campaignId>.html`

where `<campaignId>` corresponds to the unique ID for your selected campaign (e.g., 101).

Copy the file to the scripts directory (by default the scripts directory is under the \OutboundDialer\wwwroot\ directory).

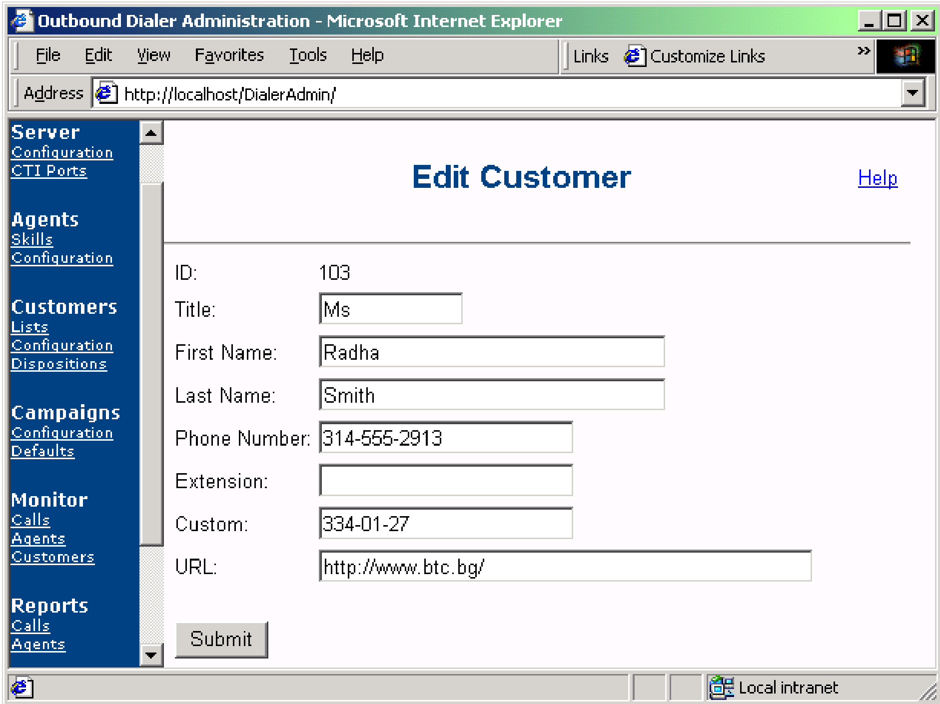
If **campaignscript_link** in settings.php (in the wwwroot directory) is set to "true", the name of the campaign on the agent screen-pop will appear as a hyperlink. If an agent clicks on the campaign name in the Wrap-up window, a window opens containing the file you have created as described above (i.e., campaignId.html).

You also specify the dimensions of the Campaign Script window in settings.php. Use **campaignscript_width** (e.g., 360) and **campaignscript_height** (e.g., 590) to specify the width and height in pixels.

Updating Customer Information

To update a customer phone number in the Dialer database, click on Configuration (under Customers), select the appropriate customer list, and click on “Edit” (on the right) next to the customer record that you want to update. Update the phone number or other information as required, and click Submit. The Dialer updates the database and displays the updated information on the Customer Configuration page for the appropriate customer list.

Figure 11-2 Edit Customer Screen



To delete a customer record from the customer list, first click on Configuration (under Customers), select the appropriate list, find the desired customer, and click on “Delete” to the right of that customer record. A dialog box opens that asks you to confirm that you want to delete the record. Click OK; the Dialer then removes the record from the Dialer database.

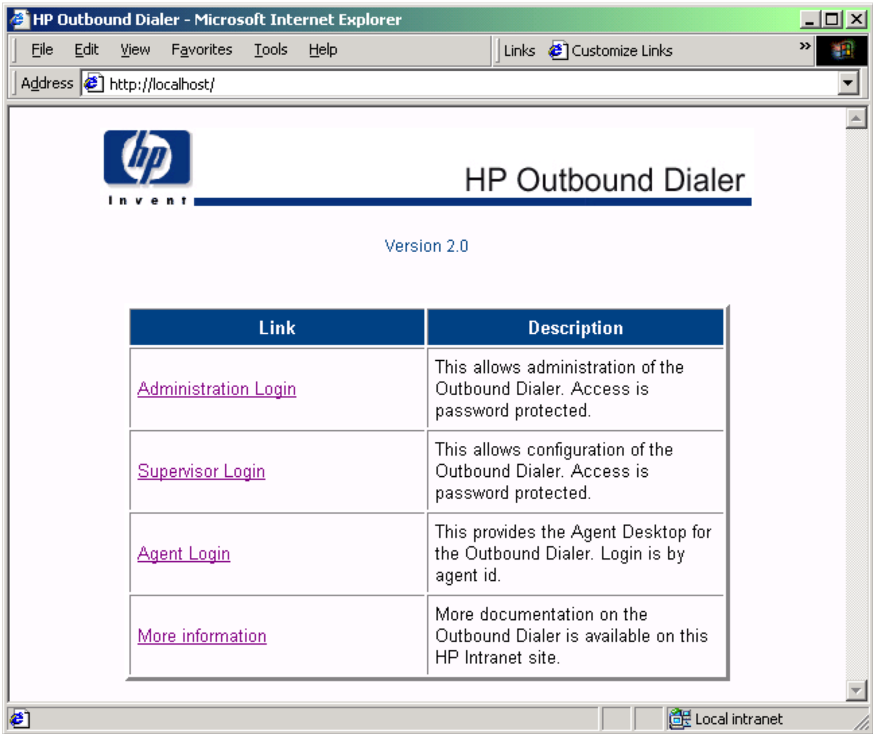
12 Logging in as a Supervisor

Supervisors can perform most of the same tasks as Administrators, except for configuring the server and CTI ports and running the bulk upload and archive tools.

