ezCallerID

System Administration Manual

Software Version 2.0

Issue Date: November 15, 1999

Manual Number 1091-B DRAFT

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Preface

About This Manual

This ezCallerID System Administration Manual provides all the information the system administrator needs to install, maintain, and troubleshoot the ezCallerID software. Additional procedures cover some of the initial steps the ezCallerID System Administrator must perform—add service centers, add privilege levels, and add user IDs.

Audience

The ezCallerID System Administration Manual is for installing the software, monitoring the software processes, and maintaining the system.

Where to Find Information in the Manual

Use this guide to start installing the ezCallerID system or as a reference to sections:

- Chapter 1 is an introduction to the ezCallerID.
- Chapter 2 provides step-by-step instructions for configuring the third-party databases and installing the ezCallerID application.
- Chapter 3 describes how to set up the gateway so the Service Representatives can login.
- Chapter 4 contains instructions for configuring the communication link for Service Centers.
- Chapter 5 provides maintenance information.
- Appendix A contains a glossary of abbreviations, acronyms, and definitions.
- Appendix B is your technical reference section.
- Appendix C is a catalog of application windows and field definitions.

Viewing the Manual in Online Format

To effectively adjust the page layout to view this user's guide online:

1. Double-click the PDF file of this guide using the Microsoft® Windows Explorer®.

   The ezCallerID System Administration Manual displays using the Acrobat™ Reader.

2. Click the magnifying glass icon at the bottom of the window.

   The Zoom To window displays to let you choose the display magnification.

3. Type 150% for the Magnification and click **OK**.

Conventions

This manual uses specific conventions to help you recognize what to do with the software.

Example	Convention	Description
`a xxx yyy`	Courier bold	Indicates commands you need to enter
Press **Return** Press **Tab**	Arial bold	Indicates keys you press on the keyboard
<**Control**+**O**>	Dual angle brackets (< >) Dual angle brackets and plus sign (+)	For key commands, the plus sign indicates to hold down the first key and press the second key.
Click **OK**	Arial bold	Indicates buttons in a GUI interface requiring input or activation; clicking a button, or choosing an item from a drop-down selection list.
File pull-down menu **File** > **New** **Insert** > **Picture** >**File**	Arial bold plus one (or more) brackets (>)	Describes selecting a command from a pull-down menu or a sequence of cascading menus.
File > **New** **Then next,** Type new name in window	Action **Then next,** Action **Then next,** Action **Then next,** Action	Provide actions so a user can reach a specific user-interface window.

What's New in this Release

The most significant changes in software Version 2.0 are:

- The OSS server is now compatible with MetaSolv's Telecom Business Solutions (TBS) layer using a Common Object Request Broker Architecture (CORBA) interface. This enables existing and multiple system configurations to communicate with the ezCallerID.
- The ezCallerID documents are only stored in an Oracle persistent database.

Manual Sections That Changed

- This document now conforms to the *DSET Carrier Solutions Technical Communications Standards and Style Guide*.
- There are two possible installation configurations for the ezCallerID application:
  - **Standalone GUI** - Use a persistent Oracle database to store large numbers of ezCallerID customer orders with a standalone Java-based GUI software.
  - **Inegrated** - Use an OSS interface to permit a large number of service representatives create customer orders and store them in an Oracle database.
- Revised index to identify more system administrator tasks.
- Insert section to show Oracle DBA the key steps necessary to setup the Oracle databases required for the DSET ezCallerID application.

Getting Technical Support

Contacting Customer Service

Table Preface-1: Contacting DSET's Customer Service

Contact Method	Address or Number
Internet	*TBD*
Website	http://www.dset.com/tech/techsupport1.html
Telephone Technical Support Customer Service	 877-ASK-DSET 972-312-1800
FAX:	972-312-9060
Mail:	DSET Corporation 2201 West Plano Parkway Plano, TX 75075 USA

Online Help

Many fields in ezCallerID windows have short, context-sensitive descriptions that display in the Status bar located along the bottom of each window. Place your cursor in a window field to display its corresponding description.

Introducing ezCallerID

Understanding the ezCallerID

When a customer wants a new telephone service provider, they contact a Competitive Local Exchange Carrier (CLEC). The CLEC must communicate with the customer's current service provider, the Incumbent Local Exchange Carrier (ILEC), to change the service.

There are many pieces of information that are part of telephone service, one of these pieces is the Line Information Database (LIDB) information. It contains information relating to the customer's name, calling card, security code, and third party billing.

Background Information

A telephony service provider uses a Line Information Database (LIDB) to store subscriber data for a set of telephony services.

Line Information Database services can include:

- Alternative Billing Services (ABS)
  - Calling Card Service
  - 3rd Party Billing Service
  - Collect Billing Service
- Calling Name (CNAM)
- IntraLATA Presubscribed Carrier (ILP) - local long distance carrier information
- Originating Line Number Screening (OLNS) - defines calling restrictions on an originating line
- Specific Call Number Blocking (SCNB) - defines blocking calls for numbers or sets of numbers.

- GetData - defines custom services and data set up

In addition to being a repository for subscriber data, LIDBs are revenue-generating entities for the their owners. For example, a customer subscribes to calling name presentation. When this subscriber originates a call, the called party's CNAM data must be retrieved from a LIDB. There is a fee charged for accessing this information. The database accesses are frequently referred to as dips. Each dip into a LIDB results in revenue for the LIDB owner.

CLECs have several options available for building and maintenance of LIDBs:

- Share LIDBs with the ILECs (thus sharing revenue from dips)
- Contract the LIDB out to 3rd party companies
- Build and maintain the LIDBs in-house.

Regardless of how the CLECs maintain their LIDBs, updates to the LIDBs are required whenever customer is added, modified, or deleteed from their network. Using a software interface, with data-entry validation (instead of a manual, error-prone, and time consuming procedure), and an electronic data transfer gateway results in faster Line Database updates and generates CLEC revenue faster. The time spent filling-out paper forms, faxing or mailing forms to the LIDB entity, and making corrections is eliminated; reducing staff expenses for the CLEC.

The Market

The Telecom Act of 1996 opened up the local telephone market to competition. Presently, there are 250-300 facilities-based Competitive Local Exchange Carriers (CLECs). Unlike the Local Number Portability (LNP) and E911 federal mandates, LIDBs are an optional service. However, since they are revenue-generating entities, CLECs are likely to deploy LIDBs (in some form) as soon as possible.

Based on features offered by the ILECs:

- CNAM and ABS are a high priority LIDB data for residential subscribers.
- OLNS and SCNB are more important LIDB data to maintain for business subscribers.

DSET's Current LIDB Service Gateways

DSET currently offers two LIDB gateway products, ezCallingCard and ezCallerID. These gateways are designed to bridge the gap between a CLEC's OSS and Illuminet. Illuminent is a company with a Signaling System 7 (SS7) network and access or access agreements to the LIDBs for each of the ILECs. Illuminet provides a standard interface and protocol for all CLECs and hides the details necessary to access the individual Line Information Databases. Illuminet provides CLECs the ability to update LIDBs with CNAM, ABS, and OLNS feature information.

Version 1.0 of the ezCallerID supports a browser-based graphical user-interface (GUI) for ezCallerID customer order data entry and viewing. It collects the orders, stores them locally, creates data transfer files, and sends the files to Illuminet. The ezCallingCard gateway supports features similar to the ezCallerID. There is no gateway at this time for changing OLNS data.

Illuminet does not presently support the file transfer protocol (FTP) for sending the Customer orders are saved in ASCII format on diskettes and sent to Illuminet.

Overview

An ezCallerID transaction works like this:

1. Customer wants to add, change, or delete calling name information.

2. The request is entered either directly in the ezCallerID, or through an existing system which communicates with the Operating Support System (OSS) server.

3. The request is stored in two formats, one for ezCallerID and the other for the UNIX File System (UFS).

Discuss variation with with the different configurations using OSS vs. TBS and the UNIX File System vs. Oracle persistent database.

4. Next, the request is sent to the Service Center according to the data transfer schedule defined by your system administrator. The Service Center is a pick-up stop for the ILEC.

5. The ILEC picks-up the request and verifies the data against their information. A notification message is returned to the Service Center indicating the condition of the request.

6. The UFS retrieves the message from the Service Center and it displays for the Service Representative to read.

7. The notification message can dictate two outcomes:
   a. If accepted, the transfer is complete and the customer is 'provisioned'. The CLEC has the ezCallerID information so they can provide complete service for that customer.
   b. If not accepted (due to errors), the errors are corrected using the ezCallerID and the request is once more sent.

Order Status

Every Caller ID customer order has a status definition. The status definition describes the current state of the order from its initial creation to the point of order completion.

Table 1-1: Order Status States (1 of 2)

Status	Description
Completed	Order item is successfully provisioned.
Create/Edit	The customer order is currently being modified in the ezCallerID GUI.
Canceled	The order was canceled before it was finished.
Released	Order is ready to be provisioned.
System Processing	The order was sent to the supplier via the ezCallerID and interface and is "in progress".
Manual Processing	The order is on a user's work list and is awaiting an update to complete the provisioning.
Supplier Processing Complete	Supplier processing on the order is complete. This typically happens when a supplier sends a provisioning complete response via an automed interface.

Table 1-1: Order Status States (2 of 2)

Status	Description
Manual Processing Complete	Typically occurs when a user finishes working on an order and the business process begins system processing.
Error	During provision this order an error happened.
Hold	The order requires further editing before it can be released for provisioning.
Post Complete Follow-up	A manual follow-up must be done (that is, call customer and confirm the Caller ID service is working) before the order is considered complete.
Post Complete Follow-up Done	Any post completion follow-up activity is done and nothing else is required to track the order.

Due Dates

In the ezCallerID customer order, there are two time intervals defined that influence its actions with respect to the Due Date. The Due Date is the target date which the CLEC has set for making the service avaliable to the customer.

- Provisioning Interval—the time between the initial order is made and the Due Date; time the CLEC believes it will take to make ezCallerID service available to the customer.
- Jeopardy Interval—a shorter time interval, in the time period prior to the due date. If an order item is not completed or canceled before the jeopardy interval, the probability of missing the Due Date increases.

At any intsant an ezCallerID customer order ccan be in one of six states.

Table 1-2: Due Date States (1 of 2)

State	Description
Finished	Order is completed or canceled.
On Time	The order items associated Due Date will not be missed.
Jeopardy	The order is within the Jeapordy Interval

Table 1-2: Due Date States (2 of 2)

State	Description
Late	The Due Date has passed and the order is not completed or canceled.
Negotiate	A request to the customer was sent to chnage the Due Date for an order in progress.
Escalate	Priority of the work necessary to complete the ezCallerID order is increased.

The ezCallerID Components

- The GUI windows and OSS—for manipulating an Line Information DataBase (LIDB) customer record
- The Interconnectivity Gateway Platform (IGP), Security Agent, Oracle database, and activity logs—for processing the order requests
- The DownStream Interface (DSI)—for collecting and translating the data into recognized formats
- The Telecommunications Business Solutions (TBS) interface or the Operational Support System (OSS).
- The Service Center—for sending and receiving data from the ILEC

Generating a Request

Requests for transferring Caller ID information enter the ezCallerID two ways.

The Operations Support System (OSS) Server

The Operations Support System (OSS) uses the industry standard CORBA language. This ezCallerID software release (2.0) features Metasolv's Telecom Business Solutions (TBS) that is compatible with the OSS. This allows many existing ezCallerID data-entry systems to continue operating with the new technology.

The ezCallerID CORBA Gateway:

- Receives Caller ID requests in the CORBA Interface Definition Language (IDL) format from the CLEC's OSS
- Converts CORBA Caller ID requests into an internal format (ASN.1) for processing within the LSR Gateway and sends them to ILEC Service Centers
- Receives notification messages from the ezCallerID IGP
- Converts messages back to the CORBA IDL format
- Sends CORBA messages to the CLEC

The ezCallerID GUI

Processing a Request

ezCallerID Interconnectivity Gateway Platform (IGP)

The ezCallerID IGP is the nucleus of the ezCallerID. It does the actual processing of the tasks the users perform. The ezCallerID IGP:

- Creates, modifies, and displays ezCallerID documents.
- Displays Notification and Error messages.
- Creates, modifies, and displays DownStream Interface (DSI) and Service Center information.
- Displays Log files .

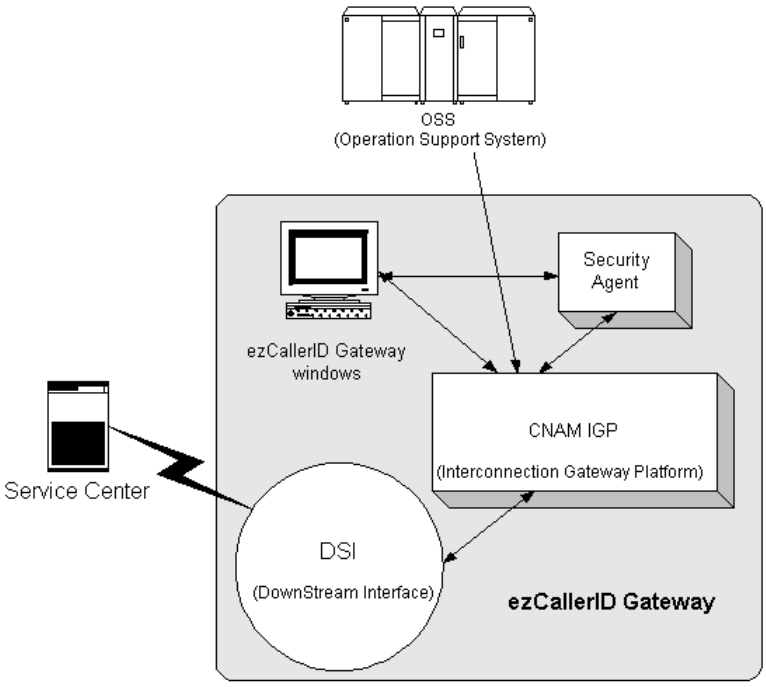


Figure 1-1: ezCallerID Interconnectivity Gateway Platform

Security Agent

When a user enters the ezCallerID, login information is validated by the Security Agent. The Security Agent accesses a database (`sec_db`) and validates the user ID and password.

If the user ID is valid, the Security Agent sends a message to the ezCallerID Gateway confirming the ID. Otherwise, the Agent sends back an invalid user message and login is denied. It also insures users are not able to perform functions outside of their authority.

Figure 1-2 illustrates the user ID validation process by the Security Agent.

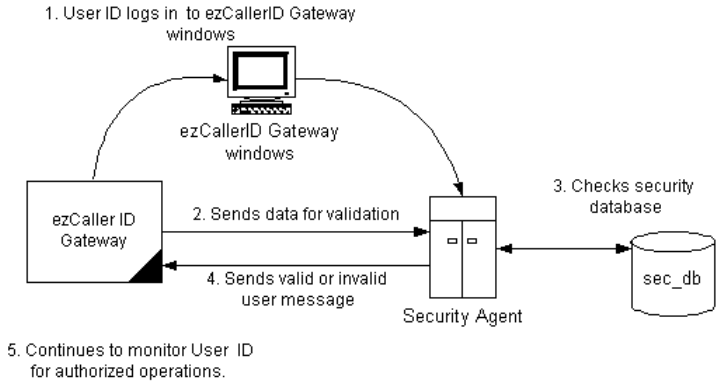


Figure 1-2: The Security Agent Process Flow

The validation occurs during initialization and lasts for the duration of the ezCallerID session.

Oracle Database

Logs

Converting to A Common Format

Before requests can be sent to the ILEC, it must be converted to a format that the ILEC can read. This is done in the DownStream Interface (DSI).

DownStream Interface (DSI)

When data is transmitted through the DownStream Interface (DSI), it flows through two components:

- Collector
- Translator

It receives, translates, and forwards ezCallerID requests, Notification messages and Error messages between the ezCallerID system and the UNIX file system. The DSI also holds scheduling information to trigger the collector/translator and send/receive documents to/from the UNIX file system.

Collector

The Collector component of the DSI periodically checks the ezCallerID IGP for documents in Pending status. Pending indicates the document is ready to be sent. It also receives Notification messages and Error messages arriving from the Service Center.

The Collector time interval is configurable from the ezCallerID interface. When the Collector receives the ezCallerID request, it invokes the Translator component of the DSI.

Translator

The Translator converts the ezCallerID request in the Collector from ezCallerID format to ASCII format for the UFS. The Translator also reads the Notification and Error messages arriving in the opposite direction from the Service Center. These are converted from ASCII format back to the ezCallerID format.

Information Types

There are two types of information transmitted between the Service Center and the ezCallerID. Each type of information glows in a specific direction:

- **ezCallerID Request** information - ezCallerID request flows are called Downloads; the information in the ezCallerID request travels from the ezCallerID down to the Service Center.
- **Notification Message** information - Notification messages flow are called Uploads; the message travels from the Service Center up to the ezCallerID.

The ezCallerID Requests - Download

This illustrates the ezCallerID request download process.

Figure 1-3: Download Process of ezCallerID requests

The Service Center

The Service Center is similar to an electronic mail drop. ILECs deposit Caller ID document requests, and CLECs deposit Notification Messages. Both the ILEC and the CLEC pick up (exchange) the data at scheduled time intervals.

Service Centers are usually configured for each major ILEC. For example:

A Service Center would be established for Bell Atlantic. It would service all customers in New Jersey, Delaware, Pennsylvania, West Virginia Washington D.C., and Michigan.

A second Service Center would exist for Bell South customers in Kentucky, Tennessee, North Carolina, etc.

Installing ezCallerID

Overview

This chapter describes how to install and configure the ezCallerID application. You can think of this software installation as divided into six major sections:

Pre-Installation Tasks

Complete the ezCallerID Pre-Installation Checklist before you create Oracle databases, prepare the Basic DSET environment, install the ezCallerID application, and perform post-installation operations.

Table 2-1: ezCallerID Pre-Installation Checklist

Check here...	if you have this Installation Requirement
❑	Server - Sun™ SPARC® 20 Central Processing Unit (CPU) or better
❑	Minimum of 128 Mb of RAM
❑	Minimum of **150** Mb hard disk space for ezCallerID software
❑	Minimum of **230** Mb hard disk space for optional Orbix, TBS, and Oracle software
❑	SUN Solaris® 2.5.1 or later with all year 2000 patches installed
❑	UNIX® Korn Shell (ksh) Industry Standard
❑	An Internet browser that supports Java applets (Java Developers Kit 1.1.5 or later) DSET recommends Netscape® Communicator (version 4.06 or later) or Internet Explorer (version 4.15 or later).
❑	The DSET ezCallerID installation tape (4mm or 8mm) or CD-ROM containing the ezCallerID 2.0 software.
❑	[**CORBA/OSS only**] If you intend to use the MetaSolv Telecom Business Soluion™ (TBS) application, you must have **TBS v4.0.1** software.
❑	[**CORBA/OSS only**] If you have chosen to create an integrated solution, you need to have the **UNIX Orbix™ v2.3.c** software from IONA Technologies PLC.
❑	[**CORBA/OSS only**] Home directory pathname for the Orbix v2.3.c software.
❑	Determine the Installation directory where to install the `ezCallerID`. The UNIX file directory should be empty. See "DSET Application File Directories" on page 2-24 for a better understanding the file directory structure.
❑	**Oracle server** version **v8.0.5**.
❑	Download the latest Oracle software patches for **v8.0.5**.
❑	Oracle name for CNAM Document Database instance.
❑	Oracle name for Security Agent Database instance.

References

These books provide more information about the ezCallerID installation. The System Administrator should have a copy of each.

- *Solaris Operating System 2.5.1 Administration Guide, Volume 1*
- *SunLink 8.1 Communication Platform Administrator's Guide*
- *Orbix Administrator's Guide — Orbix 2 (v2.3)*
- *Oracle 8 Release 8.0.5 for SUN SPARC Solaris 2.x Administrator's Reference*
- *Oracle DBA Handbook 8.0 Edition*
- *ezCallerID User's Manual*

Install Third-party Software

Creating the basic DSET environment for all Gateway applications requires the ezCallerID System Administrator to make several key decisions:

- Determine if your company wants to use MetaSolv's Telecom Business Solutions software for an Integrated solution or use a simple stand-alone GUI. You must install IONA Technologies Orbix software if you want to use MetaSolv's TBS product.
- Determine if you want to install a remote CORBA server as the gateway.

The previous two decisions determine which installation configuration your company will use with the DSET ezCallerID product.

Oracle Software Requirements

To use Oracle with DSET products, you must use:

- Enterprise Server 8.0.5 with Oracle 8 Objects Option enabled.
- The latest v8.0.5 software maintenance patches.
- Must have the version SQL*NET V2 set-up for distributed databases.
- The two ezCallerID Oracle databases must be created with the options:
  - Character set used is WE8ISO8859P9 (ISO-8859-1 West European standard).
  - Name of the Oracle tablespace used is "**DATA**". All the database tables and indices are stored in this tablespace.

Oracle Server Software

To use Oracle to store the CNAM orders (documents) and implement security for User IDs and passwords:

1. Have your company's Database Administrator install **Oracle server version v8.0.5.0** on the UNIX machine you will use with the ezCallerID application.

2. Install the latest Oracle 8.0.5 software maintenance patch to address recent Oracle software problems.

3. Download the most recent Oracle software patch files:

   (a) Go to the ftp site with the TCP/IP addresss of `209.246.5.40` .

   (b) If a User ID is requested, use an Anonymous FTP login with the values:
   User ID - `anonymous`
   Password - <*Insert your email address*>

   (c) Change to this directory to locate the latest 8.0.5 software patch files
   `/server/patchsets/unix/SUN_SOLARIS2/80patchsets/`

   (d) Change to the latest subdirectory. The patch files (at the date of this manual's publication) are found in subdirectory **`/80521 .`**

Note: The files in the Patch sets are cumulative. For example, 8.0.5.3 includes all the fixes in 8.0.5.1 and 8.0.5.2 as well as new fixes for 8.0.5.3. This means that unless the patch set documentation indicates otherwise, the patch set can be applied to any earlier 8.0.5 version. There is no requirement to install all intermediate patch sets.

4. View the `patch_note.html` document using a web browser to understand:
   > System requirements for installing the patch
   > Instructions for installing the patch
   > List of bugs fixed with this and previous patches
   > De-installing patch procedures.

De-Installing a Patch Set: There is no mechanism provided for de-installing patch sets. If you are concerned about being able to de-install a patch set, Oracle Corporation recommends that you back up your software installation, before applying the patch set..

5. Follow the instructions to install the Oracle 8.0.5 software patch found in:

   `solaris_8052patchset.z` (18.1 Mb - 9/27/99)

6. Since the bug patch **`bug991197`** is applied to Precompiler 8.0.5.2.1 on a Sun Sparc Solaris, follow the instructions and apply this patch also. the instructions are found in the file.:

   `/bug991197/README.991197`

7. Be sure to use the WE8ISO8859P9 character set option when creating both the **`CNAM`** document and the **`CNSECDB`** Security Agent databases. (See "Create Oracle Databases" on page 2-7.)

8. Ensure that the Oracle 8 Objects Option and Network Option are set (enabled).

CORBA Software

- Install **Orbix v2.3.c** if you want to use the MetaSolv Telecom Business Solutions (TBS) software as an Operational Support System (OSS), according to documentation provided by IONA Technologies PLC.

Integrated OSS Configuration

- Install **TBS v4.0.1** according to documentation provided by MetaSolv Software.

Create Oracle Databases

The ezCallerID default installation requires an Oracle database to store orders and perform system security administration. Your database administrator must create this database before you install the ezCallerID application. If you currently are using an Oracle database, there is no need to change databases. ezCallerID 2.0 will work with your previous data.

Introduction

Note: Throughout this chapter we refer to two ezCallerID Oracle databases. You can give these databases any alphanumeric eight-letter name you want. We will use the default ezCallerID application names (**CNAM** and **CNSECDB**) provided in the DSET installation script.

ezCallerID Oracle Databases

There will be two Oracle databases created.

- **CNAM**—used for storing CNAM documents.
- **CNSECDB**—used for storing user ID accounts, passwords, and privileges assigned to each user ID by the ezCallerID System Administrator.

Storage Space Estimation

The **CNSECDB** (Security Agent) Oracle Database requires an initial size of 10 Mb of disk space with an incremental increase of 10 Mb. This database will require more storage only if a large number of User IDs are defined.

The **CNAM** (Document) Oracle Database will grow according to the volume of CNAM orders and messages used by the customer. Use Table 2-2 to estimate the amount of disk space your company needs to accommodate the projected volume of ezCallerID orders.

Table 2-2: ezCallerID Oracle CNAM Database Size Estimation

Number of Orders per Month	CNAM Database Tablespace Required per Month	CNAM Database Tablespace Required per year
5,000	2 Mb	24 Mb
10,000	4 Mb	48 Mb
20,0000	8 Mb	96 Mb

The table creation for this table includes a start size of 250 Mb and an increment of 10 Mb as needed. The retention period of the documents in the database determines its ability to reuse disk space. Old documents can be removed from the database and archived to backup media.

(Consult Chapter 5, “Preventative Maintenence” section. See INSERT CROSS REFERENCE)

Overview - Creating Oracle DSET ezCallerID Databases

Table 2-3: ezCallerID Oracle Database Creation Steps (1 of 2)

Check here...	Step	Page	Once You Have Performed this Step
❑	**A**	**2-9**	Login and source Oracle profile with needed environment variables.
❑	**B**	**2-10**	Create UNIX directories for each database mount point.
❑	**C**	**2-10**	Create UNIX directories to hold other Oracle database instance administration files.
❑	**D**	**2-11**	Copy and edit initialization and configuration files to use for the ezCallerID databases.
❑	**E**	**2-12**	Create links from the configuration and initialization files to the Oracle administration home directory.
❑	**F**	**2-12**	Set-up some SQL scripts to create the actual space allocations for the databases.
❑	**G**	**2-13**	Run the Oracle scripts to create the **CNAM** and **CNSECDB** table structures.
❑	**H**	**2-14**	Mount the ezCallerID the **CNAM** and **CNSECDB** Oracle databases.
❑	**I**	**2-14**	Create a DSET Product DBA User ID.

Table 2-3: ezCallerID Oracle Database Creation Steps (2 of 2)

Check here...	Step	Page	Once You Have Performed this Step
❑	**J**	**2-15**	Set-up the Oracle Communications Network for the two databases

A - Define Environment Variables

1. Login as the Database Administrator at your company site with the **Oracle** User ID.

To make configuring the Oracle DSET application databases **`CNAM`** and **`CNSECDB`** easy, we need to define several UNIX variables to correspond to the key Oracle directory pathnames.

Note: Define each of the UNIX environment variables in Table 2-4 to correspond to the Oracle file directory structure used at **your** company.

Table 2-4: Variables that Define Oracle Directory Pathnames

Environment Variable Name	Pathname (an example)	Description
$ORACLE_MOUNT	`/export/u02/oracle/data`	Parent directory for Oracle data files.
$ORACLE_HOME	`/export/u02/oracle/app/oracle/product/8.0.5`	Oracle's installed home directory.
$ORACLE_TOP	`/export/u02/oracle/app/oracle/admin`	Parent directory for defining Oracle database administration files
$ORACLE_LISTENER	`/export/u02/oracle/app/oracle/product/8.0.5/network/admin`	Directory with `listener.ora`, `tnsnames.ora`, and `sqlnet.log`
$ORACLE_USER_HOME	`/var/home/oracle`	**Oracle** User ID Home DIrectory
$ORACLE_DSET_SQL	`$DP_DIR/cnam/schema` (See Table 2-7)	Oracle SQL scripts to create databases, insert table schema, and perform maintenance operations.

2. Type the following UNIX commands with a text editor to define the environment variables:

```
export ORACLE_MOUNT=/export/u02/oracle/data
export ORACLE_HOME=/export/u02/oracle/app/oracle/
product/8.0.5
export ORACLE_LISTENER=/export/u02/oracle/app/oracle/
product/8.0.5/network/admin
export ORACLE_TOP=/export/u02/oracle/app/oracle/admin
export ORACLE_USER_HOME=/var/home/oracle
export ORACLE_DSET_SQL=$DP_DIR/cnam/schemas
```

Save the commands as a “profile” file, “source” the profile, and use these variables as part of the Oracle database creation procedures.

B - Create Directories for Database Mount Points

Create the **CNAM** and **CNSECDB** database Name directories at the Oracle mount points.

3. Change to the appropriate directory to define the Oracle Database DATA files.
   `cd $ORACLE_MOUNT`

4. For the **CNAM** document database:
   `mkdir oracle1/oradata/`**`CNAM`**
   `mkdir oracle2/oradata/`**`CNAM`**
   `mkdir oracle3/oradata/`**`CNAM`**

5. For the **CNSECDB** Security Agent database:
   `mkdir oracle1/oradata/`**`CNSECDB`**
   `mkdir oracle2/oradata/`**`CNSECDB`**
   `mkdir oracle3/oradata/`**`CNSECDB`**

C - Create Admin Directories for Oracle Databases

6. Create the top-level Oracle administration directories.
   `mkdir $ORACLE_TOP/`**`CNAM`**
   `mkdir $ORACLE_TOP/`**`CNSECDB`**

7. Create Oracle administration sudirectories for the **CNAM** document database.
```
cd $ORACLE_TOP/CNAM
mkdir bdump cdump create pfile udump
```

8. Create Oracle administration sudirectories for the **CNSECDB** security agent database.
```
cd $ORACLE_TOP/CNSECDB
mkdir bdump cdump create pfile udump
```

D - Build Initialization and Configuration Files

Take a standard Oracle database configuration file, plus an initialization file, and copy the files to the correct Oracle administration file directories:

9.
```
cd $ORACLE_TOP/CNAM/pfile
cp example_config.ora configCNAM.ora
cp example_init.ora initCNAM.ora
```

10. Edit the `configCNAM.ora` and insert the document database name **CNAM** into each appropriate portion of the directory pathnames for "*control*" files and "*dump*" files. Make sure to change the line with the information: `db_name = CNAM`.

11. Edit the `initCNAM.ora` and insert the document database name **CNAM** into the appropriate parts of the "*ifile*" directory pathname. Change the names of the rollback segments to - `(cnamdbrb1,cnamdbrb2,cnamdbrb3,cnamdbrb4).`

12.
```
cd $ORACLE_TOP/CNSECDB/pfile
cp example_config.ora configCNSECDB.ora
cp example_init.ora initCNSECDB.ora
```

13. Edit the `configCNSECDB.ora` and insert the Security Agent database name **CNSECDB** into each appropriate portion of the directory pathnames for "*control*" files and "*dump*" files. Make sure to change the line with the information: `db_name = CNSECDB`.

14. Edit the `initCNSECDB.ora` and insert the Security Agent database name **CNSECDB** into the appropriate parts of the "ifile" directory pathname. Change the names of the rollback segments to - `(cnsecdbrb1, cnsecdbrb2,cnsecdbrb3,cnsecdbrb4).`

E - Create Links for Initialization and Configuration Files

You are now going to create symbolic links from an Oracle Home directory location (`$ORACLE_HOME/dbs`) to the actual **`CNAM`**/**`CNSECDB`** initialization and configuration files (`$ORACLE_TOP/`**`CNAM`**`/pfile` and `$ORACLE_TOP/`**`CNSECDB`**`/pfile`).

15. Create symbolic links for the **`CNAM`** document database:

```
cd $ORACLE_TOP/CNAM/pfile
ln -fs initCNAM.ora $ORACLE_HOME/dbs
ln -fs configCNAM.ora $ORACLE_HOME/dbs
```

16. Create symbolic links for the **`CNSECDB`** security agent database:

```
cd $ORACLE_TOP/CNSECDB/pfile
ln -fs initCNSECDB.ora $ORACLE_HOME/dbs
ln -fs configCNSECDB.ora $ORACLE_HOME/dbs
```

On the UNIX links command (**`ln`**), use the **`-f`** option only if you **do not** want any warning about overwriting an existing link.

F - Create Scripts to Allocate Database Space

Now you will create the Oracle scripts to allocate tablespace (disk space) for each of the major files that makeup the **`CNAM`** and **`CNSECDB`** databases. The example scripts you use are provided by DSET within the installation product subdirectory.

Note: The example Oracle database scripts `o_create.sql` and `o_crSec.sql` are found in the product subdirectory defined by the pathname `$DP_DIR/cnam/schema and the environment variable $`**`ORACLE_DSET_SQL`**. This directory also contains SQL scripts to register (establish tables and organization) database schemas and perform other Oracle maintenance operations.

17. Create the Oracle script for the **CNAM** document database from a template.

    ```
    cd $ORACLE_USER_HOME/SQL
    cp $ORACLE_DSET_SQL/o_create.sql o_crCnam.sql
    ```

18. Use a UNIX text editor and make changes in the `o_crCnam.sql` script.

    Replace `IGPDB` with **CNAM** for the database creation log: `crdb.log`
    Replace `IGPDB` with **CNAM** for the database initialization file: `initCNAM.ora`
    Replace `IGPDB` with **CNAM** on the "create" database SQL statement
    Insert the statement "`character set WE8ISO8859P1;`"
    Replace `rb_temp` with **cnamdbrb_temp** for the rollback segments
    Change the rollback segment names from (`rb1`, `rb2`, `rb3`, `rb4`) to (**cnamdb**`rb1`, **cnamdb**`rb2`, **cnamdb**`rb3`, **cnamdb**`rb4`)
    Replace `IGPDB` with **CNAM** anywhere in the directory pathnames throughout the script.

19. Create the Oracle script for the **CNSECDB** document database from a template.

    ```
    cp $ORACLE_DSET_SQL/o_crSec.sql o_crCnSecdb.sql
    ```

20. Use a UNIX text editor and make changes in the `o_crCnSecdb.sql` script.

    Replace `SECDB` with **CNSECDB** for the database creation log: `crdb.log`
    Replace `SECDB` with **CNSECDB** for the database initialization file: `initCNSECDB.ora`
    Replace `SECDB` with **CNSECDB** on the "create" database SQL statement
    Insert the statement "`character set WE8ISO8859P1;`"
    Replace `secrb_temp` with **cnsecdbrb_temp** for the rollback segments
    Change the rollback segment names from (`rb11`, `rb12`, `rb13`, `rb14`) to (**cnsecdb**`rb1`, **cnsecdb**`rb2`, **cnsecdb**`rb3`, **cnsecdb**`rb4`)
    Replace `SECDB` with **CNSECDB** anywhere in the directory pathnames throughout the script.

G - Run CNAM and CNSECDB Table Creation Scripts

Run the two scripts you created (see "F - Create Scripts to Allocate Database Space" on page 2-12).

21. Run the **CNAM** and **CNSECDB** database creation scripts:

```
login as the Oracle user
% svrmgrl
connect internal
@$HOME/SQL/o_crCnam.sql
@$HOME/SQL/o_crCnSecdb.sql
quit
```

H- Mount the Databases

22. Mount the **CNAM** database with the SQL*PLUS commands after this UNIX command:

```
export ORACLE_SID=CNAM
login as the Oracle user
% svrmgrl
connect internal
startup
quit
```

23. Mount the **CNSECDB** database with the SQL*PLUS commands after this UNIX command:

```
export ORACLE_SID=CNSECDB
login as the Oracle user
% svrmgrl
connect internal
startup
quit
```

I - Create a DSET Product DBA User ID

The ezCallerID application must login with a database administration (**dbadm**) User ID and password (**dbadm**) to both Oracle databases to enforce security.

To create the appropriate DSET application User ID, login to the Oracle software as the **Oracle** user and start the Server Manager:

```
% svrmgrl
connect internal;
create user dbadm identified by dbadm;
grant all privileges to dbadm;
connect system/manager
@ORACLE_HOME/sqlplus/admin/pupbld.sql;
quit
```

Note: If the ezCallerID System Administrator has to manually start the Oracle databases or register the database schemes, they will need to use this user ID and password.

J - Set-up Oracle Network Communications

All the above database instances can exist in one machine holding all the CNAM documents and user security information. Remote DB access means the DSET ezCallerID gateway can run on a different machine than the machine holding the Oracle database instances. For this to happen, the machine on which the gateway instances are running should be configured so as to make the DB instances accessible through Oracle's SQL*Net:

- `tnsnames.ora` - Transparent Network Substrate (TNS) Names
- `listener.ora` - Oracle Listener Client

These files should point to each of the DB instances created by the above naming convention; for example, **CNAM** and **CNSECDB**.

Edit the TNS Names File

Because Oracle SQL*Net V2 supports multiple communications protocols, we need to edit the TNS Names file to describe the (1) communications protocol and (2) connection descriptors for each Oracle database instance. After we edit these files, we can refer to these two Oracle databases by their Oracle names **CNAM** and **CNSECDB**.

24. Change to the appropriate Oracle file directory.

```
cd $ORACLE_LISTENER
```

25. Use a UNIX text editor to copy the following two sections from an existing portion of the `tnsnames.ora` file. We use the hostname **`gorda`** in this example for our machine.

```
CNAM =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL= TCP)(Host= gorda)(Port= 1521))
    (CONNECT_DATA = (SID = CNAM))
  )
```

26. In this portion of the `tnsnames.ora` file, we substitute the **`CNAM`** Oracle name and provide the file directory corresponding to the Oracle Home directory.

```
CNAM_BEQ =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = BEQ)(PROGRAM = /export/u02/
oracle/app/oracle/product/8.0.5)
                (argv0 = oracleCNAM)
                (args = '(DESCRIPTION =
(LOCAL=YES)(ADDRESS=(PROTOCOL=BEQ)))')
                (envs = 'ORACLE_HOME=/export/u02/oracle/
app/oracle/product/8.0.5,ORACLE_SID=CNAM')
    )
  )
```

27. Repeat the previous two steps for the **`CNSECDB`** Security Agent Oracle database.

```
CNSECDB =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL= TCP)(Host= gorda)(Port= 1521))
    (CONNECT_DATA = (SID = CNSECDB))
  )
CNSECDB_BEQ =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = BEQ)(PROGRAM = /export/u02/
oracle/app/oracle/product/8.0.5)
```

```
                (argv0 = oracleCNSECDB)
                (args = '(DESCRIPTION =
(LOCAL=YES)(ADDRESS=(PROTOCOL=BEQ)))')
                (envs = 'ORACLE_HOME=/export/u02/oracle/
app/oracle/product/8.0.5,ORACLE_SID=CNSECDB')
    )
  )
```

Edit the Oracle Listener File

Each Oracle server on a network must contain a `listener.ora` file. This file lists the names and addresses of all of the TNS "listener" processes on the machine and the instances they support.