Login Steps

To log in as a Supervisor, follow these steps:

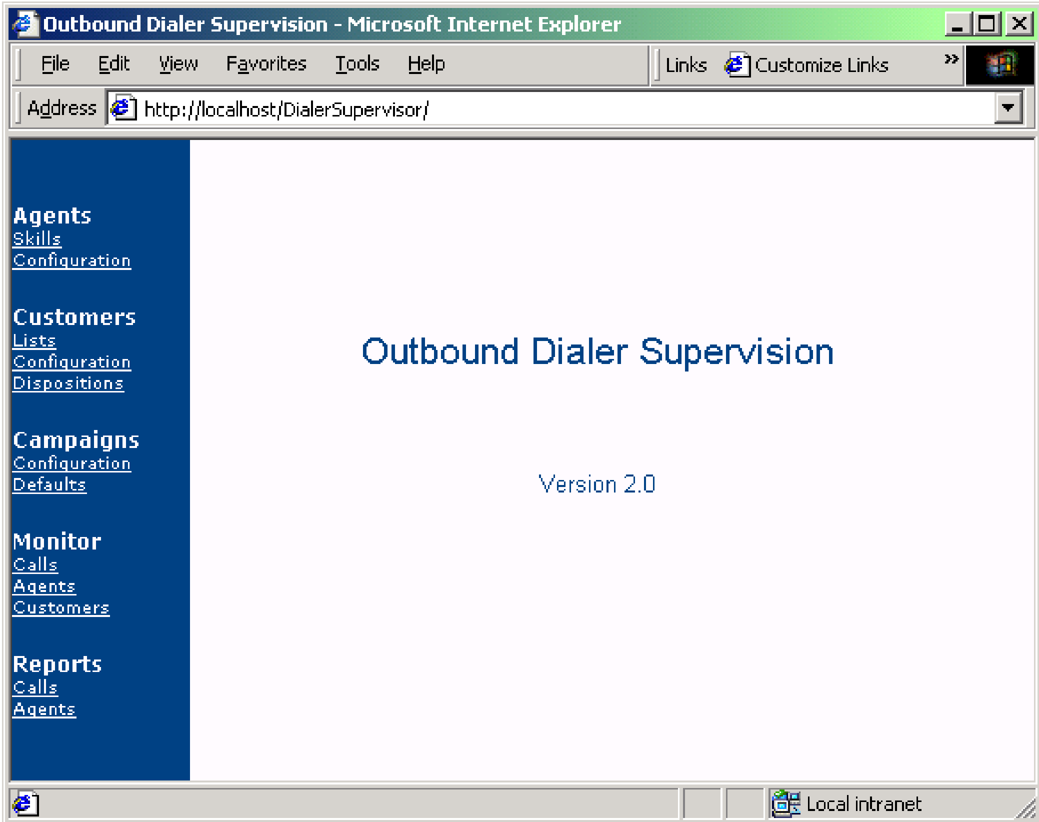
Figure 12-1 Supervisor Login



1. In your web browser, open the URL http://<localhost>, where localhost is the name of the server where the Outbound Dialer is installed.
2. Click on “Supervisor Login” (see Figure 12-1). A dialog box opens.
3. In the User Name field, type **`supervisor`**
4. In the Password field, type **`superdialer`**

   The Outbound Dialer Supervision page displays.

Figure 12-2 The Outbound Dialer Supervision Screen



The functions available for supervisors are the same as those available for Administrators, with two exceptions: server (configuration and CTI ports) and tools (customer load, agent load, and archive) are not available for supervisors.

Supervisors can:

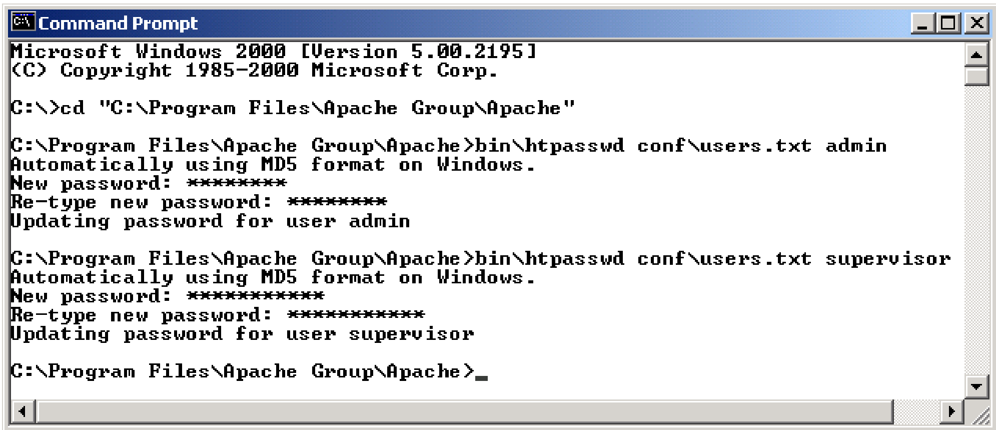
- Add, edit and delete skills
- Add, edit and delete agent information
- Add, edit and delete customer lists, customers, and their dispositions
- Add, edit and delete campaigns
- Edit campaign defaults
- Monitor calls, agents, and customers to be called
- Run and view reports on calls and agent activity

Changing Passwords for Supervisors or Administrators

To change the password for the admin and supervisor IDs, do the following:

1. In the Windows Command Prompt window, go to the directory where you have installed Apache (e.g., \Program Files\Apache Group\Apache).
2. To change the password for the “admin” ID, run the htpasswd executable file (i.e., bin\htpasswd conf\users.txt admin).
3. To change the password for the “supervisor” ID, run the htpasswd executable file (i.e., bin\htpasswd conf\users.txt supervisor).