28. Change to the Oracle file directory that contains the file `listener.ora`.

    ```
    cd $ORACLE_LISTENER
    ```

29. Using a UNIX text editor, go to the **Instance Definitions** section denoted by the words:

    SID_LIST_LISTENER =

30. Make two copies of an instance description and insert the two Oracle database instance names, **CNAM** and **CNSECDB**.

```
(SID_DESC =
      (GLOBAL_DBNAME= gorda.dal.dset.com)
      (ORACLE_HOME= /export/u02/oracle/app/oracle/
product/8.0.5)
      (SID_NAME = CNAM)
)
    (SID_DESC =
   (GLOBAL_DBNAME= gorda.dal.dset.com)
   (ORACLE_HOME= /export/u02/oracle/app/oracle/product/
8.0.5)
```

```
    (SID_NAME = CNSECDB)
  )
```

Start the Listener

31. First stop the Oracle "**listener**" and then restart the process.
    login as the Oracle user

```
sqlplus dbadm/dbadm
lsnrctl stop
lsnrctl start
exit
```

Configuration and Naming Conventions

These are some configuration issues and naming conventions that the customer needs to follow, in order to create Oracle Database Instances for the CNAM (ezCallerID) gateway.

Configuration

For ezCallerID version 2.0, DSET supports a single Service Center for one gateway. The Account Number for the Service Center is **111111**.

The Oracle databases include:

- One database instance for the CNAM IGP. This holds the documents.
- One database instance for the Security Agent. This holds the user accounts their passwords and privilege levels on Admin GUI operations.

This configuration will make sure that the documents for each ILEC get into the corresponding gateway's database instance.

Naming Conventions

The following convention allows easily identifiable database instances for each Gateway instance. The name of the database instance should be no longer than 8 characters. Since there is going to be one gateway instance per one ILEC, the name of the database instances should ILEC specific.

For example, let's say the ILEC is Southwestern Bell. Use a three-character name to uniquely represent this ILEC, say SWB:

- The name of CNAM IGP database: **CNAM**
- The name of Security database: **CNSECDB**

The configuration files for this ILEC should be named:

- CNAM IGP: `SWB.cnamIgp.cfg`
- Security Agent: `SWB.security.cfg`
- CNAM CORBA Gateway: `SWB.cnamgw.cfg`

`SWB.cnamIgp.cfg` and `SWB.security.cfg` have variables that point to the database instance. The values of these variables should be set to:

In `SWB.CNAMIgp.cfg` the value of `GEN_AGENT_DB_NAME` should be **CNAM.**

In `SWB.security.cfg` the value of `SEC_AGENT_DB_NAME` should be **CNSECDB**.

Ongoing Tasks for Oracle Database Administrator

See Chapter 5, "Maintenance and Troubleshooting" on page 5-1, of this System Administration Manual for preventative maintenance tasks that the Oracle DBA must perform.

Role of DSET Installation Team

The DSET installation team will:

- Check that all third-party software has been installed prior to running the DSET ezCallerID Application Installation script.
- Check that all Oracle ezCallerID databases are created.
- All Oracle ezCallerID databases are started and the Oracle `LISTNER` software is running.
- The Orbix Daemon is running.
- Run the ezCallerID application installation script.
- Start the ezCallerID gateway processes and verify they are running.

- Use TBS software or a Web Browser (stand-alone GUI) to submit CNAM orders to the ILEC.
- Examine the Activity and Trace logs to validate proper software operation.
- Arrange for dial-up access for DSET customer support personnel.
- Plan transition to using transfer protocols to send CNAM orders to a service center.

Last-minute Oracle/CORBA Preparations

During the installation, the installation script will ask if you will use an Oracle database to store documents and perform security. Answer appropriately and configure the ezCallerID system for your company.

During the installation, the script will automatically attempt to register the schemas for the two Oracle databases **CNAM** and **CNSECDB** you created. To make sure this goes smoothly,

1. Start the **CNAM** and **CNSECDB** Oracle databases (See "H- Mount the Databases" on page 2-14.)

2. Start the Oracle LISTENER software (see "Start the Listener" on page 2-18) so the ezCallerID Application Installation Script can successfully register the schemas.

3. Use these commands to check that the two ezCallerID databases can be successfully accessed by the gateway application:

```
login as the Oracle user
sqlplus dbadm/dbadm@CNAM
sqlplus dbadm/dbadm@CNSECDB
```

Refer to Chapter 5, Maintenance and Troubleshooting, to determine what actions to take if an Oracle ezCallerID database is not performing correctly.

4. Test to see if the Orbix software that controls the CORBA process daemon is running:

```
ps -ef|grep orbix
```

You should see a response similar to this next line where **cnam** is the user ID, **4893** is the process ID that identifies Orbix, and **16:55:56** is the current time.

```
root   307     1  0   Oct 26 ?        0:12 /opt/iona/
OrbixMT_2.3c/bin/orbixd
cnam  4893  4877  0 16:55:56 pts/11   0:00 grep orbix
```

Refer to Chapter 5, Maintenance and Troubleshooting, to determine what actionsare needed when the CORBA software is not functioning.

Prepare Basic DSET Environment

Table 2-5: ezCallerID Basic DSET Environment

Check here...	Once You Have Performed
❑	[**Integrated Configuration only**] If you intend to use the MetaSolv Telecom Business Solution™ (TBS) application, you must install **TBS v4.0.1** software. The software requires 80 Mb of hard disk space
❑	[**Integrated Configuration only**] You need to install Orbix™ v2.3.c from IONA Technologies PLC. Orbix™ v2.3.c requires 70 Mb of hard disk space.
❑	Create a new ezCallerID System Administrator User ID for your UNIX system. We recommend the User ID of "**CNAM**".
❑	Ensure that these UNIX commands are available to the "**CNAM**" User ID profile: • `rm`—Delete files • `tar`—Copy files from tape • `df`—Determine amount of disk space available • `awk`—Pattern matching program • `tail`—Extract information from file's records • `fgrep`—Find literal match to string in files • `hostid`—Get hexadecimal number of host server • `chown`—Change file ownership • `chgrp`—Change file ownership to new group • `hostname`—Determine name of host machine • `ping`—Determine the TCP/IP address of machines on this network
❑	Determine the exact directory pathname where to install the `ezCallerID`. The UNIX file directory should be empty. See Figure 2-2 to better understand the file directory structure.

Steps to Define Basic DSET Environment

To set-up the Basic DSET environment you must:

1. Determine the third-party software information needed for ezCallerID Installation.

2. Create a UNIX user ID with sufficient "*superuser*" authority. DSET recommends that you use the name "**CNAM**".

3. Create the ezCallerID home file directory.

4. Copy the ezCallerID application from the distribution media (tape, CD-ROM, etc.)

5. Run the script that checks and defines the “standard” DSET product environment.

Determine Information Needed for ezCallerID Installation

If you installed any third-party software, you will be asked to provide (1) home directory names, (2) process names, or (3) database instance identifiers to the ezCallerID installation script.

There are two possible installation configurations for the ezCallerID application:

- **Standalone GUI** - Use a persistent Oracle database to store large numbers of ezCallerID customer orders with standalone Java-based GUI software.
- **Integrated** - Use an OSS/CORBA/GUI interface to permit a large number of service representatives to create customer orders and store them in an Oracle database.

Table 2-6: Third-party Information for ezCallerID Installation Script

Information	Response (default value)
Oracle Home Directory Path	
Oracle ezCallerID Document Database Name	**CNAM**
Oracle Security Agent Database Name	**CNSECDB**
[CORBA/OSS Integration] IONA Orbix Home Directory Path	

Define the ezCallerID System Administrator User ID

1. Create the UNIX user ID **CNAM** with “super user” authority.

2. Use the UNIX `cd` command to move to the **CNAM** user ID home directory.

3. Ensure that these UNIX commands work for the **CNAM** user ID:

   `rm`—Delete files

   `tar`—Copy files from installation tape

   `df`—Determine amount of disk space available

   `awk`—Pattern matching program

   `tail`—Extract information from file's records

   `fgrep`—Find literal match to string in files

   `hostid`—Get hexadecimal number of host server

   `chown`—Change file ownership

   `chgrp`—Change file ownership to new group

   `hostname`—Determine name of host machine

   `ping`—Determine the TCP/IP address of machines on this network

Create the ezCallerID Installation Directory

1. Use the UNIX `cd` command to move to the Installation parent directory (see Figure 2-1) of the ezCallerID application.

2. Create the CNAM Version 2.0 home directory by typing the command:

   ```
   mkdir CNAM2.0
   ```

DSET Application File Directories

To understand where all the software components of a DSET application will be installed, you need to understand the recommended UNIX file directory structure. The high-level organization is useful for completing the ezCallerID application installation. Knowing where the application scripts and log files reside will be useful when you perform daily maintenance operations and troubleshooting.

This figure shows an example directory structure that illustrates the difference between the Installation Directory, the Product Directory, and the Product Subdirectory.

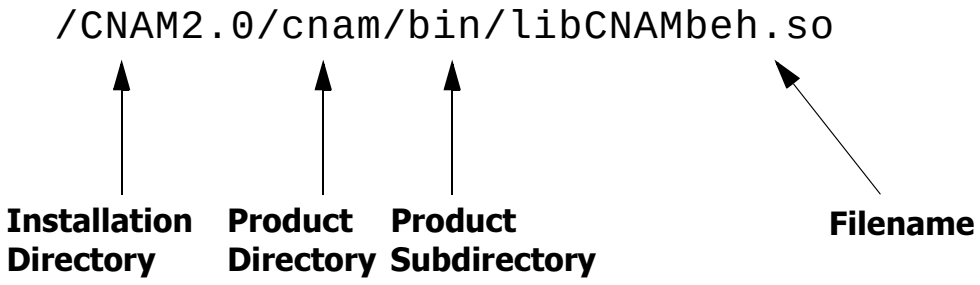


Figure 2-1: Example DSET UNIX Product Directory Structure

High-level Directory Organization

DSET products have seven Product Subdirectories located under the application's home directory. If the product directory was defined as **`cnam`**, the resultant subdirectories would be:

Table 2-7: ezCallerID Product Subdirectories

Product Subdirectory Names	Contents
/cnam/bin	Software executables that make-up the ezCallerID product.
/cnam/config	Security, IGP, and gateway configuration files. There is often a generic set of files and a set of files for a specific trading partner. The application `startup` script also resides in this directory.
/cnam/d-dir	Software executables that support the ezCallerID product.
/cnam/DATA	Stores CNAM documents in UNIX File System
/cnam/etc	Provides list of files copied to disk during this installation.
/cnam/schema	Oracle SQL scripts that create DSET databases, register the ezCallerID database schema, and perform database maintenance functions.
/cnam/www	Contains the stand-alone Java GUI that works with your Web Browser and the troubleshooting logs need to diagnose problems with the application, gateway, or security system.

Application Processes and Scripts

Subdirectories `/bin` and `/d-dir` contain the DSET ezCallerID application processes. You will use the `/bin` subdirectory to manually start and stop the ezCallerID application.

Configuration Files

These files contain the gatway, application, and security configuration set-up by the ezCallerID installation script for a specific trading partner (ILEC designated by **XXX**):

- `XXX.cnamgw.cfg`—ezCallerID gateway configuration file.
- `XXX.cnamIgp.cfg`—Defines how and where ezCallerID documents are stored by the IGP and the names/IDs used to communicate with the regional NPAC center.
- `XXX.security.cfg`—Defines what format and SAP IDs are used to implement the ezCallerID internal security agent.

CNAM Documents, Errors, and Notification Messages

The `/DATA` subdirectory contains the CNAM documents, errors, and supporting files.

Database Schemas

The `/schema` subdirectory contains SQL scripts needed to define the schemas for the CNAM document and security databases. Other scripts register the database schemas (define tables and fields) and perform maintenance functions.

Logs

Each of the ezCallerID processes read a separate configuration file to specify the actual directory where Logs are created. Figure 2-2 shows the standard directory structure for the logs. This is consistent with the `LOG_DIR` parameter specified in the configuration files of the ezCallerID processes.

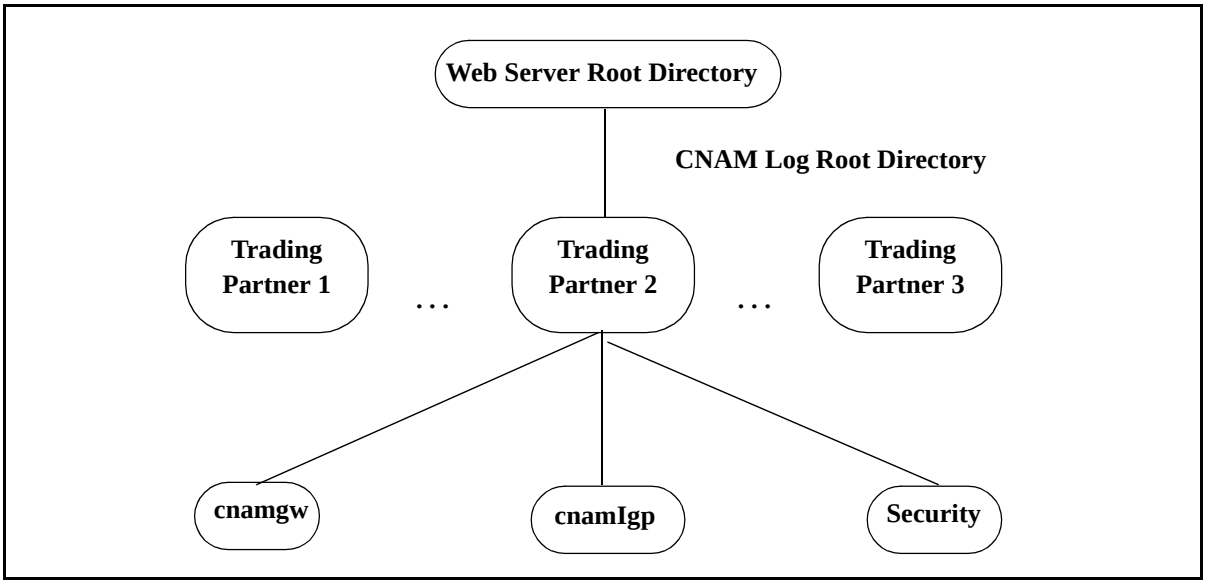


Figure 2-2: Log Directory Structure

The trading partner log subdirectories `/cnamgw`, `/cnamIgp`, and /`Security` contain CNAM document and software actions the System Administrator can use to determine that the ezCallerID application is functioning properly.

Copy ezCallerID from Distribution Media

1. Mount the DSET installation TAR tape or CD-ROM.

2. Use the `cd` command to position yourself at the Installation Directory for the ezCallerID application.

3. Starting at the top-level directory where ezCallerID will be installed, retrieve the application files from tape using the UNIX command:

   `tar xvf` *`deviceName`*

   Example: **`tar xvf /dev/rmt/1`**

   (If the tape drive number is different than 1, use the appropriate number.)

4. The terminal console should display the list of files copied to the ezCallerID home file directory:

`distList`	list of files that are in the `DSET.tar.Z` file
`cnam.DSET.tar.Z`	Contains the ezCallerID application software.
`installDSET`	Script that sets up DSET's product environment and verifies the system is ready for installing the ezCallerID before executing the `installCNAM` script.
`installCNAM`	Script that does the actual installation of the ezCallerID application.
`cnam_sm.pdf`	ezCallerID System Administration Manual in PDF format
`cnam_um.pdf`	ezCallerID User Manual in PDF Format

Run the installDSET Script

5. Verify the `PATH` environment variable includes the path to the installation files.

```
echo $PATH
```

6. Change the permissions on the two ezCallerID installation script files:

```
chmod 755 installDSET installCNAM
```

7. Run the first installation script.

```
installDSET cnam installCNAM
```

8. Immediately you receive a set of installation information and a request that asks if you want to proceed with the installation.

```
This installation should be performed by a super user.
To install DSET products, you need to select a
directory to install it. This directory should be
empty.

Also, you need to assign a DSET administrator from the
logins on this system. You will be prompted for this
DSET administrator login name later during the
installation.
The following shell utilities must be in your path: rm,
tar, df, awk, tail, fgrep, hostid, chown, chgrp,
hostname

Please make sure you are prepared for all these
requirements before you proceed with the installation.
If you decide to go on, please type 'y' at the prompt
now, otherwise type 'n' to cancel this installation and
start all over later.
```

Figure 2-3: Initial Installation Instructions

9. If you've completed the pre-installation checklist, installed all required third-party software, have at least 150 Mb of free hard disk space, and have any required Oracle databases set up, answer **Y** at the prompt.

   This script will take approximately 5 minutes to complete.

   If you typed a **Y** and do not have at least 20 Mb of free disk space for the installation, this prompt displays:

   ```
   Free disk space in ./ is less than 20MB,
   installation may fail.

   Proceed (y/n)?
   ```

   If you proceed without making 20 Mb of free disk space available, the installation may fail. To ensure correct installation, type N and remove files to free up the required disk space, then proceed with Step 7 again.

10. The installation script displays:

```
Installation of DSET product starts ...
Uncompressing the compressed tar file ...
Extracting files from tar file ...
Verifying distribution ...
Installed files have been verified.
```

11. When prompted, type the ezCallerID System Administrator User ID:

```
DSET-Admin-Login-Name(root)
```

Important!: Do **NOT** use the UNIX user ID **`root`**, use the ezCallerID System Administrator User ID (for example, **`CNAM`**) you created before installation.

12. The installation script continues to display the messages:

```
changing the file and directory ownership ...
Installation of DSET Product is complete.

The DSET administrator needs to refer to the
administration guide to set up the DSET environment
before it can be used.

An example login profile is created as:
/<ezCallerID Home Directory Name>/profile.
```

Note: The login profile pathname is `$DP_DIR/profile`.

The initial portion of the DSET product installation script is complete.

What the installDSET Script Does

The `installDSET` script performs serveral vital checks of the UNIX environment to determine if you are ready to install the ezCallerID product:

- It removes any installation files left from previous ezCallerID software installations.
- Verifies that the ezCallerID home file directory is empty.

- Ensures that the ezCallerID directories have 20 Mb of available disk space.
- Verifies that the ezCallerID System Administrator user ID (for example, **CNAM**) has super user status and the user ID's password exists.
- Unpacks the `cnam.DSET.tar.Z` file and checks to see that all files defined in the `distList` file (installation file list) exist in the ezCallerID file directories.
- Asks the user to supply the ezCallerID System Administrator User ID (for example, **CNAM**) and verifies their administrative authority.
- Creates standard DSET system directories and integrates the supplied System Administrator user ID into the product's internal security.
- Gives ownship of all installed ezCallerID application files to the System Administrator.
- Creates a sample profile file that must be supplied to all ezCallerID users.
- Removes any temporary files used during this phase of the installation.

Install the ezCallerID Application

Before you perform the third major section of the installation procedure, you need to have the information required to answer all the questions asked by the ezCallerID application install script. You will be prompted for installation options, database names, process names, and communication port numbers.

Port Numbers

Once you have decided upon the ezCallerID port numbers to use, be careful that other DSET applications such as *ez911* and *ezCallingCard* are assigned **unique** TCP/IP, HTTP daemon, and Security Agent port numbers.

If you know that you already have existing DSET applications running on the UNIX system and you want to install ezCallerID, contact the other DSET application System Administrators and determine what port numbers were assigned to each application

Table 2-8: An Example of DSET Product Port Numbers

DSET Application	Security Agent	HTTP Daemon	TCP/IP Application
ez911	6500	6501	6502
ezCallerID	6600	6601	6602
ezCallingCard	6700	6701	6702

Note: The HTTP Daemon port number is the value used to access this DSET application with the Web Browser. (See "J - Start ezCallerID Web Browser [Standalone GUI]" on page 2-54.)

Reponses for ezCallerID Installation Script

Table 2-9: ezCallerID Application Installation Responses

Response	Specific Installation Information (Installation Step)
	Oracle software and databases ready (Step 2 on page 2-34)
	CORBA/OSS or Standalone GUI (Step 3 on page 2-35)
	ezCallerID gateway process name (Step 4 on page 2-35)
	ezCallerID Security Agent process name (Step 6 on page 2-36)
	ILEC Designation (Step 8 on page 2-36)
	[**CORBA/OSS Only**] Orbix CORBA software home directory pathname (Step 11 on page 2-38)
	Oracle server v8.0.5 software home directory pathname (Step 12 on page 2-38)
	TCP/IP port number of the `ezCallerID` Gateway.. (Step 14 on page 2-39) **Note**: Default TCP/IP port number is **9999**.
	Security Agent port number for the ezCallerIDinstallation. (Step 15 on page 2-39) **Note:** Security Agent port number defaults to **1111**.
	[**CORBA/OSS only**] Remote CORBA Host Name (Step 16 on page 2-39)
	[**CORBA/OSS only**] Remote CORBA Server Name (Step 18 on page 2-40)
	Oracle ezCallerID Gateway Database Name (Step 21 on page 2-41)
	Oracle Security Agent Database Name (Step 23 on page 2-42)
	[[1]**Sometimes**] TCP/IP address of the ezCallerID Gateway Host (Step 25 on page 2-42)
	HTTP daemon port number for the `ezCallerID` installation. (Step 27 on page 2-43) **Note:** HTTP daemon port number defaults to **7117**.

1. The ezCallerID Installation Script attempts to determine the name of the ezCallerID host UNIX machine. If it is unable to automatically determine the Host Name, the System Administrator is prompted for the TCP/IP address of the host.

Run the ezCallerID Installation Script

1. Type the command:

   ```
   ./installCNAM
   ```

   The ezCallerID installation script responds by displaying:

   ```
   ######################################################################
   #    START CUSTOMIZING ezCallerID CONFIGURATION                      #
   ######################################################################
   ```

Oracle Software and Databases Installed

The script asks if you have the Oracle 8 Database Software:

```
The ezCaller Gateway installation needs ORACLE
database software to store the customer orders.

Your Oracle DBA must also create two databases before
you use the ezCallerID Gateway.

Do you have Oracle 8 software and databases installed
for ezCallerID gateway?(y/n) ...
```

2. Type **Y** to confirm that you have the Oracle 8 Enterprise Server Software (see "Oracle Server Software" on page 2-5) plus you have created the two DSET Oracle databases **CNAM** and **CNSECDB** (see "Overview - Creating Oracle DSET ezCallerID Databases" on page 2-8) **or** type **N** to stop the ezCallerID application installation. You receive this message from the installation script:

   ```
   Error: Need install the Oracle software and create the
   databases before you use ezCallerID Gateway.
   EZCALLERID GATEWAY CONFIGURATION FAILED!
   ```

CORBA OSS or Standalone GUI to Create Orders

3. The script displays the CORBA/OSS or standalone GUI software question:

```
To receive ezCallerID (CNAM) orders, the ezCaller Gateway
can communicate with a CORBA Operational Support System
(OSS) or a standalone GUI.

  * For the CORBA OSS, you must have the MetaSolv TBS
  4.0.1 software and Orbix v2.3.c software installed to
  send orders to the ezCaller Gateway.

  * If the CORBA software is not installed, DSET's stand-
  alone GUI can be used to send orders."

  ** IMPORTANT ** Contact your SYSTEM ADMINISTRATOR for
  the DSET GUI information.

  Do you want to use intergrated GUI/CORBA/TBS OSS
  solution to create CNAM orders?(y/n) ... "
```

   Type a **Y** if you have installed the Orbix™ v2.3.c software, MetaSolv's TBS software, and want to use the integrated installation configuration.

Note: The ezCallerID installation script now creates temporary copies of key configuration files that will edited as you respond to questions in the upcoming installation steps.

Define ezCallerID Gateway Process Name

4. The script displays the prompt:

```
Type the ezCallerID gateway process name [cnamgw -
default]:
```

   The value in parenthesis is the default value. You must manually type the ezCallerID gateway process name if you want to use a name other than the default.

The ezCallerID gateway process can not have the name **`cnamCorbaGw`** or **`cnamAsciiGw`**.

5. Once you type the ezCallerID gateway process name, the installation script echoes your response and requests confirmation.

```
ezCallerID gateway process name is: cnamgw
CONFIRMATION: Is this process name correct?(y/n) ...  y
```

Type **Y** to confirm the process name or type **N** to return to the prompt in Step 4 on page 2-35.

Define ezCallerID Security Process Name

6. The script displays the prompt:

```
Type the security agent process name [secAgent -
default]:
```

The value in parenthesis is the default value. You must manually type the Security Agent process name if you want to use a name other than the default.

7. Once you choose the security agent process name, the installation script echoes your response and requests confirmation.

```
security agent process name is: SecAgent
CONFIRMATION: Is this security process name
correct?(y/n) ...  y
```

Type **Y** to confirm the process name or type **N** to return to the prompt in Step 6 on page 2-36.

Define Trading Partner (ILEC)

8. The installation script next displays:

```
The ILEC_NAME identifies the name of an ILEC.
For example,
BAN may be used to identify - Bell Atlantic
SWB may be used to identify - Southwestern Bell

Type the ILEC name:  SWB
```

Type the ILEC designation you want to use.

9. Once you choose the ILEC designation, the installation script echoes your typed response and requests confirmation.

```
ILEC_NAME name you've typed is: SWB
CONFIRMATION: Is this ILEC name correct?(y/n) ...  y
```

Type **Y** to confirm the ILEC name or type **N** to return to the prompt in Step 8 on page 2-36.

Note: Figure 2-2 shows the UNIX directory structure created by the installation script, based upon the ILEC name (trading partner) specified. For example, the directory pathname for the ezCallerID logs that belong to an ILEC named SWB (Southwestern Bell) might look like: */<ezCallerID Install Directory>*/cnam/www/cnam/log/SWB/...

Define the CORBA Software Home Directory

Important!: Contact your UNIX System Administrator for the IONA Orbix directory path.

10. If you have chosen to configure the ezCallerID application to use the CORBA/OSS integrated configuration, the installation script displays the explanation:

```
IONA is a company which provides a CORBA application
-Orbix(R). To start the ezCallerID (CNAM) gateway,
you need provide the UNIX pathname of the top-level
directory for the IONA software package. Often, the
following directories are used for IONA software:

  *  /tools/iona   (default for DSET installation)
  *  /opt/iona     or
  *  /opt/iona/Orbix.X.X (where X.X is software release)

Type the complete path to the IONA Orbix top-level
directory (/tools/iona):
```

Figure 2-4: Orbix Home Directory Instructions

Type the home directory for the CORBA software produced by IONA Technologies PLC. You must manually type the home directory name.

11. Once you type the Orbix home directory, the installation script echoes your response and requests confirmation.

```
Path to IONA home is: /opt/iona/OrbixMT_2.3c
CONFIRMATION: is this correct pathname?(y/n) ...y
```

Type **Y** to confirm the Orbix software home directory pathname or type **N** to return to the prompt in Step 10 on page 2-37.

Define the Oracle Software Home Directory

Important!: Contact your Oracle Database Administrator for the Oracle directory pathname.

12. For the Oracle database to store CNAM documents and implement security, the installation script displays:

```
Type the complete pathname to the Oracle Database
home directory.

Example:/tools/oracle/app/oracle/product/8.0.5

Oracle home directory:
```

Type the home directory for the Oracle server software. You must manually type the home directory name.

13. Once you type the Oracle home directory, the installation script echoes your response and requests confirmation.

```
Path to oracle home directory is: /export/u02/oracle/
app/oracle/product/8.0.5
CONFIRMATION: is this Oracle pathname correct?(y/n)
```

Type **Y** to confirm the Oracle software home directory pathname or type **N** to return to the prompt in Step 12 on page 2-38.

TCP/IP Gateway and Security Agent Port Numbers

14. The ezCallerID (CNAM) server port number identifies the TCP/IP port for the gateway. This is the port with which the ezCallerID System Administration GUI communicates with the ezCallerID gateway. The server port number should be greater than 1024 and less than 99999.

    ```
    Type the ezCallerID (CNAM) Gateway port number[9999 -
    default]:
    ```

    Type the gateway port number for the ezCallerID application. The value in parenthesis is a sample value, not a default value. You must manually type in a port number. Refer to the guidelines in "Port Numbers" on page 2-32. If the port number is within the range of (1025 to 99998), then the installation script echoes the gateway port number.

    ```
    Gateway Server TCP/IP port number is: 6600
    ```

15. The ezCallerID (CNAM) security port number identifies the TCP/IP port where the Security Agent communicates with the gateway. The security port number should be greater than 1024 and less than 99999.

    ```
    Type the security agent port number[1111 - default]:
    ```

    Type the security agent port number for the ezCallerID application. The value in parenthesis is a sample value, not a default value. You must manually type in a port number. Refer to the guidelines in "Port Numbers" on page 2-32. If the port number is within the range of (1025 to 99998), then the installation script echoes the security port number.

    ```
    Security TCP/IP port number is: 6601
    ```

CORBA Installation Information [CORBA/OSS only]

16. If you have chosen to use the Operational Support System (OSS) with CORBA instead of the standalone GUI, you must identify the:
    - > CORBA host name
    - > Remote CORBA server name
    - > Gateway Waiting Period before extracting CNAM orders from OSS.

    The installation script prompts you with:

    ```
    The remote CORBA hostname is the machine on which the
    OSS CORBA server is running.

    Type the remote CORBA hostname:
    ```

Type the name of the host machine. You must manually type the name. There is no default.

17. Once you type the name of the host machine, the installation script echoes your response and requests confirmation.

```
Remote CORBA hostname is: paso
CONFIRMATION: Is this CORBA hostname correct?(y/n)
```

Type **Y** to confirm the CORBA host name or type **N** to return to the prompt in Step 16 on page 2-39.

18. Now you must identify the remote server name. The installation script prompts you with:

```
Remote CORBA server name is the name of the OSS API
server

Type the remote corba server name[PSRANCILLARYSERVER -
default]:
```

Type the name of the remote CORBA server.

19. Once you type the remote CORBA server name, the installation script echoes your response and requests confirmation.

```
Remote CORBA server name is: PSRANCILLARYSERVER
CONFIRMATION: is this correct?(y/n)
```

Type **Y** to confirm the remote CORBA server name or type **N** to return to the prompt in Step 18 on page 2-40.

20. Now you must select the amount of time the ezCallerID gateway waits before it extracts a CNAM order from the OSS. The installation script prompts you with:

```
The ezCallerID gateway waiting period is the time the
gateway waits before extracting an order from the OSS.
The default value is 24 hours, which equals 86400
seconds.

Type the waiting period in seconds [86400 - default]:
```

DSET suggests a waiting period of **86400** seconds (once per day). Type the number of seconds you want the ezCallerID gateway to wait before extracting a CNAM order from the OSS.

Note: You may want to set the waiting period to a shorter interval (**1200** seconds—20 minutes) during the initial testing period. Later, you can increase the waiting period by modifying the CNAM gateway configuration file.

Modify a DSET application configuration file only under the direction of DSET Customer Service personnel.

To modify the CNAM gateway configuration file (`/config/<ILEC>.cnamgw.cfg`), use a UNIX text editor (such as *vi*) and change the value in the line denoted by:

```
#Time period for the gateway extract the data from OSS
GW_SLEEP_TIME=3000
```

ezCallerID Orders and Security Oracle Database Names

Important!: Contact your UNIX System Administrator for the Oracle database name.

21. When using the Oracle server v8.0.5 to store CNAM orders (documents) information and perform security monitoring, you must now provide the installation procedure with the names of the Oracle Document Database and Security Agent Database

    ```
    The ezCallerID database is the database for customer
    order storage.

    Type the ezCallerID Oracle db name (CNAM - default):
    ```

    The value in parenthesis is the default value. You must manually type the Oracle Document Database name if you want to use a name other than the default.

22. Once you choose the ezCallerID Document Database name, the installation script echoes your response and requests confirmation.

    ```
    ezCallerID Oracle db name is: CNAM
    CONFIRMATION: Is this Oracle db name correct?(y/n) ...
    ```

    Type **Y** to confirm the Oracle Document Database name or type **N** to return to the prompt in Step 21 on page 2-41.

23. You must now provide the installation procedure with the Security Agent Database name.

```
The ezcallerID security database is the database that
contains the User IDs of the System Administrators and
Operations personnel. This database continues to
monitor all users throughout their sessions.

Type the ezCallerID Security db name (CNSECB -
default):
```

The value in parenthesis is the default value. You must manually type the Oracle Document Database name if you want to use a name other than the default.

24. Once you choose the ezCallerID Document Database name, the installation script echoes your response and requests confirmation.

```
ezCallerID Security db name is: CNSECDB
CONFIRMATION: Is this Security db name correct?(y/n)..
```

Type **Y** to confirm the Oracle Security Database name or type **N** to return to the prompt in Step 23 on page 2-42.

Host TCP/IP Address [Sometimes]

25. This step is **only needed** when the ezCallerID Installation Script **can not** automatically find the Host Name of the UNIX machine on which the DSET application is being installed. You are prompted with the text:

```
Enter the IP address of the cnam gateway host:
```

26. Once you type the TCP/IP address of this UNIX computer, the installation script echoes your response and requests confirmation.

```
The server host IP address is: 192.134.67.11
CONFIRMATION: is this correct?(y/n) ...
```

Type **Y** to confirm the Host TCP/IP address or type **N** to return to the prompt in Step 25 on page 2-42.

Build the ezCallerID Home Page

During the next phase of the installation script, the ezCallerID application HTML Home document is created automatically. As a system administrator, this is the HTML file that your Operations personnel select when they access the ezCallerID application via the HTTP port number.

For example, if your host machine name is **larry**, the HTTP Daemon Port Number (see "HTTP Daemon Port Number" on page 2-43) is **6601**, and the ILEC you are working with is Bell Atlantic North (designated as **BAN**), your operations personnel would:

Step A: Type the URL **`http://larry:6601`** in Netscape Communicator (4.61 or later) or Internet Explorer (4.15 or later) to find the ezCallerID application.

Step B: Click the HTML document file name - **`main.BAN.html`** to start the ezCallerID application.

HTTP Daemon Port Number

27. The installation script needs to configure the Web Server startup file with the HTTP Daemon Port Number. The script prompts you with the text:

```
To communicate with the ezCallerID Gateway from outside
world, you need to specify an HTTP port number. This
port number, plus the hostname, permits you to connect
to the ezCallerID gateway. Operations personnel will
use Netscape Communicator (4.6 or later) or Internet
Explorer (4.15 or later) to start the ezCallerId GUI.

This HTTP port number SHOULD BE greater than 1024 and
less than 99999.

Type the ezCallerID HTTP port number[7777 - default]:
```

    The value in parenthesis is the default value. You must type the HTTP Daemon Port Number name if you want to use a port number other than the default.

28. Once you choose the HTTP Daemon Port Number, the installation script echoes your response and requests confirmation.

```
ezCallerID HTTP port number is: 6601
CONFIRMATION: Is this HTTP port number correct?(y/n)...
```

Type **Y** to confirm the HTTP Daemon Port Number or type **N** to return to the last portion of the prompt in Step 27 on page 2-43.

Finishing the ezCallerID Installation Script

You have finished providing all the information required by the ezCallerID application installation script. Depending upon the installation configuration chosen, OSS and/or Oracle Database, the installation script attempts to automatically:

- Register the CORBA/OSS processes with the Orbix CORBA daemon.
- Register the schemas for the two Oracle databases chosen during installation.

Registering Processes with Orbix Software [CORBA/OSS only]

During this phase of the installation the script registers the ezCallerID application processes (gateway and interconnection gateway platform) with the Orbix software. You will see console messages that begin with the words:

RUNNING C_SETUP ON ...

Defining Oracle Database Schemas

The ezCallerID Document Database and the Security Agent Database need to register the database schema (structure of tables and procedures) with the Oracle software.

To register the Oracle Schemas, the two Oracle database instances must have been started and the Oracle *Listener* process must be running. If these steps (see "H- Mount the Databases" on page 2-14) **are not** done prior to the ezCallerID installation, the two databases must be started and the schemas registered manually.

When the database schemas are registered by the installation script, the console messages display as:

Explanation of registering Oracle schemas...

```
starting to register the CNAM database schema ...
PLEASE WAIT...

Register the ezCallerID gateway CNAM Oracle database
schema is done.


starting to register the CNSECDB database schema ...
PLEASE WAIT...

register the ezCallerID gateway security CNSECDB
Oracle database schema is done.
```

Great Job!

The final installation message is:

EZCALLERID GATEWAY HAS BEEN CONFIGURED SUCCESSFULLY!

followed by the post-installation instructions that are covered in the next section of this chapter.

Post-installation Tasks

Once the ezCallerID installation script completes, you want to begin checking that all elements of the ezCallerID installation are working correctly.

Table 2-10: ezCallerID Post-Installation Steps (1 of 2)

Check here...	Step	Page	Once You Have Performed this Step
❑	**A**	**2-47**	"***Source***" the CNAM User ID profile so that all application and Oracle environmental variables are set correctly for steps C and D.
❑	**B**	**2-47**	Modify the ezCallerID System Administrator's Korn Shell so that the DSET application environment variables are available.
❑	**C**	**2-48**	Ensure the DSET application environmental variables are set correctly: `$DP_DIR` - your ezCallerID root directory where the software was installed `$D_DIR` - base directory for the namemgr process to manage other processes `$IONA_HOME` [**CORBA/OSS only**]
❑	**D**	**2-49**	Ensure the Oracle environmental variables are set correctly. `$ORACLE_HOME` - installed home directory `$ORACLE_LISTENER` - Oracle network communication files `$ORACLE_USER_HOME` - Oracle's home directory for the Oracle User ID.
❑	**E**	**2-50**	Verify library paths are set-up by checking for process dependencies with the UNIX `ldd` command.
❑	**F**	**2-52**	[**CORBA/OSS only**] Verify that the Orbix process daemon is running.
❑	**G**	**2-52**	Verify that the Oracle software and the ezCallerID Oracle databases **`CNAM`** and **`CNSECDB`** are ready for online transactions.
❑	**H**	**2-53**	Start the ezCallerID application using the ezCallerID `startup` script.
❑	**I**	**2-53**	Test to see that all ezCallerID application processes are running.
❑	**J**	**2-54**	Test to see if you can login to the ezCallerID application with your Web browser as the ezCallerID System Administrator.
❑	**K**	**2-55**	Set-up a Service Center and a DownStream Interface to test the application.
❑	**L**	**2-56**	Create one or more CNAM orders (documents).
❑	**M**	**2-56**	Examine the Activity and Trace logs to verify that CNAM orders (documents) passed through the ezCallerID gateway.