Figure 12-3 Changing Passwords for Supervisors or Administrators



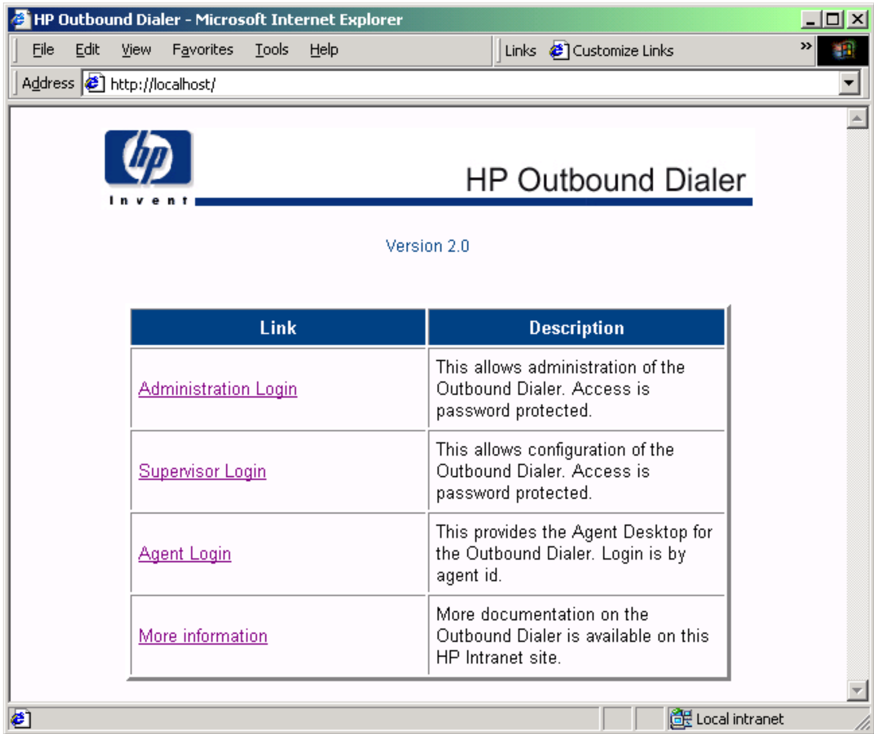
```
Command Prompt
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\>cd "C:\Program Files\Apache Group\Apache"

C:\Program Files\Apache Group\Apache>bin\htpasswd conf\users.txt admin
Automatically using MD5 format on Windows.
New password: *********
Re-type new password: *********
Updating password for user admin

C:\Program Files\Apache Group\Apache>bin\htpasswd conf\users.txt supervisor
Automatically using MD5 format on Windows.
New password: ************
Re-type new password: ************
Updating password for user supervisor

C:\Program Files\Apache Group\Apache>_
```

13 Logging in as an Agent

This section describes how to log in as an Outbound Dialer agent.

Login Steps

Figure 13-1 Login Screen



NOTE Agents cannot change their own password; only a Supervisor or Administrator can change an agent's password.

Figure 13-2 Agent Logon

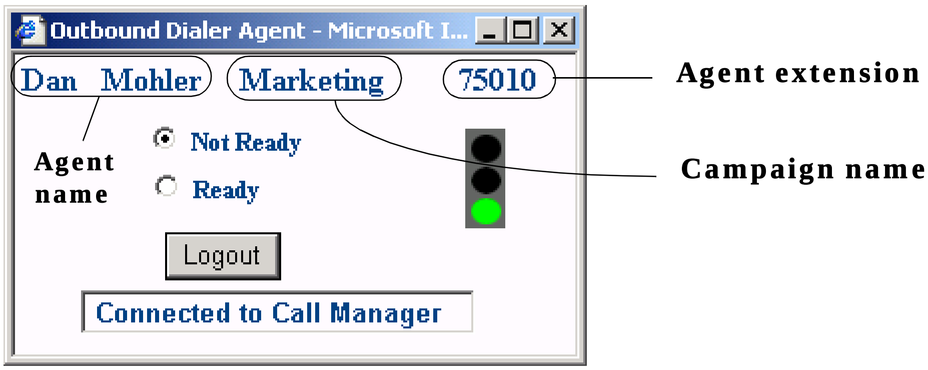
NOTE The first time you attempt to log in, you might see a Security Warning asking if you want to install and run the Outbound Agent applet. Click Yes. Click on the Ready checkbox when you are ready for the dialer to select you to talk with a customer.

To log in as an Outbound Dialer agent:

1. In your web browser, open the URL http://<localhost>, where localhost is the name of the server where the Outbound Dialer is installed.
2. Click on "Agent Login". The Outbound Dialer Agent page displays.
3. Click on "Click here to Login". The Logon page displays.
4. Type in your agent ID and password as configured in the Outbound Dialer and click on the Login button.

   The red light changes to yellow and then green to indicate that you are being connected and then you are connected to the Cisco CallManager. The window displays the agent name, campaign name, and agent extension (e.g., 75010).

Figure 13-3 Agent in "Not Ready" Status



When the Dialer selects you to make a call, a Wrap Up pop-up window opens on your PC, displaying the customer's information.

14 Handling Calls

This section describes how agents handle calls and includes a description of the Wrap Up window.

Agent Selection

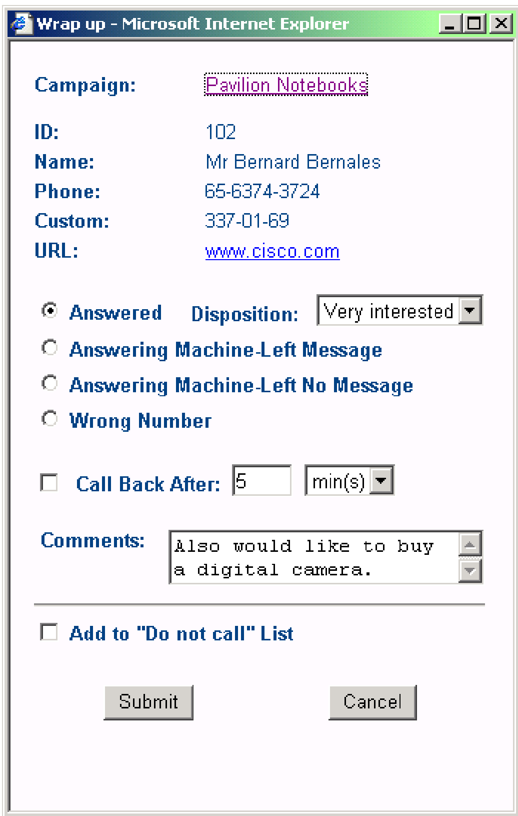
During a progressive campaign, the Outbound Dialer selects a ready agent and initiates a call to a customer. The agent hears the ringing in her headset. The Wrap up window pops up on the agent's PC so that the agent can greet each customer by name when they answer.

During a predictive campaign, the Outbound Dialer selects a CTI port and initiates a call to a customer. The agent is unaware that this is occurring. The agent should be wearing a headset and be setup for auto-answer mode. When the call is answered, the dialer quickly transfers the call from the CTI port to the agent. The agent hears a "zip" tone and at the same time the Wrap up window pops up on the agent's PC.

The Wrap Up Window (Screen Pop)

The Wrap Up pop-up window (screen pop) enables the agent to open the campaign script, make notes about the call, schedule a callback, assign a disposition, mark as a wrong number, or add the customer to a "do not call" list.

Figure 14-1 The Wrap Up Window (Screen Pop)



To open the campaign script in a browser window, click on the name of the campaign (e.g., Pavilion Notebooks). The campaign script, customized by the Supervisor or Administrator, provides directions for the agent.