Table 2-10: ezCallerID Post-Installation Steps (2 of 2)

Check here...	Step	Page	Once You Have Performed this Step
❑	**N**	**2-57**	Create a backup tape/media of the ezCallerID gateway installation once it is fully functional.
❑	**O**	**2-58**	Provide remote dial-in capacity (user level authorization is fine) so DSET customer service personnel can access all tasks within the `ezCallerID` application directory.

A- Source the Profile File

As the ezCallerID installation script finishes, it provides you the following instructions:

```
Before starting the gateway, make sure you source the
PROFILE in the ezCallerId gw home directory
(/ezConnect/home/cnam/cnam2.0.5/cnam).
```

1. This directory is in the product file directory (a subdirectory of the Installation Directory—see Figure 2-1). Type the following commands at the command prompt:

   ```
   cd $DP_DIR/cnam
   . ./profile
   ```
   (*be sure there is blank space between the periods*)

All the ezCallerID application, Oracle, and Orbix [**CORBA/OSS only**] environmental variables should be available to the application users.

B- Provide Variables to ezCallerID System Administrator

2. Locate the Korn Shell file `$HOME/.kshrc` in your UNIX home directory.

3. Using the **`vi`** text editor or other software to edit the file and add this line to the System Administrator Korn Shell. This will make the ezCallerID application variables immediately available to the administrator:

   ```
   .  <ezCallerID Installation Directory>/cnam/profile
   ```

4. Save the `$HOME/.kshrc` file.

ezCallerID Environment Variables

These are the key application and third-party environment variables. In the subsequent steps, you should display the contents of each variable to verify that it points to the correct UNIX file directory.

Table 2-11: DSET ezCallerID Application Environment Variables

Variable	Description
DP_DIR	The ezCallerID Gateway installation directory (see Figure 2-1). This is used by several application executable processes to read configuration files.
D_ DIR	The directory used as base by the `namemgr` process to maintain and keep track of ezCallerID Gateway processes.
LD_LIBRARY_PATH	The `LD_LIBRARY_PATH` should have pointers to the following software components: Oracle and IONA Orbix Libraries.
IT_CONFIG_PATH	The directory containing the CORBA software (Orbix) configuration files.
PATH	The directories to search for executables, libraries, etc. It should include `$DP_DIR/cnam/bin` and `$D_DIR/bin` so that it picks up the ezCallerID executables. If applicable, it should also include the binary libraries for the CORBA (Orbix) and Oracle software products.

C - Validate ezCallerID Environment Variables

Echo the ezCallerID environment variables to ensure that they point to the correct UNIX file directories as defined for ***your company's*** gateway.

Note: Make sure `DP_DIR` is set to directory path where ezCallerID installation scripts are located. Ensure `D_DIR` is set to the directory path of the /`d-dir` subdirectory.

5. Typing the UNIX `echo` command for each application variable should list file directories corresponding to your company's configuration for the ezCallerID gateway application. An example response should look like:

```
echo $DP_DIR
      ezConnect/home/cnam/cnam2.0.6
echo $D_DIR
      /ezConnect/home/cnam/cnam2.0.6/cnam/d-dir
echo $PATH
      /ezConnect/home/cnam/cnam2.0.6/cnam/d-dir/bin:/
      ezConnect/home/cnam/cnam2.0.6/cnam/bin:/usr/local/
      bin:/usr/bin:/usr/sbin:/ezConnect/home/e911/tools:/
      usr/ucb:/etc:/opt/iona/OrbixMT_2.3c/bin:/ezConnect/
      home/cnam/bin:.:/opt/iona/OrbixMT_2.3c/bin:/export/
      u02/oracle/app/oracle/product/8.0.5/bin
```

Note: The **$PATH** variable contains the pathnames to all application binary libraries, plus any Oracle or CORBA libraries required for your company's configuration.

D - Validate DB and CORBA Environment Variables

6. Continue to echo the environmental variables specific to the software packages used for your DSET gateway configuration.

Note: The following environment variable values are examples only. The actual file directory pathnames are specific to your company and host machine.

```
echo $IONA_HOME
      /opt/iona/OrbixMT_2.3c
echo $IT_CONFIG_PATH
      /opt/iona/OrbixMT_2.3c/cfg
echo $LD_LIBRARY_PATH
      /opt/iona/OrbixMT_2.3c/lib:/export/u02/oracle/app/
      oracle/product/8.0.5/lib
```

Note: Several of the Oracle environmental variables are developed to make creating your Oracle database **CNAM** and **CNSECDB** easier.

```
echo $ORACLE_MOUNT
      /export/u02/oracle/data
echo $ORACLE_HOME
      /export/u02/oracle/app/oracle/product/8.0.5
echo $ORACLE_TOP
      /export/u02/oracle/app/oracle/admin
echo $ORACLE_LISTENER
      /export/u02/oracle/app/oracle/product/8.0.5/network/
      admin
echo $ORACLE_USER_HOME
      /var/home/oracle
echo $ORACLE_DSET_SQL
      ezConnect/home/cnam/cnam2.0.6/cnam/schema
```

E - Verify Library Paths for Processes

Once all the environmental variables are correct, we need to make a quick check that key software processes can find all shared software library objects they need and the application has permissions to access all library files.

7. Switch to the **bin** product subdirectory (see Figure 2-2) and list all the dynamic dependencies (UNIX **ldd** command) or shared objects that would be loaded when the process file is executed.

```
cd $DP_DIR/cnam/bin
ldd secAgent
ldd cnamgw
ldd cnamIgp                <--- may use Orbix CORBA library
```

```
ldd thttpd
ldd startup
ldd ../d-dir/bin/namemgr
```

Figure 2-5 illustrates an example of the console output you see for each of the six ezCallerID application processes.

```
libdl.so.1 =>    /usr/lib/libdl.so.1
libsocket.so.1 =>        /usr/lib/libsocket.so.1
libnsl.so.1 =>   /usr/lib/libnsl.so.1
libelf.so.1 =>   /usr/lib/libelf.so.1
libclntsh.so.1.0 => /export/u02/oracle/app/oracle/
product/8.0.5/lib/libclntsh.so.1.0
libc.so.1 =>     /usr/lib/libc.so.1
libaio.so.1 =>   /usr/lib/libaio.so.1
libm.so.1 =>     /usr/lib/libm.so.1
libthread.so.1 =>        /usr/lib/libthread.so.1
libC.so.5 =>     /usr/lib/libC.so.5
libw.so.1 =>     /usr/lib/libw.so.1
libintl.so.1 =>  /usr/lib/libintl.so.1
libmp.so.1 =>    /usr/lib/libmp.so.1
```

Figure 2-5: Example Console Output from the command - **ldd cnamIgp**

If any of the library pathnames are not found, ensure the Oracle and CORBA (Orbix) library directories are included for the **$PATH** variable in `$DP_DIR/cnam/profile` file. Check with the command—`echo $PATH .`

Note: For the processes **cnamIgp** and **secAgent** you should see the Oracle binary library listed. For the **cnamgw** gateway process, you should see the Orbix library if you are using the CORBA/OSS integrated configuration.

F - Verify CORBA Software [CORBA/OSS only]

8. Test to see if the CORBA software (Orbix) process daemon is running by using the UNIX command:

   ```
   ps -ef|grep orbix
   ```

   You should see a response similar to this next line where **cnam** is the user ID, **4893** is the process ID that identifies Orbix, and **16:55:56** is the current time.

   ```
   root   307     1  0   Oct 26 ?        0:12 /opt/iona/
   OrbixMT_2.3c/bin/orbixd
   cnam  4893  4877  0 16:55:56 pts/11   0:00 grep orbix
   ```

G - Verify Oracle Databases are Started

9. Test that the Oracle ezCallerID databases are online by typing the commands:

   ```
   ps -ef|grep ora|grep CNAM     or
   ps -ef|grep ora|grep CNSECDB
   ```

   You should see a response similar to the following lines for the two Oracle databases **CNAM** and **CNSECDB**:

```
oracle  4843  1  0 16:45:13 ?  3:06 oracleCNAM (LOCAL=NO)
oracle  1078  1  0 Oct 26 ?    0:11 ora_dbw0_CNAM
oracle  1076  1  0 Oct 26 ?    0:04 ora_pmon_CNAM
oracle  1080  1  0   Oct 26 ?  0:12 ora_lgwr_CNAM
oracle  1082  1  0   Oct 26 ?  2:40 ora_ckpt_CNAM
oracle  1084  1  0   Oct 26 ?  0:13 ora_smon_CNAM
oracle  1086  1  0   Oct 26 ?  0:02 ora_reco_CNAM

oracle  1095  1  0   Oct 26 ?  0:04 ora_pmon_CNSECDB
oracle  1097  1  0   Oct 26 ?  0:00 ora_dbw0_CNSECDB
oracle  1099  1  0   Oct 26 ?  0:02 ora_lgwr_CNSECDB
oracle  1101  1  0   Oct 26 ?  2:25 ora_ckpt_CNSECDB
oracle  1104  1  0   Oct 26 ?  0:14 ora_smon_CNSECDB
oracle  1106  1  0   Oct 26 ?  0:02 ora_reco_CNSECDB
```

Figure 2-6: Example Console Output for Oracle Databases

H - Starting the ezCallerID Gateway

10. To start the ezCallerID gateway, change the current directory to the ezCallerID subdirectory containing the ezCallerID process scripts:

```
cd $DP_DIR/cnam/bin
```

11. Type this command at the prompt:

```
cnam start
```

You should see a response similar to these lines if the start command is successful.

```
Info : ./cnam invoked on pts/2 by cnam
Date : Mon Nov 1 19:04:30 CST 1999
Checking for environment variables
6640 started on gorda (pts/2) at Mon Nov 1 19:04:33 CST
1999 by cnam
```

I - Test all ezCallerID Processes

12. Ensure all six processes, **namemgr, thttpd**, **secAgent** , **startup**, **cnamIgp**, and **cnamgw** are active.

13. Type the command at the console:

```
ps -ef | grep cnam
```

Note: You may see some “extra” processes that belong to the owner **cnam**, but these are the ones required for the ezCallerID gateway application to run.

```
cnam  7345  7343  0 19:32:58 pts/2    0:00 /ezConnect/
home/cnam/cnam2.0.6/cnam/d-dir/bin/namemgr
```
<Name Manager>

```
cnam  7357  7343  0 19:33:08 pts/2    0:00 /ezConnect/
home/cnam/cnam2.0.6/cnam/bin/thttpd -p 6601 -d /
ezConnect/home/cnam/
```
<HTTP Daemon>

```
cnam  7355  7343  1 19:33:08 pts/2    0:00 /ezConnect/
home/cnam/cnam2.0.6/cnam/bin/secAgent -p /ezConnect/
home/cnam/cnam2.
```
<Security Agent Process>

```
cnam  7343     1  0 19:32:58 pts/2    0:00 startup /
ezConnect/home/cnam/cnam2.0.6/cnam/config/
ILLUMINET.cnam.startup
```
<Startup Process>

```
cnam  7356  7343  1 19:33:08 pts/2    0:00 /ezConnect/
home/cnam/cnam2.0.6/cnam/bin/igpAgent ILLUMINET
```
<IGP Process>

```
cnam  7359  7343  1 19:33:08 pts/2    0:00 /ezConnect/
home/cnam/cnam2.0.6/cnam/bin/cnamgw 20 ILLUMINET
```
<cnamgw Process>

J - Start ezCallerID Web Browser [Standalone GUI]

If you are not using the TBS software from MetaSolv or another Operation Support System (OSS), then you must perform major steps J and K to send a test CNAM order (document) through the ezCallerID gateway application.

For example, if your host machine name is **larry**, the HTTP Daemon Port Number (see "HTTP Daemon Port Number" on page 2-43) is **6601**, and the ILEC you are working with is Bell Atlantic North (designated as **BAN**), your operations personnel would:

14. Type the URL **`http://larry:6601`** in Netscape Communicator (4.61 or later) or Internet Explorer (4.15 or later) to find the ezCallerID application.

15. Click the HTML document file name - **`main.BAN.html`** to start the ezCallerID application.

Note: An alternative method to access the application is to specify the TCP address, the port number, and the HTML document in one command:
http://*IP_addr_of_CNAMGW_host***:***web_port_number***/main.***trading_partner_name***.html**
Example: **http://38.254.200.10:6601/main.BAN.html**

K - Set-up a Service Center and DownStream Interface

Sign-on as the ezCallerID System Administrator

16. Follow the procedure in "Login to ezCallerID" on page 3-1 of the Defining Users and Privilege Levels chapter to establish yourself as the System Administrator of the ezCallerID application (with access to all operations)

Use one of the default user IDs and passwords defined for the ezCallerID application.

User ID	Password
s-adm00	SEC-ADM1
n-adm10	NET-ADM1

Create Service Center

Create a Service Center (trading partner) to which you will send CNAM orders (documents).

17. Follow the procedure in "Creating a New Service Center" on page 4-1 of the Communicating with Service Centers chapter.

Set-up Downstream Interface

To effectively test the ezCallerID application gateway to see if documents are transmitted and acknowledgements (or error messages, heaven forbid!) received, we need to set the gateway parameters.

18. Using the created Service Center number (The ezCallerID application uses only one service center. Its account number is 111111), follow the procedures in "Creating the DownStream Interface" on page 4-5 and "DownStream Frequency Details" on page 4-15.

19. For test purposes only, set the DownStream Frequency to be **Periodic** and set it for **180** seconds.

L - Create CNAM Orders (documents)

You can create CNAM documents using the standalone DSET GUI or the MetaSolv TBS software.

20. Refer to Chapter 3 of the *ezCallerID User's Manual* to create CNAM documents.

M - Verify Orders Sent through Gateway

To verify the ezCallerID application worked correctly for your CNAM order, you need to examine two ezCallerID log files. Use Figure 2-2 as a guide to locating the correct directory where the log files are stored. You can refer to Chapter 5, Maintenance and Troubleshooting to see how to use the DSET stand-alone ezCallerID GUI to view the log files with a Web Browser.

Important!: Our strategy requires two steps: (1) Examine one log to verify that the CNAM document was successfully created and (2) view another log to ensure it went through the gateway successfully.

Assuming that we do not have a web browser available, we will access the log files directly using UNIX commands.

21. Find the top-level log directory for this ILEC (trading partner).

    cd $DP_DR/<*Install_Dir*>/cnam/www/cnam/log/<*ILEC name*>

22. Switch to the gateway log directory with the command:

    cd CnamIgp

23. Select the Activity Log for the date you created the CNAM order.

    An example log for documents (plus other application activity) August 10, 1999 would be found in the file with the name: CNAMActivity.19990810

24. Display the log file contents and look for this pattern to indicate order (document) information:

```
----- IGP agent: New Document Received ... Data = ----
IgpMessageData OCT_STR len=282
" MESSAGE  cNamCreate  {
transid 3,
authkey "1111111111",
source "n-adm10",
dest "",
octnum "111111",
npa "972",
nxx "312",
line "1112",
recType "2",
recSType "00",
tType "I",
pIndicator "A",
cName "John Doe",
ocn "1111",
bsp "    ",
rao "222",
effdate "081199"
} ",
```

Figure 2-7: Portion of the Activity Log

25. Display the contents of the gateway trace log that corresponds to the document creation date. An example log for August 10, 1999 would be found in the file with the name: `CNAMActivity.19990810`.

```
cd Cnamgw
```

N - Backup Installation Directories

26. Once you have verified correct operation of the ezCallerID application, use these UNIX commands to create a backup of the DSET product installation on external media:

```
cd $DP_DIR
tar cvf /dev/rmt0 /cnam <--- use tape on /dev/rmt0
```

O - Setup DSET Customer Service Dial-in Procedure

Set-up remote access for the **cnam** User ID that governs the ezCallerID application. DSET customer service personnel may need to dial-in and check the processes,view log files, and interpret key error messages to provide timely technical support.

Ensure that the **cnam** user ID has write access to the Product subdirectories (see Table 2-7) under the ezCallerID installation directory.

What to Do Next

After you start the ezCallerID, the Privilege Levels and User IDs need to be defined. Proceed to *Chapter 3, Defining Users and Privilege Levels*.

If the ezCallerID application does not successfully send a document through the gateway, begin using the problem determination procedures in *Chapter 5, Maintenance and Troubleshooting.*

Uninstalling the ezCallerID Application

You can uninstall ezCallerID by deleting all the files in the top-level `cnam` installation directory.

1. Change to the installation directory with the command: `cd $DP_DP`

2. `rm -rf $DP_DIR`

   Example: **`rm -rf cnam2.0.6`**

This command removes all files and subdirectories without prompting the System Admninistrator. Use it when you are preparing to install an upgraded version of the ezCallerID application.

Note: The **rm** command has no impact on the CNAM customer orders stored in the Oracle CNAM database or the User IDs and privilege levels stored in the Oracle **CNSECDB** datbase.

Defining Users and Privilege Levels

This chapter provides instructions for setting up User IDs and defining application Privilege Levels.

Getting Started

The next pages show you how to login to the ezCallerID user-interface.

Login to ezCallerID

1. Start your Internet Browser and type the ezCallerID URL.

Note: Your system administrator will provide the full URL and directory pathname in the format: `http://`_(*host name*)_`:`_(*HTTP port number*)_

The *host name/IP address* is the name or IP address of the machine on which the ezCallerID application is running. The *http port number* is the port number the browser uses to access the software.

You may want to bookmark this URL in your Internet Browser so that you can quickly access the ezCallerID application.

My ezCallerID URL is:

The Web Browser displays the Index Of directory links as shown in Figure 3-1.