The customer might request to be called back at a later time. To schedule a callback, select the “Call Back After” checkbox, select the time unit (i.e., minutes, hours, or days), and type in the number. For example, you could schedule a callback for the day after tomorrow. However, callbacks must be scheduled to occur before the campaign ends. If the campaign ends tomorrow at 11:00 am, all callbacks must be scheduled to occur before 11:00 am tomorrow. You should generally add comments in the Comments field because a different agent is likely to be selected for the callback; otherwise, customers would have to repeat themselves with the next agent.

If the customer does not answer, the dialer will automatically drop the call after the configured no answer timeout period. In this case, the progressive agent should click Cancel to remove the screen pop. When the next customer call is assigned to the agent, a new pop-up window with the new customer call displays. For each customer that an agent talks to, the agent should select the appropriate disposition from the pull-down list, add comments, and click Submit. If the customer requests a call back, the agent should check the Call Back box and select the appropriate period (e.g., 5 minutes). If the customer requests to be added to the “do not call” list, check the ‘Add to “Do Not Call” list’ box. Then the database stores the data and the screen pop closes.

Customer information displayed in the Wrap-up window includes:

- The ID assigned by the Outbound Dialer to the customer
- The customer’s title, first name, and last name
- The customer’s phone number
- Custom field(s) (e.g., a customer account number)
- A URL associated with the customer

NOTE Custom fields can be configured in the settings.php file. For more information, see Appendix B, “Customizing the Settings,” on page 101.

Note that the dialer considers the agent to be free when the phone call ends. It does not wait until the agent has closed the Wrap up screen pop. To give agents more time between answered calls, the supervisor or administrator can configure wrap-up time in the campaign configuration. For agents to control the pacing of calls, they can change to Not Ready during a call. They will not be selected for another call, even after the current call ends, until they change back to Ready. This is a graceful way of terminating the agent’s shift.

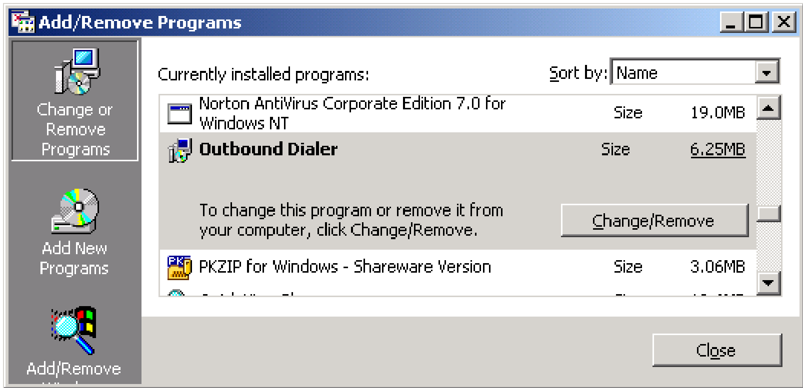
15 Removing or Upgrading the Outbound Dialer

This section describes how to remove or upgrade the Outbound Dialer.

Steps to Remove and Upgrade the Dialer

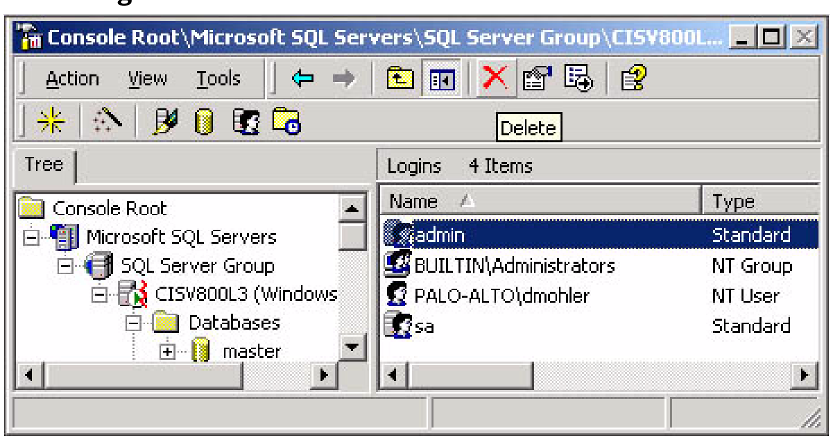
To remove the Outbound Dialer, perform steps 1 through 3. To upgrade to a newer version of the Outbound Dialer, you must perform the steps 1, 2, and 4.

Figure 15-1 Removing the Dialer



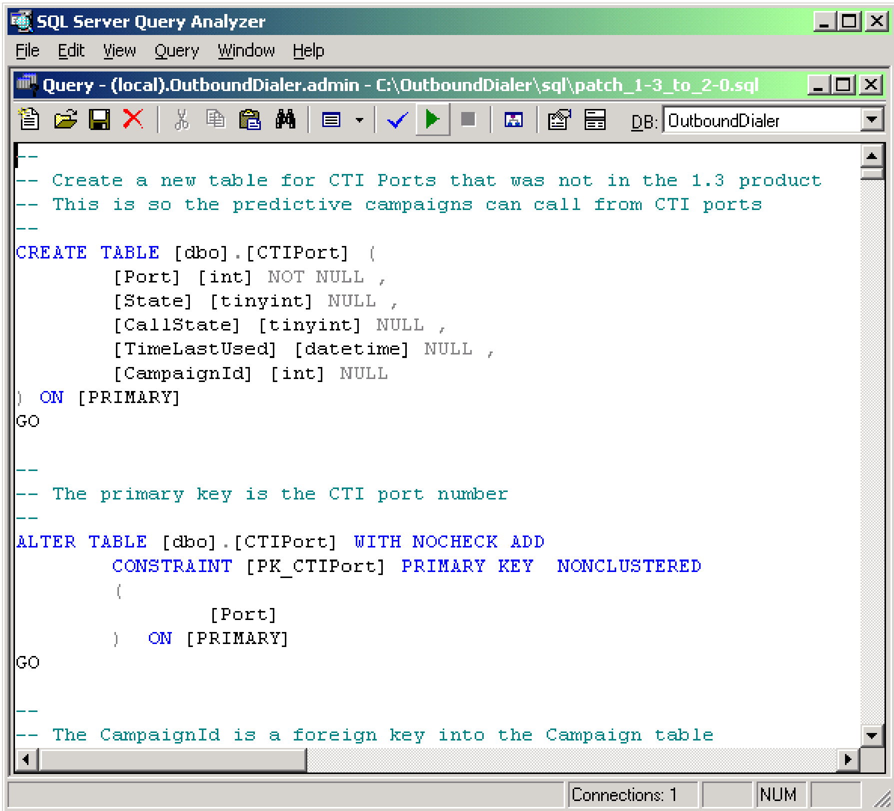
1. Go to Settings > Control Panel > Add/Remove Programs.
   a. Remove Apache HTTP Server.
   b. Remove OutboundDialer.
2. Go to Windows Explorer.
   a. Delete the Apache Group directory from the Program Files directory.
   b. Delete the OutboundDialer directory.
3. (If upgrading, skip this step.) To remove the OutboundDialer database, open the SQL Server Enterprise Manager. In the Databases folder, delete the OutboundDialer database. In the Security folder, delete the Login user “admin”.

Figure 15-2 Deleting the “admin” User



4. If updating from version 1.3 of the Outbound Dialer, install the new version of the Outbound Dialer (described under "Running the Installer" on page 14—but stop before "Configuring the Database" on page 18), and then open SQL Server Query Analyzer and open the patch_1-3_to_2-0.sql file (located in the `<OUTBOUND DIR>\sql` folder) and execute it on the existing OutboundDialer database.

Figure 15-3 Running the Upgrade Patch



Continue with "Chapter 5, "Configuring the Outbound Dialer," on page 29, although most of the configuration settings will already be satisfactory.

A Importing Customer and Agent Lists

This appendix describes the Customer Load and Agent Load tools, which enable you to quickly load customer or agent data, respectively, into the Dialer's database from a CSV file. The tools insert all the uploaded records into the database for the selected customer list or agent skill.

Format of the Upload File of Customer Data

The upload file must be in CSV (comma-separated values) format. Each customer must be on a separate line and the values must be in the following order.

- title, first name, last name, phone number, extension, custom, custom2, custom3, URL

For example:

```
Mr.,Geoff,Thompson,4085554297,123,556139,,2000,http://www.hp.com
,Chris,Jones,4085552337,,368150,prefered,1994,
Mr.,Charlie,Cho,4085552883,456,368091,,,http://www.hp.com/go/crm
```

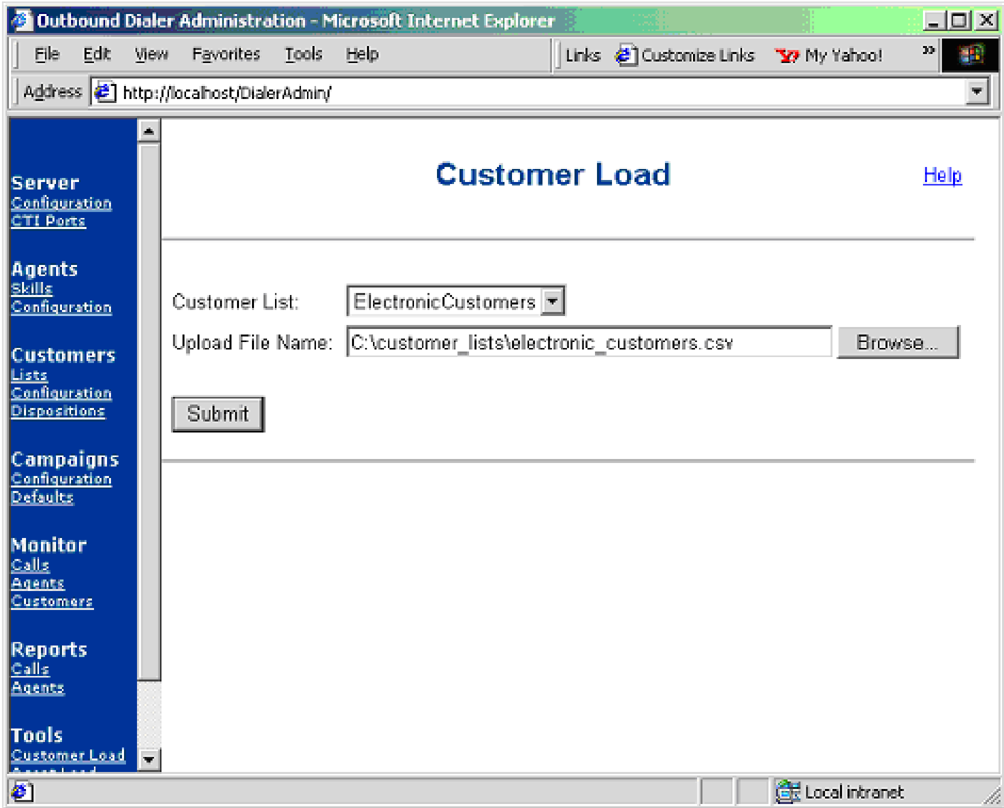
The "title", "extension", "custom", "custom2", "custom3" and "URL" fields are optional. The normal convention for CSV files applies—an optional field may be omitted, but the comma delimiter cannot be omitted.

You can use the "custom" field(s) for related information. For example, you could use it to hold the customer account number, which agents might use to look up additional information about the customer. The Outbound Dialer generates its own customer IDs in sequence (i.e., 1,2,3,...). You could also use custom fields for whether a customer is preferred and the year the customer opened an account.

The "URL" field will be rendered as a hyperlink on the Customer Configuration page and the agent screen-pop page. For the browser to function correctly, the URL should start with the protocol specification, typically http://.

Value	Length	Allowable Characters
Title	10	No restriction
First Name	32	No restriction
Last Name	32	No restriction
Phone Number	22	Digits '0' through '9' and '-' (dash or hyphen). Parentheses and + for International numbers are not permitted.
Extension	22	Digits '0' through '9' and '-' (dash or hyphen).
Custom	64	No restriction
Custom2	64	No restriction
Custom3	64	No restriction
URL	128	No restriction

Figure A-1 Customer Load Screen



Format of the Upload File of Agent Data

Field/Button	Description of Customer Load Fields
Customer List	This drop-down list enables the Customer List for bulk insert to be selected. All customers will be added to the one list. When using the bulk insert utility, care should be taken to ensure the correct Customer List is selected.
Upload File Name	This field allows the name of the file on your computer to be entered. Use the Browse button to find the file on your hard disk using the standard Windows file chooser dialog.
Submit	When Submit is clicked, the file is first uploaded to the server to a well-known directory. Then the file will be parsed and the customers defined therein are added to the selected Customer List. The resulting screen indicates how many customers were successfully uploaded, or if an error occurred.

The upload file must be in CSV (comma-separated values) format. Each agent record must be on a separate line and the values must be in the following order.