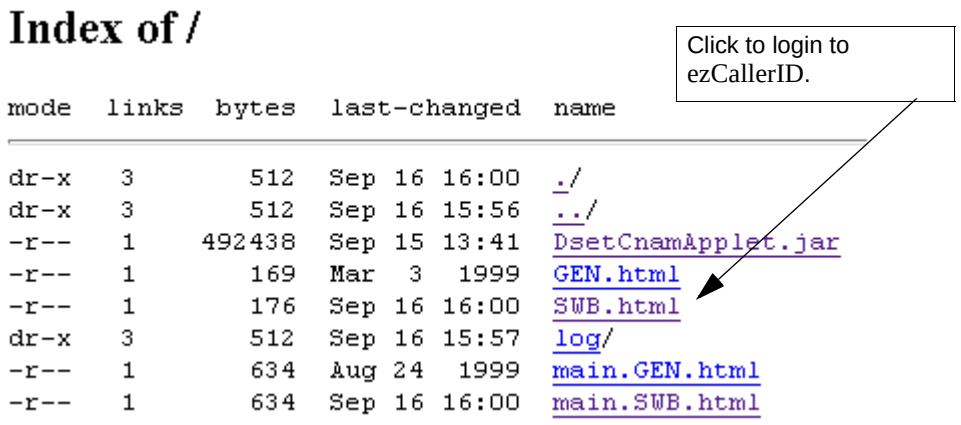
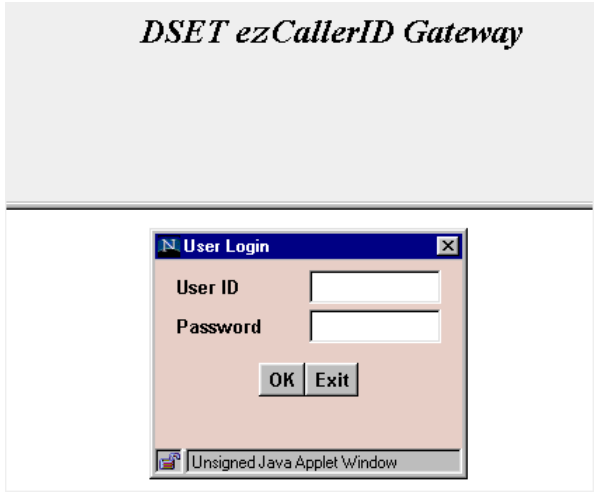


Figure 3-1: The Index of Directory in the Web Browser window

2. When the Browser displays the Index information, click the underlined text **SWB.html**.

   The ezCallerID Clearinghouse window displays and the User Login dialog window displays as a temporary “pop-up” window. This is shown in Figure 3-2.



User Login window that pops-up.

Figure 3-2: The ezCallerID window

Figure 3-3: User Login window

3. Type your User ID and password in the User Login window as shown in Figure 3-3.

   These parameters are case sensitive. (Service Representatives get their initial password from the System Administrator. System Administrators, see the *Default User IDs and Passwords* section of the System Administration manual.)

4. Click **OK**.

Figure 3-4 shows the Login Response window displaying a warning to unauthorized individuals.

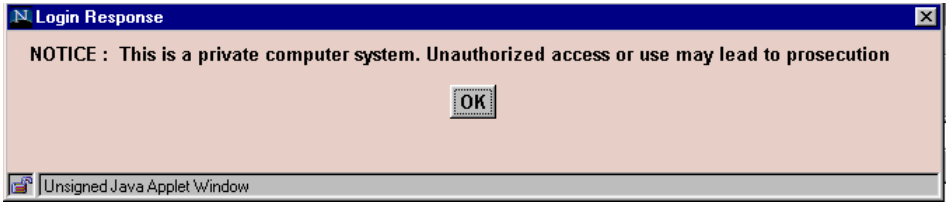


Figure 3-4: Login Response window

5. Click **OK**.

   The ezCallerID Console window displays in Figure 3-5. This is the primary window where you specify commands for the ezCallerID.

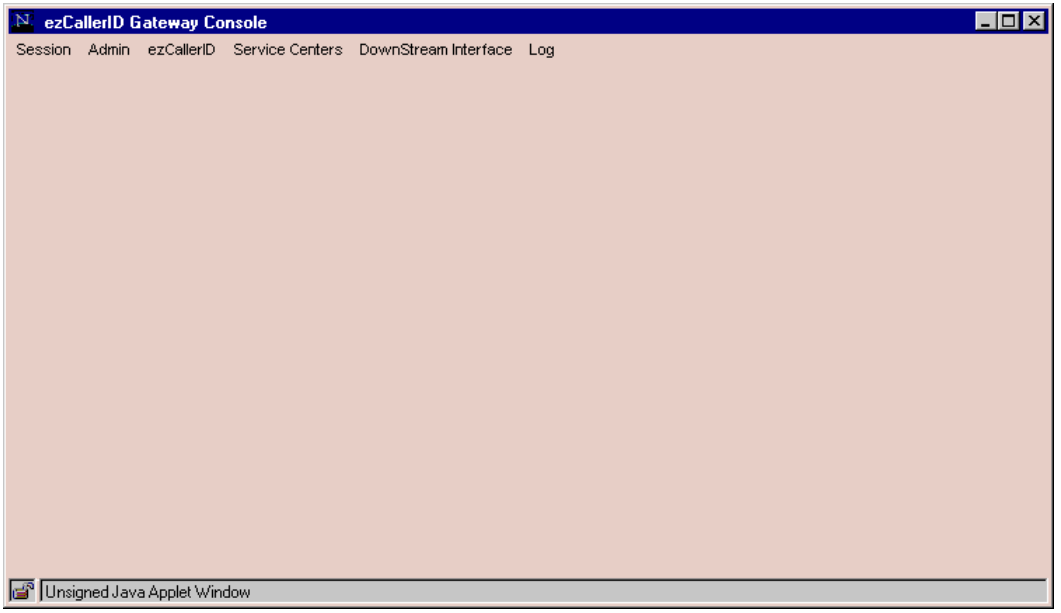


Figure 3-5: ezCallerID Console window

Choosing Acceptable Passwords

The first time you login to the ezCallerID, you should change your password. You want to choose a password that you can easily remember and that other people have great difficulty guessing.

Rules for passwords

Your ezCallerID passwords must adhere to these rules:

- All passwords must begin with a letter (A-Z, a-z).
- All passwords are eight characters in length.
- Passwords are case-sensitive. Passwords `kjones3*` is not the same as `Kjones3*`.
- Passwords must contain at least one number (0-9).
- Passwords must contain one special character (`!`, `@`, `#`, `$`, `%`, `-`, `&`, `*`, `>`, or a space.)

An example of an acceptable password is `kjones3*.`

The passwords `kjones22`, `kjones*@`, and `kjones` are unacceptable.

Note: If you receive the error message shown in Figure 3-6, the User ID you attempted to use, is already in use by another Service Representative.

Figure 3-6: User ID Login Error Message

Modifying Passwords

To change your Password:

1. Select the **Admin > User Menu > Modify Password** command on the cascading menus.

   The User Password Modify window displays as in Figure 3-7.

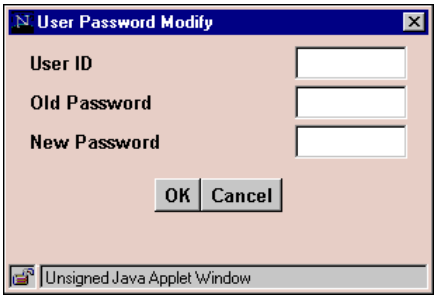


Figure 3-7: User Password Modify window

2. Type the User ID.

3. Type the current password in the **Old Password** field.

4. Type the new password in the **New Password** field. See "Choosing Acceptable Passwords" on page 3-5 for password requirements.

5. Click **OK.**

   A confirmation window displays indicating a successful password change.

6. Click **OK** to close the window.

Exiting the ezCallerID

1. Select **Session > Exit**.

   The Logout confirmation window displays as in Figure 3-8.

Figure 3-8: Logout Window

2. Click **Yes** to close the ezCallerID Console primary window.

Organization of Menu Commands

Most ezCallerID commands are accessed using the menu bar and its subordinate menu commands.

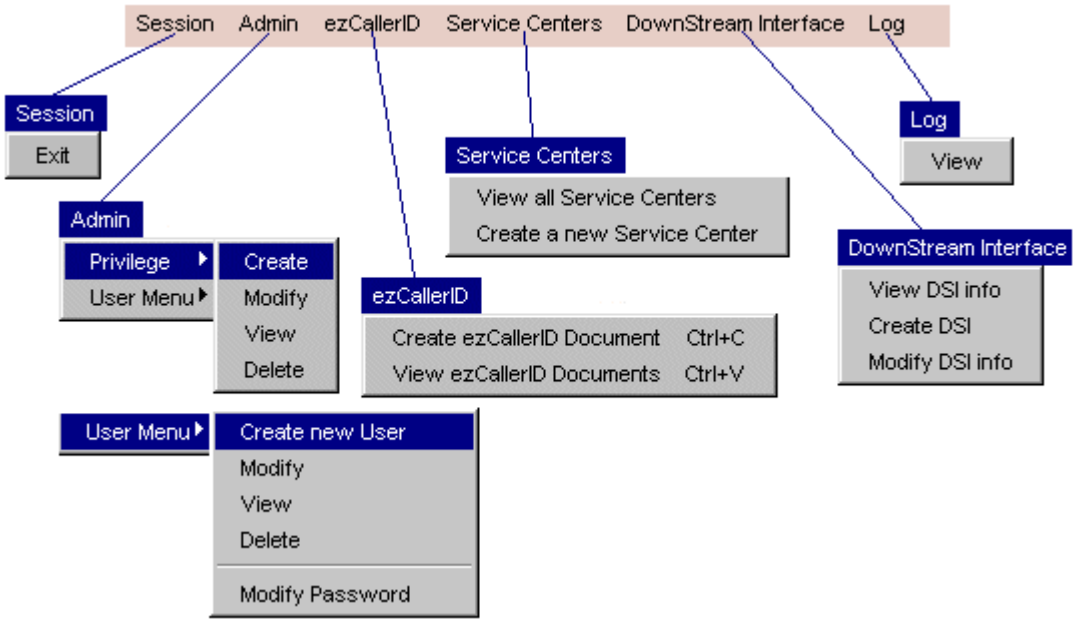


Figure 3-9: ezCallerID Menu Commands

Some commands are reserved for the System Administrator and other specific users. All commands under the Admin menu are reserved for some of these User IDs.

Note: If a menu command is “grayed-out”, your User ID does not have privileges to perform this command. If your User ID needs to perform a function, contact your ezCallerID System Administrator and inform the individual that the Privilege Level assigned to your User ID is incorrect.

The Service Center

A Service Center is the communication link between you and the Line Information Database (LIDB). It is needed to port (exchange) telephone number information. It works similar to an electronic mail box. You use DSET's ezCallerID to request changes to a customer's caller ID information and the request is manually sent (via email) to a Service Center. The Service Center is a hub for the clearinghouse to confirm data with the LIDB and transfer the information back to the CLEC.

Only the System Administrator can create a Service Center; however, you can display information about it.

For assistance with logging into ezCallerID, see "Login to ezCallerID" on page 3-1.

Viewing the List of Service Centers

You can display a list of all Service Centers. This information cannot be changed.

1. Select **Service Centers > View all Service Centers**.

   A list of all Service Centers display as shown in Figure 3-10.

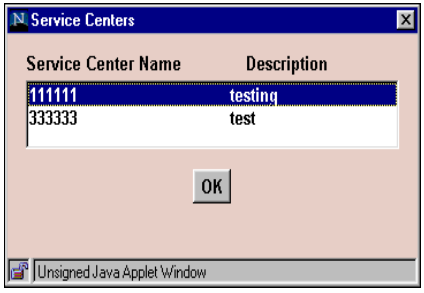


Figure 3-10: Service Centers Window

2. Double-click the text of the Service Center.

   The Service Centers window displays, as shown in Figure 3-11.

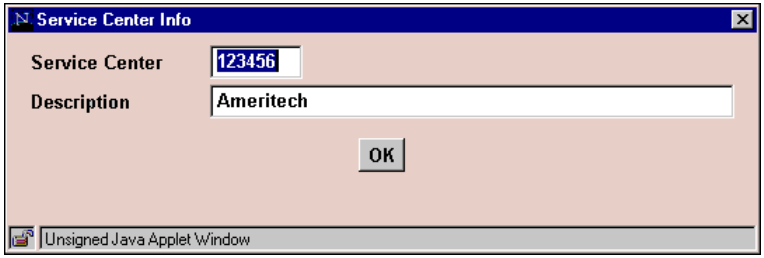


Figure 3-11: Service Center Info window

The Service Center number and its description display. This information is view-only.

3. Click **OK** to close the windows.

Viewing the Data Transfer Schedule

As a user who creates, deletes, and modifies customer LIDB records, you do not control the portion of the software that decides when to transmit customer records to the Service Centers and when the ezCallerID receives notification or error messages in return.

Consult your ezCallerID System Administrators regarding the days and times that ezCallerID information is transferred between your computer and the Service Centers. Only these individuals can actually change the data transfer schedules.

You have the ability (privileges permitting) to see how often the DownStream Interface (DSI) transfers data.

1. Select **DownStream Interface > View DSI Info**.

   The Get DSI Info window displays as shown in Figure 3-12.

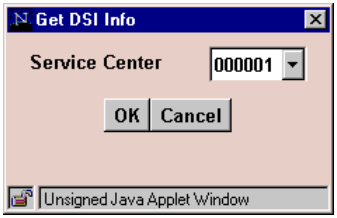


Figure 3-12: Get DSI Info window

2. Select the appropriate Service Center from the drop-down selection list in the **Service Center** field.

3. Click **OK**.

   Figure 3-13 illustrates the resulting DSI Info window that displays.

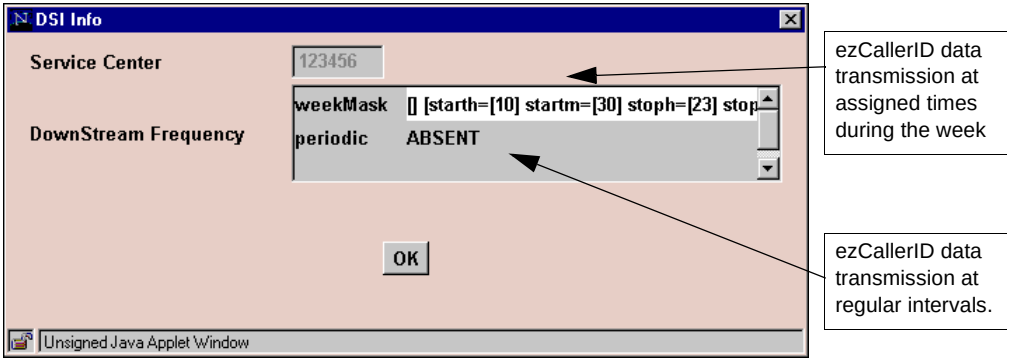


Figure 3-13: DSI Info window
See UNRESOLVED XREF for field descriptions.

4. Click **OK**.

   If you want to view the data transfer times, you will examine the details of the DownStream Frequency information

DownStream Frequency Details

You can view the DownStream frequency for when the system checks for new ezCallerID documents.

It can be set to:

- Specific times on selected days of the week
- A constant time interval between data transfers.

WeekMask

This data transfer schedule specifies the actual times (starting and stopping) when the ezCallerID performs the operations. Each day has its own schedule.

1. Hold down the **<Shift>** key and click the weekMask field to select it.

2. To view the Frequency schedules that control when the transmission of ezCallerID orders happen, double-click the WeekMask Frequency text with the white background.

The WeekMask window displays, as shown in Figure 3-14.

Note: Only the System Administrator can change the DownStream Frequency information.

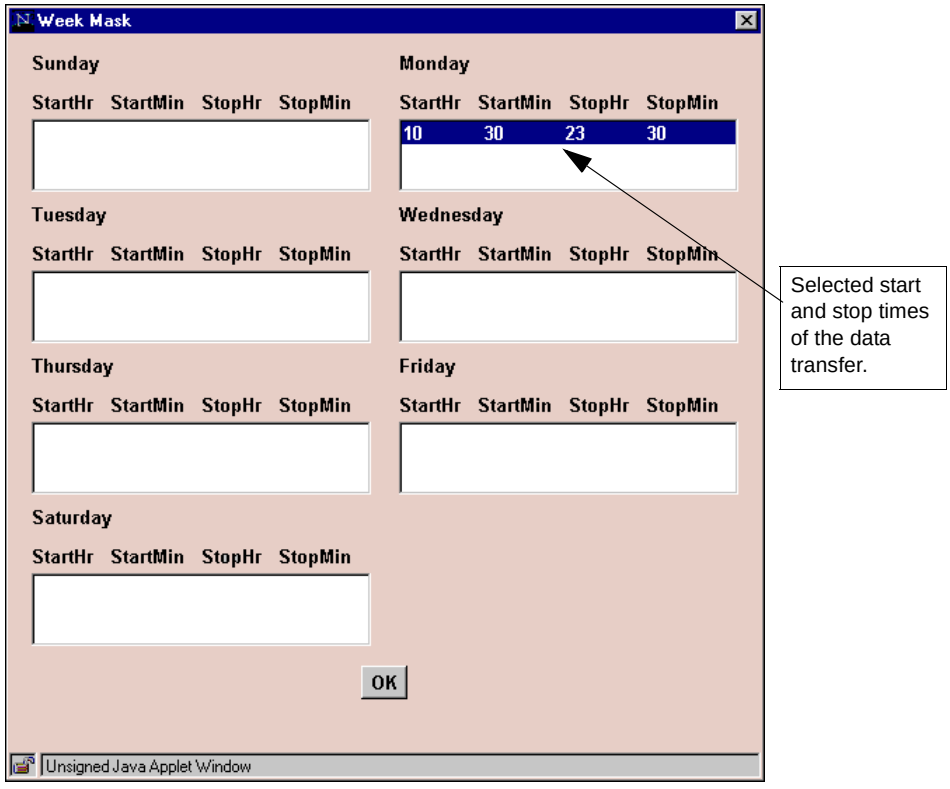


Figure 3-14: Week Mask window
See UNRESOLVED XREF for field descriptions.

3. Select the text line under the day of the week by clicking.

4. Double-click on a text line to view the start and stop transmission/reception times.

   The Intervals of Day window displays in Figure 3-15.

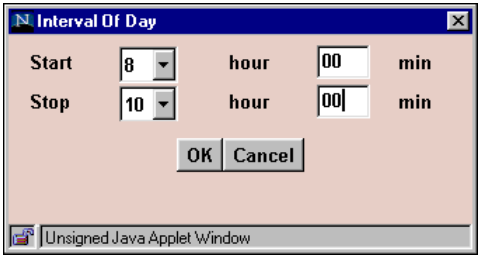


Figure 3-15: Interval of Day window
See UNRESOLVED XREF for field descriptions.

c. Click **OK** to close the Interval of Day window.

Periodic

This option controls the transfer of ezCallerID documents by time interval.

1. Hold down the **<Shift>** key and click the periodic line to select it.

2. If you double-clicked the Periodic Frequency, (see Figure 3-13) the Interval window displays, as shown in Figure 3-16.

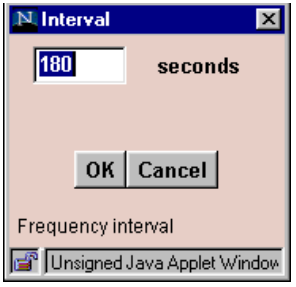


Figure 3-16: Interval window

These Frequency settings tell the ezCallerID to transfer data every *n* seconds.

3. Click **OK** to exit the windows.

ALL BELOW HERE IS SYSTEM ADMIN PRIVILEGES INFORMATION FROM THE CHAPTER

Default System Administrator User ID and Passwords

When you installed ezCallerID, two User IDs and passwords with System Administrator Privilege Level zero were defined, All USer IDs and Passwords are case sensitive, For mor information on Passwords, see "Choosing Acceptable Passwords" on page 3-5.