- agent ID, first name, last name, extension, password

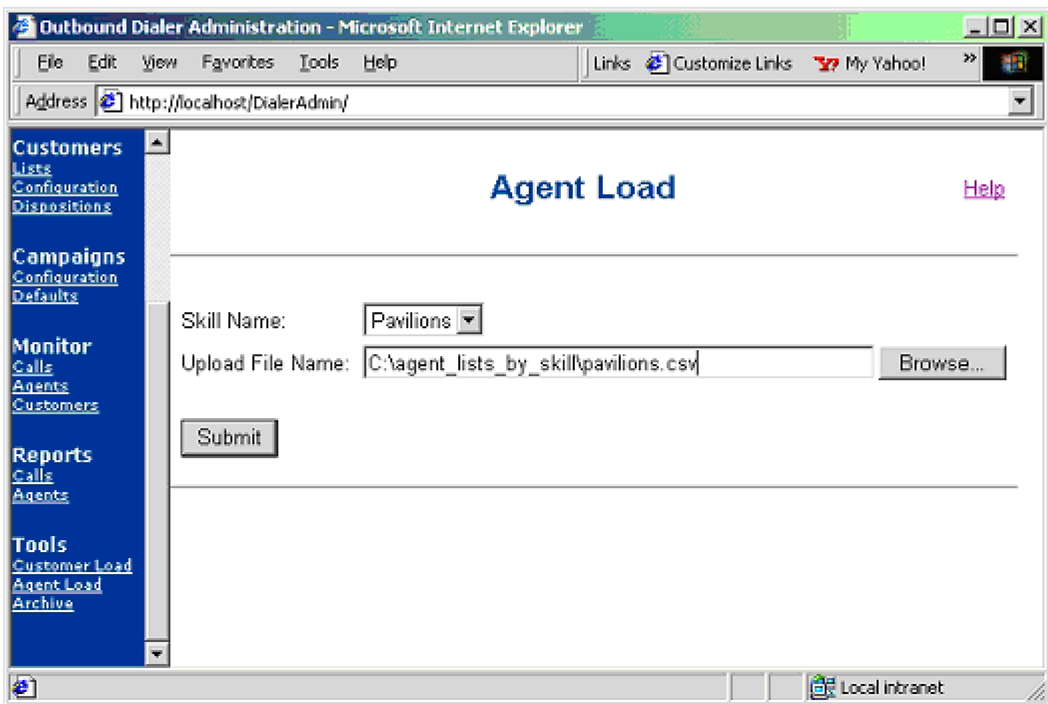
For example:

```
556139,Geoff,Thompson,56139,tennis
408555,,Jones,52337,soccer
368091,Charlie,,52883,
```

The "first name", "last name", and "password" fields are optional. The normal convention for CSV files applies—an optional field can be omitted but the comma delimiter cannot be omitted.

Value	Length	Allowable Characters
Agent ID	10	Digits '0' through '9'
First Name	32	No restriction
Last Name	32	No restriction
Extension	10	Digits '0' through '9'
Password	50	No restriction

Figure A-2 Agent Load Screen



Field Button	Description of Agent Load Insert Fields
Skill Name	This drop-down list enables the skill for Agent Load to be selected. All agents are added to the one skill. When using the Agent Load tool, make sure you select the correct skill.

Field Button	Description of Agent Load Insert Fields
Upload File Name	This field allows the name of the file on your computer to be entered. Click on the Browse button to find the file on your hard disk.
Submit	When Submit is clicked, the file is first uploaded to the server to a well-known directory. Then the file is parsed and the agents defined therein are added to the selected skill. The resulting screen indicates how many agents were successfully uploaded and whether any error occurred.

B Customizing the Settings

This appendix describes how to customize the appearance of some of the dialer windows and information by changing some variables in the settings.php file, which is stored in the <Outbound_Dialer>\wwwroot directory.

NOTE Make sure there is no new line or space character after the PHP close or it may affect HTML header transmission when cookies are set through PHP.

Optional Custom Fields for Customer Information

Several fields are available in the database customer table to hold information about customers, such as account number, date account began, etc. By default, the “Custom” field displays in the Wrap up screen and other screens, but the custom2 and custom3 fields are hidden. You can enable the custom2 and custom3 fields to display by setting their value to “true” as follows:

```
// Customer screen settings

//

$show_title = true;

$show_extension = true;

$show_custom = true;

$show_custom2 = true;

$show_custom3 = true;

$show_url = true;
```

Note that you can set values to false to hide them. For example, if you set “show_url” to false, agents will not be able to see the customer’s URL. If you want agents to see the URL but not be able to click on it to access the customer’s website, you would set “show_url” to true and set “interpret_url” to false.

Changing Colors

If desired, you can change the background colors (left area and right area) and the font color. The default values are:

```
$lbgcolor = '#004080';

$rbgcolor = '#fafaff';

$leftnavcolor = $rbgcolor;

$fontcolor = $lbgcolor;
```

Resizing Dialog Boxes

You can resize dialog boxes (e.g., Wrap Up dialog box, Agent screen, or Campaign Script window) to make sure that text displays as desired. To do this, modify the settings.php file. For example, to change the width of the Wrap-up screen from 340 pixels (the default) to 500 pixels, just change the value of $wrapupscreen_width to “500” in settings.php as shown:

```
// Wrap-up screen settings

//

$wrapupscreen_width = 500;

$wrapupscreen_height = 520;
```

Setting the Maximum Length of Reports

In settings.php, you can change the value of the “sql_topcount” variable. The default value, which is 200, limits the maximum size of your reports to 200 rows. If more than 200 rows match your search criteria, your report will not display the search results, only a message that tells you how many records matched your query. To ensure that the matching rows display in your report, you can set the “sql_topcount” value to a larger number. However, depending on the size of your database and the complexity of your queries, performance could be impacted if you set the value too high.

Setting the Date/Time Format

In the language.php file, you can set the variable sql_datetime_style to convert the 'datetime' data type in the SQL Server database into a readable form. The only two values that are useful are 20 and 0.

When set to 20, the format is yyyy-mm-dd hr:min:sec (e.g., 2002-03-27 01:00:00).

When set to 0, the format is mmm dd yyyy hr:min (e.g., Mar 27 2002 1:00AM).

The “20” format is the ODBC canonical form that is language independent and has accuracy down to the nearest second. The “0” format produces a more readable format suitable for North America that is not language independent. The default is the ODBC canonical form.

The sql_datetime_style variable also controls the way the date picker displays the result when closed, and the time of the last poll in the Monitor pages.

```
$sql_datetime_style = ’20’;
```

C Internationalization

This appendix discusses internationalization of the Outbound Dialer. The Outbound Dialer is easy to localize since the user interface for both the agent and the administrator is built via web pages. A file named language.php contains variables for all text that might need to be translated into another language, as well as a variable to set the date/time format.

Text that can be localized includes:

- messages
- titles and headings
- link names
- labels for fields and buttons

The only other php file that you need to change is settings.php, which contains the character set, color, and database settings. No other php files should be modified. The HTML files, most of which are help files, should be translated directly.

The language.php file and the settings.php file are located in the OutboundDialer/wwwroot directory.

The language.php file has entries for each of the web page strings. For example, on the Administration screen for Server Configuration, the text "Server Configuration" can be translated in the language.php file at the following line:

```
$HDG_ServerConfiguration = 'Server Configuration';
```

To localize this string, you translate the field in quotes, for example:

```
$HDG_ServerConfiguration = 'Configuration de Serveur';
```

This translation should be done for each of the strings in the language.php file.

For some languages, you might need to change the charset parameter, which is set in the settings.php file. For example, for traditional Chinese, you should set the $LanguageEncoding parameter to "Big5".

The underlying building blocks of the Dialer, such as the SQL database, Apache web server, HTML, PHP, and Java, all comply with the Unicode standard. Therefore, international names for agents, customers, skills, and campaigns will propagate through the system correctly.

The Dialer server always generates the trace files in English. It also writes some events in English to the Microsoft Event Viewer.

In summary, when you are localizing the Dialer, you should only change two PHP files—language.php and settings.php. Changing other PHP files is not recommended and could adversely affect the operation of the dialer.

After modifying the two PHP files, you should translate all the HTML files, which are online help, to the desired language.

CAUTION Make sure you do not add extra lines or blanks in the PHP files after the PHP close; otherwise, the HTML header transmission might be affected when cookies are set through PHP.

Setting the Date/Time Format

Set the variable sql_datetime_style to convert the 'datetime' data type in the SQL Server database into a readable form. The only two values that are useful are 20 and 0.

When set to 20, the format is yyyy-mm-dd hr:min:sec (e.g., 2002-03-27 01:00:00).

When set to 0, the format is mmm dd yyyy hr:min (e.g., Mar 27 2002 1:00AM).

The “20” format is the ODBC canonical form that is language independent and has accuracy down to the nearest second. The “0” format produces a more readable format suitable for North America that is not language independent. The default is the ODBC canonical form.

The sql_datetime_style variable also controls the way the date picker displays the result when closed, and the time of the last poll in the Monitor pages.

$sql_datetime_style = '20';

Example: Japanese Localization—Installation Sequence

Follow these steps to ensure correct installation of the Outbound Dialer:

1. Install the language-specific operating system (e.g., Windows 2000 AS/2000 Server/NT Server4.0 Japanese version + the latest Service Pack for Japanese Windows)

NOTE Do not change default system locale (e.g., Japanese)

2. Install the language-specific database (e.g., MS SQL Server7.0 Japanese version).

NOTE Do not change default code page setting (932(Shift JIS)).

3. Install the Outbound Dialer (same as in an English environment).
4. Create the database (same as in an English environment).
5. Modify settings.php as follows (for Japanese).

```
$LanguageEncoding = 'shift-jis';
```

   Users should change the values of the following variables as required to display every item in the Wrap Up screen. The required value depends on the font size setting of that Windows system.

```
$wrapupscreen_width=
$wrapupscreen_height=
```

6. Modify language.php to translate messages from English to Japanese with "Shift JIS" character encoding. For Chinese, use the Simplified Chinese GB2312-80 code set or Traditional-Chinese Big5 code set.
7. Use the IE 5.5 web browser with the appropriate language pack (e.g., Japanese) for the Dialer Admin and the Dialer Agents.

Resizing Dialog Boxes

You can resize dialog boxes (e.g., Wrap Up dialog box, Agent screen, or Campaign Script window) to make sure that text strings display correctly when translated. To do this, modify the settings.php file. For example, to change the width of the Wrap-up screen from 340 pixels (the default) to 500 pixels, just change the value of $wrapupscreen_width to "500" in settings.php as shown:

// Wrap-up screen settings

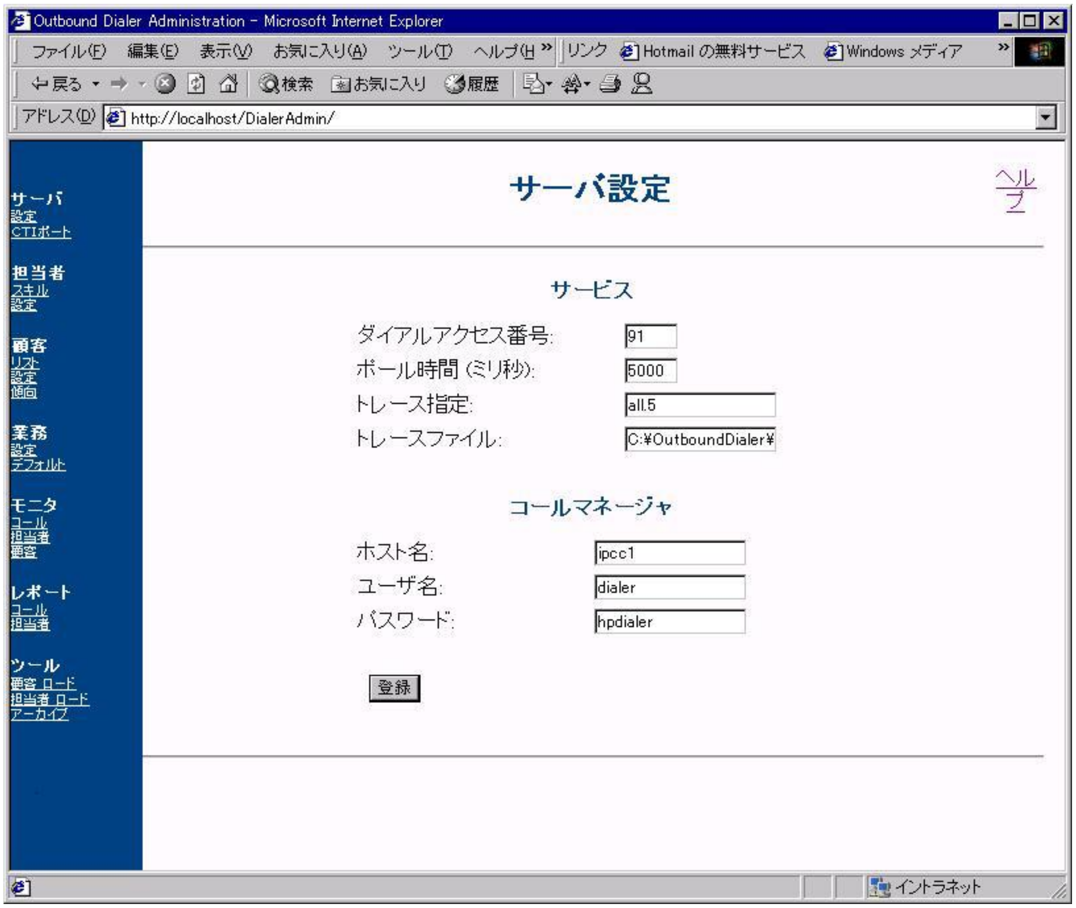
//

$wrapupscreen_width = 500;