Table 3-1: Default User IDs and Passwords

User ID	Password
s-adm00	SEC-ADM1
n-adm10	NET-ADM1

Navigation

This illustration may assist you with finding your way around tin the ezCallerID.

Figure 3-17: Navigation for ezCallerID

Privilege Levels

Users are entered into the system based on the privilege level determined by the administrator. The administrator determines which functionality is enabled for each privilege level. For example, privilege level 1 may have view-only permission for the entire system. Users at this level are unable to enter any data or save any material. Similarly, a user with privilege level 6 may have edit and save permissions for any files in the system.

Operation Codes

The administrator creates privilege levels based on the Operations Codes. Each menu option in the GUI is assigned an Operation Code as shown in the Privilege Operation Codes Table. The administrator can assign as many Operations Codes to a privilege level as necessary.

When users login to the ezCallerID, they are only able to perform those functionalities that are listed in their privilege level. Any GUI operation not included in their privilege level is disabled and the menu option is inaccessible.

Table 3-2 lists the Operation Codes and their associated menu ocomman.

Table 3-2: Privilege Operation Codes (1 of 2)

Code	Operation Description
-1	All
100	Privilege Level Create
101	Privilege Level Modify
102	Privilege Level View
103	Privilege Level Delete
104	User Create
106	Modify User Privilege Level
107	User View
108	User Delete

Table 3-2: Privilege Operation Codes (2 of 2)

Code	Operation Description
112	Account Info View
113	Account Create
114	DSI Info
115	DSI Create
116	DSI Info Modify
117	Activity Log
120	ezCallerID Create
121	Get ezCallerID Documents Data

Factors to Consider

Since you are determining each person's authority in the ezCallerID, consider what each person does in their daily job. Do you want a Service Rep. changing upload schedules which could effect the entire system's processing?

Also, decide who will be correcting ezCallerID document errors and who will be checking for confirmation messages. Is it your job or the Service Reps. job to check the Logs and be the first line of defense for errors that show there?

Privilege Level Sample

Here is a sample of Privilege Level and Operations Code settings that you may find useful.

Table 3-3: Privilege Level Sample (1 of 2)

Operation Code	User Type/Title	Privilege Operations
0	**System Administrator**	**All** operations are selected. This is done automatically during installation
1	**System Administrator Assistant**	Select all operations.

Table 3-3: Privilege Level Sample (2 of 2)

Operation Code	User Type/Title	Privilege Operations
2	**Manager**	Select most of the operations. Do not select: DSI Info Create, DSI Info Modify, and Account Create
3	**Supervisor**	Select: View Confirmation Data, View Outstanding Error Data, View Account Info, DSI Info View, Request Activity Log, Create E911, View SOI Documents Data
4	**Senior Service Reps**	Select: View Confirmation Data, View Outstanding Error Data, View Account Info, DSI Info View, Request Activity Log, Create E911, View SOI Documents Data
5	**Service Reps.**	Select: View Confirmation Data, View Outstanding Error Data, View Account Info, View SOI Documents Data

Creating Privilege Levels

The administrator can create new privilege levels by assigning specific operations to each privilege level.

1. Select **Admin > Privilege > Create**.

   The Privilege Level window displays as shown in Figure 3-18.

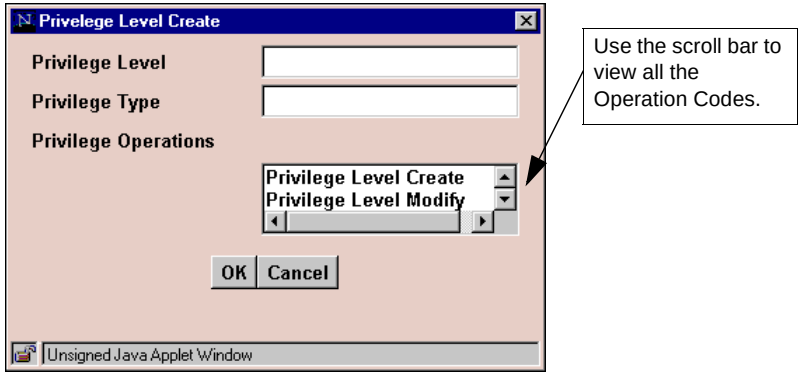


Figure 3-18: Privilege Level Create window
See for field descriptions.

2. Type the Privilege Level number. (zero is already done for you)

3. Type a brief description of the privilege level in the **Privilege Type** field. This field accepts up to 100 alphanumeric characters.

4. Select each operation from the list.

5. Click **OK**.

   The Operation Response window displays, indicating that the operation was successful.

6. Click **OK**.

   Repeat these steps for each Privilege Level.

Users with Privilege Level 0 (or a Privilege Level that permits deleting or modifying other ezCallerID users' profiles) can delete or change the ezCallerID Administrator's profile.

Users with a Privilege Level 0 (or a Privilege Level that permits them to delete or modify Privelege Levels) can delete or change all the privilege levels,including Privilege Level 0.

What to Do Next

Once all the Privilege Levels are determined, you associate Privilege Levels to User IDs. See *Creating a User ID and Assigning a Privilege Level* on page 3-24.

Modifying the Operations Code of a Privilege Level

1. Select **Admin > Privilege > Modify**.

   The Privilege Level Modify window appears as shown in Figure 3-19.

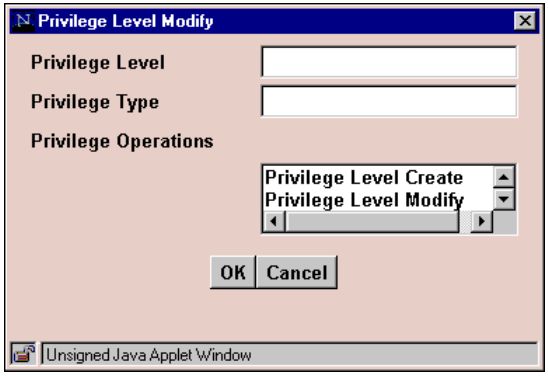


Figure 3-19: Privilege Level Modify window
See for field descriptions.

2. Enter the Privilege Level and description.

Note: The operations added to the existing Privilege Level will not display, you must recreate the level.

3. Choose each operation.

4. Click **OK**.

   The Operation Response window appears, indicating that the operation was successful.

5. Click **OK**.

Viewing All Privilege Levels and Details

This function allows the administrator to view the Operations Codes associated with each Privilege Level.

1. Select **Admin > Privilege > View**.

   The Privilege Level View window displays with a list of all privilege levels.

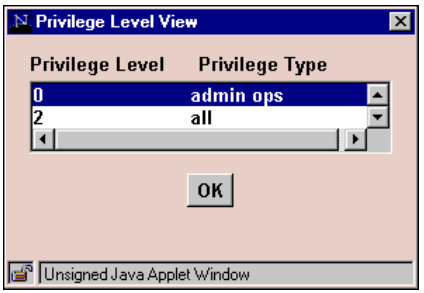


Figure 3-20: Privilege Level View window

2. Double-click the privilege level.

   The Privilege Level View Response window appears aas shown in Figure 3-21.

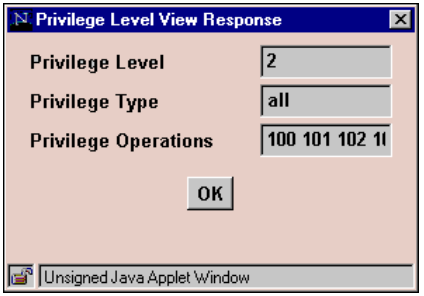


Figure 3-21: Privilege Level View Response window
See for field definitions.

The Privilege Level Details window is read-only, you cannot edit the fields. See Table 3-2 on page 3-17 for a description of Operation Codes.

3. Click **OK** to close the windows.

Deleting Privilege Levels

The administrator can also delete privilege levels that are no longer needed.

1. Select **Admin > Privilege > Delete**.

   The Privilege Level Delete window displays.

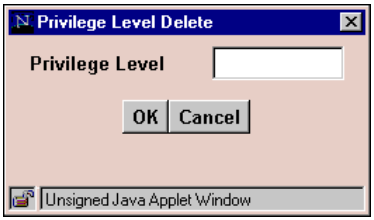


Figure 3-22: Privilege Level Delete window

2. Type the Privilege Level being deleted.

3. Click **OK**.

   The Operation Response dialog box displays, indicating that the operation was successful.

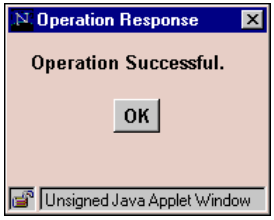


Figure 3-23: Operation Response window

4. Click **OK**.

5. Click **OK** to close the window.

Creating a User ID and Assigning a Privilege Level

Now that the Privilege Levels are established, you can create a User ID and associated it to a Privilege Level.

1. Select **Admin > User Menu > Create New User**.

   The User Create window displays.

Figure 3-24: User Create window

2. Type the User ID.
3. Type the privilege level for this user in the **Privilege Level** field.
4. Click **OK**.

   The Operation Response window displays, indicating that the operation was successful.

5. Click **OK** to close the window.

Changing Passwords

When the System Administrator creates a User ID and assigns a Privilege Level, the User ID password defaults to **LNP-SMS1**. Only the System Administrator should use this password, assign a different password immediately and ask the User to change it to a private password..

Password Requirements

All passwords must begin with a letter and be eight characters. Passwords must also contain one number and one special character. Available special characters are !, @, #, $, %, -, &, *,> and a space.

For Example: kjones3*

Follow these procedures to change a Password:

1. Click **Admin > User Menu > Modify Password**.

   The User Password Modify window displays.

2. Type the User ID.

3. Enter the current password in the **Session Password** field.

4. Enter the new password in the **New Password** field. See above for password requirements.

5. Click **OK.**

   A window displays indicating a successful change.

6. Click **OK** to close the window.

User Forgets A Password

When Service Representatives forget passwords, you cannot use the ezCallerID to look up the password corresponding to the User ID.. Instead, you modify the password by deleting the User ID's account and recreating the User ID with the default password. Then the user can log in and modify the password according to suggestions. (See "Choosing Acceptable Passwords" on page 3-5.)

Modifying the Privilege Level Assigned to a User ID

The Administrator can modify the privilege level of a user.

1. Select **Admin > User Menu > Modify**.

   The User Modify window appears.

Figure 3-25: User Modify window

2. Type the User ID.
3. Type the new privilege level.
4. Click **OK**.

   The Operation Response window appears, indicating that the operation was successful.
5. Click **OK** to close the window.

Viewing All User IDs and their Privilege Levels

The Administrator can view a list of all users who are established within ezCallerID.

1. Select **Admin > User Menu > View**.

   The User View window appears.

Figure 3-26: User View window

2. Click **OK**.

The User View Response window provides a list of all User IDs, as shown in Figure 3-27.

Figure 3-27: User View Response window

3. To view more User ID details, select and double-click a User ID.

   The User View Response window appears.

4. Click **OK** to close the window.

Deleting a User ID

The System Administrator privilege can delete a user from the application. Once a user ID is deleted, it must be re-created before that user can access the application again.

1. Select **Admin > User Menu > Delete**.

   The User Delete window appears.

Figure 3-28: User Delete window

2. Type the User ID.

3. Click **OK** twice.

Communicating with Service Centers

This chapter describes how to create Service Centers and configure the communication link between you and the UNIX File System (UFS).

Creating a New Service Center

Note: When you create a new Service Center, the corresponding DownStream Interface (DSI) information must also be created before it will work.

1. Select **Service Centers > Create a New Service Center.**

   The Create Service Center window displays, as shown in Figure 4-1.

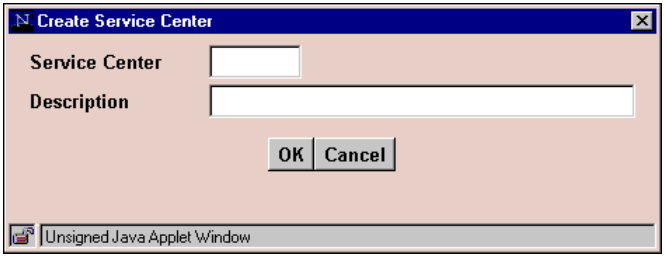


Figure 4-1: Create Service Center window

2. Type the Service Center abbreviation in the **Service Center** field. This can be up to 6 digits.

3. Type the full name of the Service Center in the **Description** field. This can be up to 100 alphanumeric characters.

4. Click **OK**.

   The Operation Response window displays, indicating your change was successful.

5. Click **OK** to close the window.

6. Next, you must create the DownStream Interface (DSI), skip to ***

Viewing All Service Centers

1. Select **Service Centers > View all Service Centers**.

   The Get Service Centers window appears.

2. Click **OK**.

   The Service Centers window displays a list of all Service Centers, as shown in Figure 4-2.

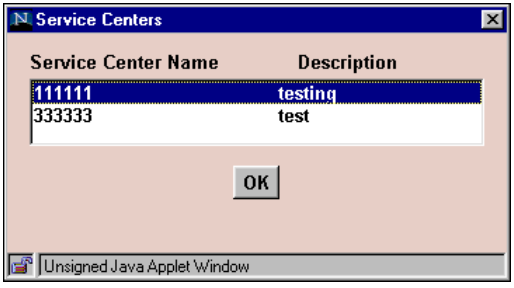


Figure 4-2: Service Centers window with a list of all Service Centers.

3. Double-click a Service Center for more detail.

   The Service Center Info window displays.

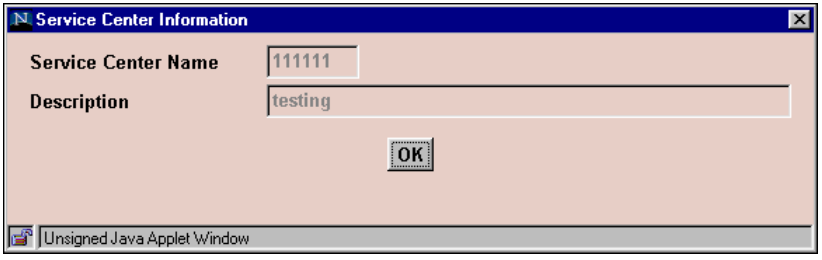


Figure 4-3: Service Center Info window

4. Click **OK** to close the windows.

Deleting a Service Center

Once a Service Center is created, it cannot be deleted.

DownStream Interface (DSI)

The DownStream Interface (DSI) is used to transfer the ezCallerID documents to the Service Center for processing. DSI information must be established for each Service Center.

Scheduling Sending and Receiving Data

When you set up the DSI, you are defining how often you want the ezCallerID to *retrieve* information from the Service Center and how often you want the ezCallerID to *send* information to the Service Center. There are two ways you can set up receiving and sending data:

- Indicate a set time for uploads or downloads to occur each day. This is called a Week Mask Schedule.
- Indicate when uploads and downloads should occur throughout the day at timed intervals. This is called a Periodic Schedule.

UpStream Frequency refers to the upload of data from the Service Center to the ezCallerID.

DownStream Frequency refers to the download of data from the ezCallerID to the Service Center.

Factors to Consider

Downloading and uploading information causes traffic on your network. To minimize traffic and enhance performance, you should download and upload information only when necessary.

For instance, if your service representatives cannot process more than four ezCallerID requests in an hour, you should not have a periodic download set up to occur every 15 minutes. Also, if the Service Center only sends ezCallerID responses at 8:00 a.m. and 2:00 p.m., you should not set a daily upload to occur at 7:00 a.m. and 1:00 p.m.

Creating the DownStream Interface

Creating the DownStream Interface involves entering many pieces of information.

- DownStream Frequency - Start and Stop by Days or by Periods
- Up Stream Frequency - Start and Stop by Days or by Periods

We created a procedure for each piece of information you need. Follow these procedures in sequence.

1. *Opening the Create DSI Information Window*
2. *Entering UpStream Frequency*
3. *Entering DownStream Fequency*

Once you enter all the information on the Create DSI box, you will click **OK** and create the DSI.

Note: You must create the Service Center before you can create DSI information.

Opening the Create DSI Information Window

1. Select **DownStream Interface > Create DSI**.

   The Create DSI window appears, as shown in Figure 4-4.

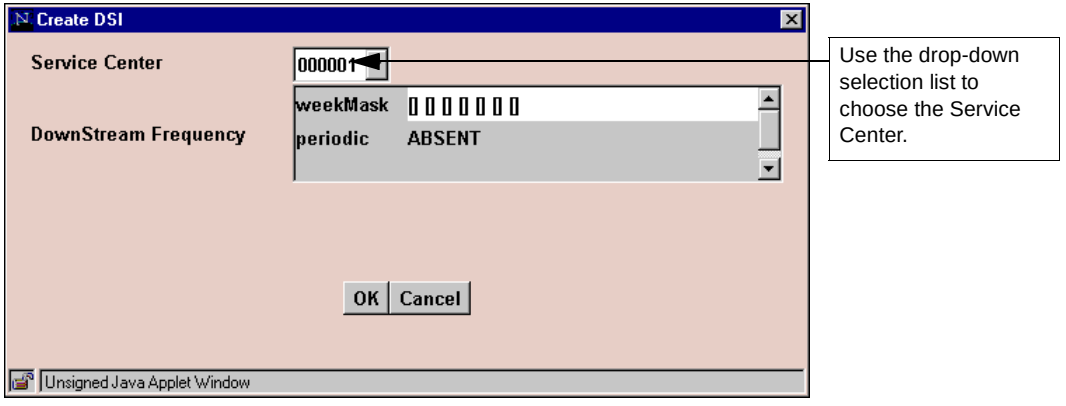


Figure 4-4: Create DSI window
See for field descriptions.

2. Select the Service Center from the pull-down menu in the **Service Center** field.

3. Next, you schedule the DownStream and UpStream transmission frequency. You can choose to trasnmit by Day or by Time. This determines how often information is transferred to and from the Service Center.

Entering DownStream Fequency

This determines how often documents are sent to the Service Center.

Note: You can schedule the DownStream to occur daily or by a time period, Not Both. Decide which method to use, then see below for directions.

For Daily Schedule:

1. From the Create DSI window, (see Figure 4-4) double-click the white space next to WeekMask in the DownStream Frequency field. If there is no white space, hold the **Shift** key and click the WeekMask line. This makes the WeekMask active, now you can double-click the white space.

   The Week Mask window displays, as shown in Figure 4-5.