$wrapupscreen_height = 520;

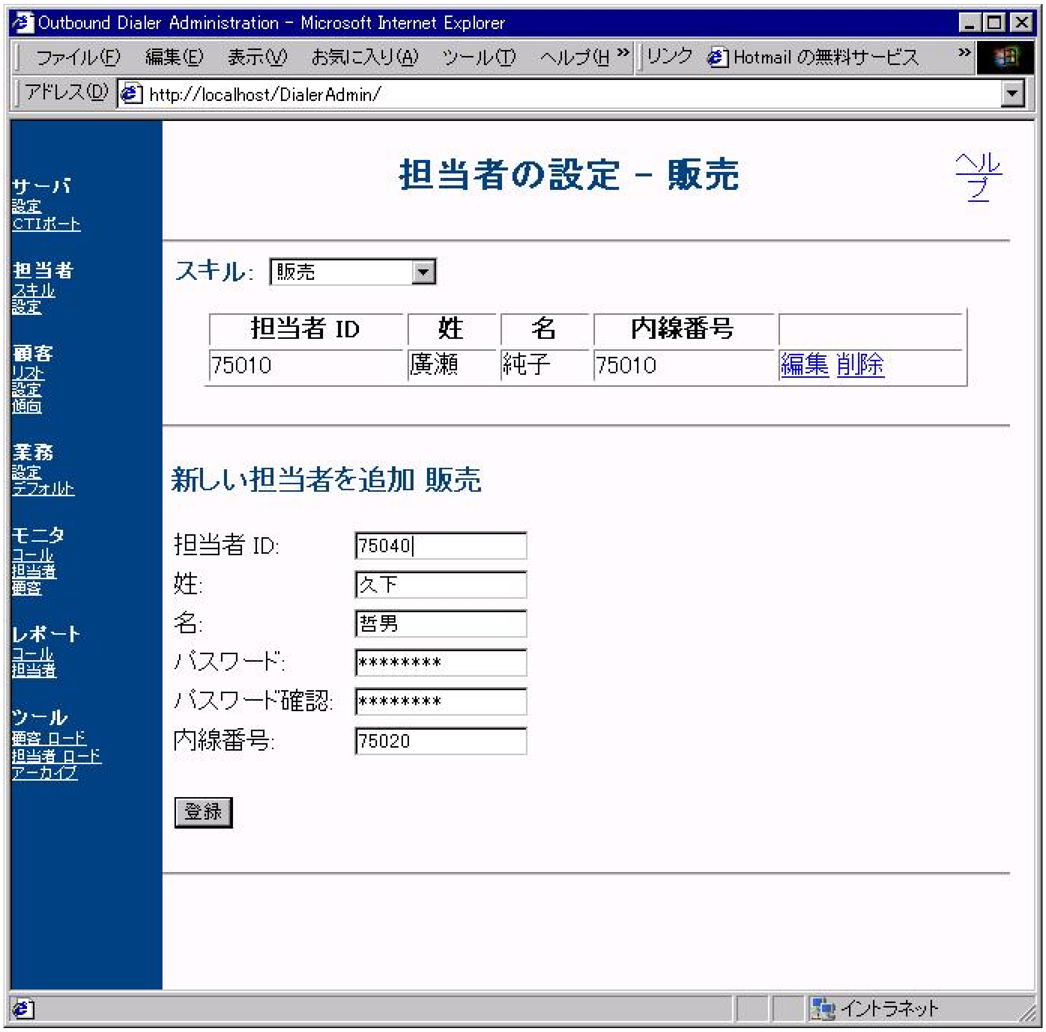
The Server Configuration screen, localized for Japanese, displays in the browser as follows:

Figure C-1 Japanese Server Configuration Screen



The Agent Configuration screen, localized for Japanese, displays in the browser as follows:

Figure C-2 Japanese Agent Configuration Screen



D Troubleshooting

This appendix contains some error messages and tells what action you should take to resolve the problem.

Agent Messages

Outbound Dialer is not running.

Action: This message occurs at agent login. Start the Outbound Dialer.

Instrument <nnnnn> is out of service.

Action: Make sure your phone is configured in CallManager, and make sure the phone is working.

Process hangs while agent is "Connecting to Call Manager…"

Action: Make sure the CallManager is running and LAN connection for the agent's phone is working. Check the log file for more information.

Administrator Messages

Warning: MS SQL: Unable to connect to server:
<servername> in <filename> on line nn could not connect to the database.

Action: Make sure the database and server are running.

Cannot upload the file. Please check the file name on your disk.

Action: This message can appear during bulk upload. Make sure you type in the correct file name and path (e.g., C:\customers\gold_customers.csv). It's usually easier to click the Browse button and select the file to be uploaded.

Could not start the Outbound Dialer service.

Action: Make sure you have the correct number of licenses. Also make sure that the SQL Server is running. Check the Event Log and log file to get more information.

There was a communication problem. (TCP_Error)

Action: The server may be down or busy. Try connecting later.

Unable to create provider - bad login or password

Action: Make sure the login and password are correct. This message can also occur when the OutboundDialer attempts to log in to use the Cisco CallManager. Make sure that the "Enable CTI Application Usage" box is checked in the Cisco CallManager setup.

Fatal error: Maximum execution time of nn seconds exceeded in <file_name> on line nnn

Action: Ensure that the database and server are running. Check PHP configuration.

Agent ID "nnnnnn" already exists. Please select another ID.

Action: Agent IDs must be unique. Agents can only be in one skill group. Ensure that a unique Agent ID is used for each agent.