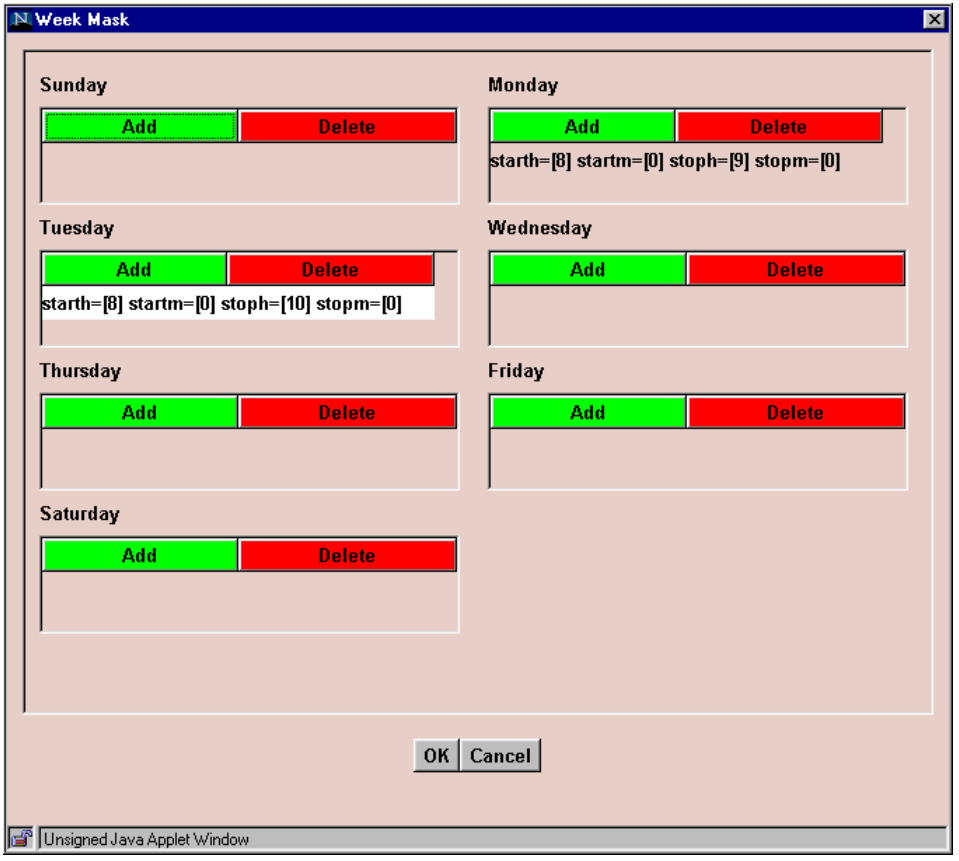


Figure 4-5: Week Mask window
See for field descriptions.

2. Click the **Add** bar for each day of the week to transmit.

3. Your window will look like this:

Figure 4-6: Daily Schedule window with days selected

4. Click the text below the Add bar.

   The Intervals of Day window displays, as shown in Figure 4-7.

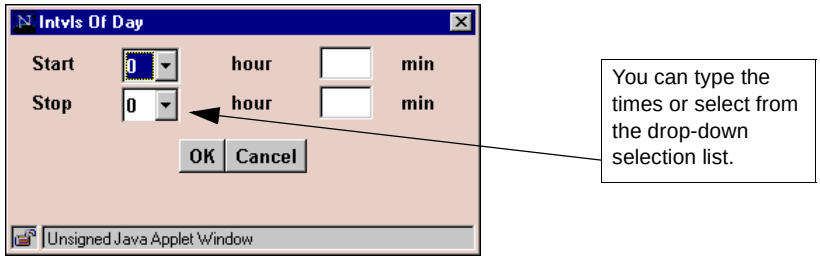


Figure 4-7: Intvls of Day Window

5. Type the start and stop times for transmissions that day. Use military time.

6. Click **OK** to close the windows and accept the schedule.

   The WeekMask window re-displays.

7. Repeat Step 4 on page 4-4 through Step 6 on page 4-6 for each day of the week you selected.

8. When you are finished, the WeekMask window will look similar to Figure 4-8.

Figure 4-8: Complete WeekMask window

To Delete a Time:

1. Hold the Control key and right-click the text.

   The time is removed.

For Periodic Schedule

1. From the Create DSI window, (see Figure 4-4) click the ABSENT text next to the DownLoad Frequency field.

   The Periodic Frequency becomes active.

2. Click the white space next to Periodic.

   The Interval window displays, as shown in Figure 4-9.

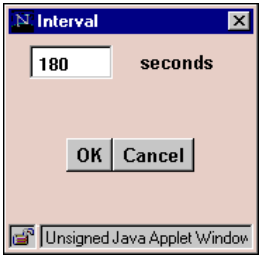


Figure 4-9: Interval window

3. Type how often you want the transmission to occur. If you choose this method, we recommend 3,600 seconds.

4. Click **OK** to accept the schedule.

5. Next, you enter the UpStream Frequency. Your options are the same as the DownLoad Frequency. This determines how often information is returned from the Service Center.

Entering UpStream Frequency

This determines how often information is returned from the Service Center.

Note: You can schedule the UpStream to occur dialy or by a time period, Not Both. Decied which method to use, then see below for directions.

For Daily Schedule:

The options are the same for UpStream as for DownStream. Follow *** through *** in the ***to enter the daily UpStream Schedule.

For Periodic Schedule:

The options are the same for UpStream as for DownStream. Follow ***through*** in the ***to enter the daily UpStream Schedule.

6. Click **OK** when you complete all the schedule for the transmissions.

The DSI information is created an you can now communicate with the Service Center!

Modifying the DownStream Interface

1. Select **DownStream Interface > Modify DSI**.

   The Modify DSI Info window displays.

2. Select the appropriate Service Center from the pull-down menu.

3. Click **OK**.

   The Modify DSI Info window displays, as shown in Figure 4-10.

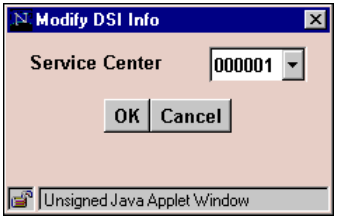


Figure 4-10: Modify DSI Info window
See for field descriptions.

4. Modify the information using the same method as you created it. See "Creating the DownStream Interface" on page 4-5.

5. Click **OK** when finished.

END OF EXISTING MATERIAL IN SYSTEM ADMIN GUIDE -

STUFF FROM USER MANUAL ----------

A Service Center is the communication link between you and the Line Information Database (LIDB). It is needed to port (exchange) telephone number information. It works similar to an electronic mail box. You use DSET's ezCallerID to request changes to a customer's caller ID information and the request is manually sent (via email) to a Service Center. The Service Center is a hub for the clearinghouse to confirm data with the LIDB and transfer the information back to the CLEC.

Only the System Administrator can create a Service Center; however, you can display information about it.

For assistance with logging into ezCallerID, see "Login to ezCallerID" on page 3-1.

Viewing the List of Service Centers

You can display a list of all Service Centers. This information cannot be changed.

1. Select **Service Centers > View all Service Centers**.

   A list of all Service Centers display as shown in Figure 4-11.

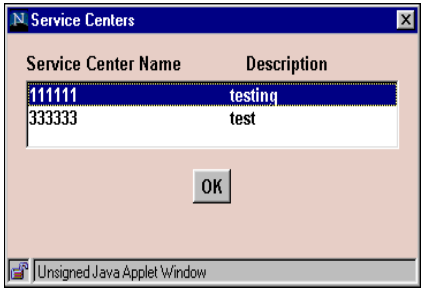


Figure 4-11: Service Centers Window

2. Double-click the text of the Service Center.

   The Service Centers window displays, as shown in Figure 4-12.

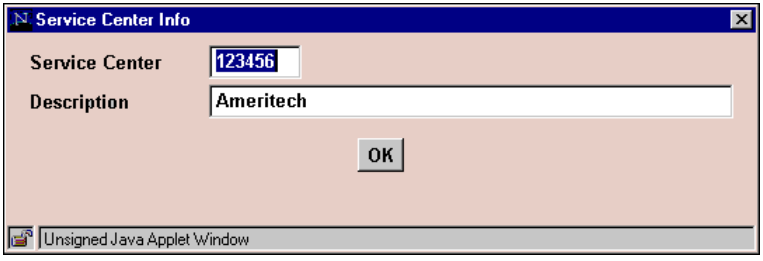


Figure 4-12: Service Center Info window

   The Service Center number and its description display. This information is view-only.

3. Click **OK** to close the windows.

Creating and Modifying a Service Center

Only the System Administrator privilege level can create a Service Center. Once it is created, it cannot be deleted. See the *ezCallerID System Administration Manual.*

Viewing the Data Transfer Schedule

As a user who creates, deletes, and modifies customer LIDB records, you do not control the portion of the software that decides when to transmit customer records to the Service Centers and when the ezCallerID receives notification or error messages in return.

Consult your ezCallerID System Administrators regarding the days and times that ezCallerID information is transferred between your computer and the Service Centers. Only these individuals can actually change the data transfer schedules.

You have the ability (privileges permitting) to see how often the DownStream Interface (DSI) transfers data.

1. Select **DownStream Interface > View DSI Info**.

   The Get DSI Info window displays as shown in Figure 4-13.

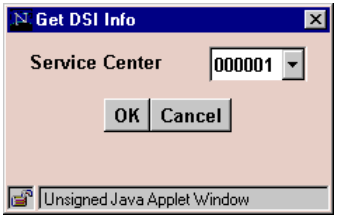


Figure 4-13: Get DSI Info window

2. Select the appropriate Service Center from the drop-down selection list in the **Service Center** field.

3. Click **OK**.

   Figure 4-14 illustrates the resulting DSI Info window that displays.

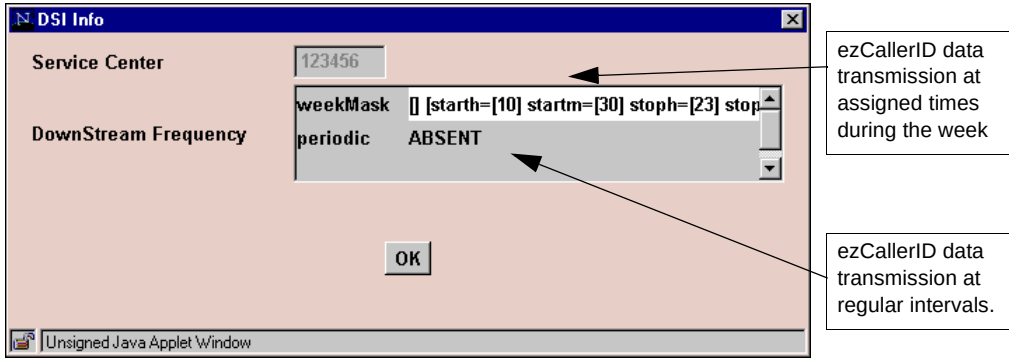


Figure 4-14: DSI Info window
See UNRESOLVED XREF for field descriptions.

4. Click **OK**.

   If you want to view the data transfer times, you will examine the details of the DownStream Frequency information

DownStream Frequency Details

You can view the DownStream frequency for when the system checks for new ezCallerID documents.

It can be set to:

- Specific times on selected days of the week
- A constant time interval between data transfers.

WeekMask

This data transfer schedule specifies the actual times (starting and stopping) when the ezCallerID performs the operations. Each day has its own schedule.

1. Hold down the **<Shift>** key and click the weekMask field to select it.

2. To view the Frequency schedules that control when the transmission of ezCallerID orders happen, double-click the WeekMask Frequency text with the white background.

The WeekMask window displays, as shown in Figure 4-15.

Note: Only the System Administrator can change the DownStream Frequency information.

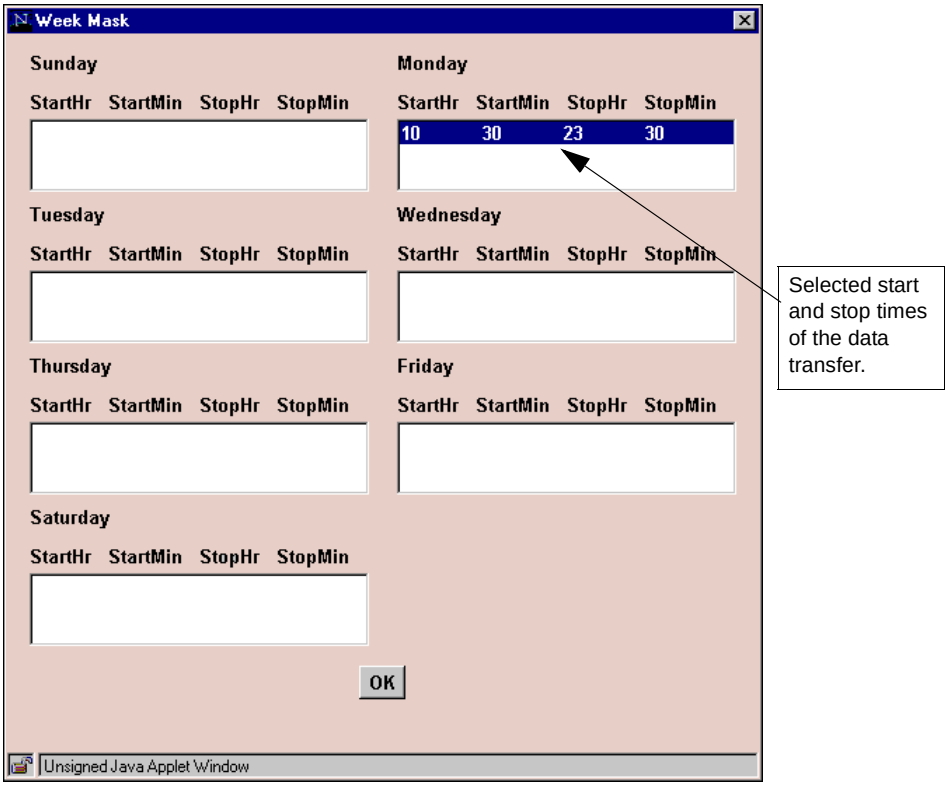


Figure 4-15: Week Mask window
See UNRESOLVED XREF for field descriptions.

3. Select the text line under the day of the week by clicking.

4. Double-click on a text line to view the start and stop transmission/reception times.

   The Intervals of Day window displays in Figure 4-16.

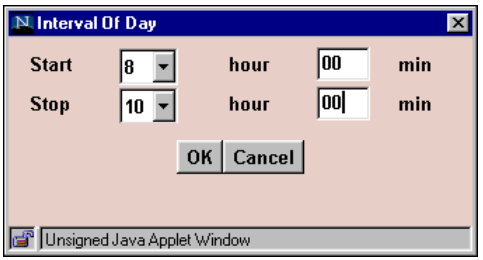


Figure 4-16: Interval of Day window
See UNRESOLVED XREF for field descriptions.

d. Click **OK** to close the Interval of Day window.

Periodic

This option controls the transfer of ezCallerID documents by time interval.

1. Hold down the **<Shift>** key and click the periodic line to select it.

2. If you double-clicked the Periodic Frequency, (see Figure 4-14) the Interval window displays, as shown in Figure 4-17.

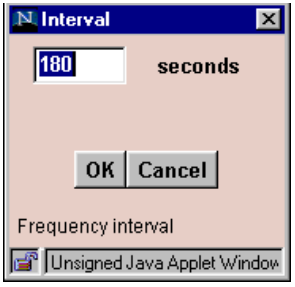


Figure 4-17: Interval window

These Frequency settings tell the ezCallerID to transfer data every *n* seconds.

3. Click **OK** to exit the windows.

Maintenance and Troubleshooting

This chapter provides recommendations for monitoring, identifying proflems with, and backing-up the ezCallerID application to ensure optimum performance.The chapter is divided into four parts:

- Preventative monitoring activities to ensure proper ezCallerID operation
- Troubleshoot problems that can arise ..... on page 5-13
- Possible corrective actions you would take to address the problems ..... on page 5-15
- Backing-up and archiving ezCallerID application data ..... on page 5-21
- Oracle Database Maintenance ..... on page 5-24

Important!: Throughout this chapter, the ezCallerID Oracle database instances are referred to as **CNAM** for the ezCallerID orders (documents) database and **CNSECDB** for the Security Agent database.

Preventative Monitoring

As the System Administrator, we recommend you monitor the ezCallerID application and third-party software activity on your UNIX system in these areas:

- Checking Disk space..... on page 5-1
- Application Process health ..... on page 5-3
- Viewing ezCallerID logs (Application operation)..... on page 5-5

Checking Disk Space

As the ezCallerID System Administrator, you can monitor the ezCallerID Gateway on a regular basis. You have three areas where you will be storing ezCallerID information on the UNIX machine:

- The DSET ezCallerID application files
- CNAM orders (in an Oracle tablespace)
- Notification and error messages

The ezCallerID Installation

Use the UNIX commands on the ezCallerID file directory to monitor disk space:

- `df` (number of free disk blocks)
- `du` (number of disk blocks in use)

Check the amount of disk space in use for your entire ezCallerID installation and determine the number of free kilobytes, allocated kilobytes, and disk usage for the installation.

```
1.  cd $DP_DIR/cnam

2.  df -bt
    du -s
```

CNAM Orders (Documents)

For the instance of the Oracle database you created for the ezCallerID application orders, go to the file directory:

`$ORACLE_MOUNT``/oracle1/oradata/CNAM/data01.dbf`

This database increases in size by 5 Mb increments until it reaches a maximum size of 150 Mb. Use the `df` and `du` commands to monitor disk space for the file directory defined by the **`$ORACLE_MOUNT`** environment variable.

Notification Messages and Errors

Your message queue usage increases as notifications and errors are uploaded from your trading partner. You need to check your disk usage on a regular basis depending upon the frequency you schedule notification uploads.

The notification messages reside in the file directory:

```
$DP_DIR/cnam/DATA/ACNTS/<Trading Partner>/input
```

Application Process Health

Application Gateway Status

As System Administrator, you need to check the status of the ezCallerID application. You can do this from any UNIX machine.

1. On any UNIX terminal, at the command prompt, enter command:

   ```
   ps -aef | grep startup
   ```

   The system reply will be similar to:

   ```
   cnamadm 14951  1 0 19:51:04 pts/8  0:00 startup/export/home/
   cnamadm/cnamGW/cnam/config/cnam.startup
   ```

   (**CNAMadm** is an example of a User ID, and **14951** is a sample process ID)

All ezCallerID Processes

2. To check on the other ezCallerID processes, simply substitute the other process names in place of the process name `startup`:

   ```
   ps -aef | grep cnamgw
   ps -aef | grep secAgent
   ps -aef | grep cnamigp
   ps -aef | grep thttp
   ps -aef | grep namemgr
   ```

   These five processes should always be running and the results should always resemble the system response in step one.

CORBA (Orbix) Software

1. Verify the CORBA software (Orbix) process daemon is running by using the UNIX command:

   ```
   ps -ef|grep orbixd
   ```

   You should see a response similar to this next line where **cnam** is the user ID, **4893** is the process ID that identifies Orbix daemon, and **16:55:56** is the current time.

```
root   307     1  0   Oct 26 ?        0:12 /opt/iona/
OrbixMT_2.3c/bin/orbixd
cnam  4893  4877  0 16:55:56 pts/11   0:00 grep orbix
```

Oracle Software and Database Instances

The UNIX script exerpt shown after this paragraph can be used to determine if any instance of an Oracle database is properly mounted and ready.

```
process='ps -ef|grep <Oracle DB Name>|wc -l'
if [ $process -lt 6 ] ; then
  echo "Warning: Your system has not started the database"
  echo "$CNAM, remember to start up the database and"
  echo "register the schema manually."
  echo
else
```

1. Test that the Oracle ezCallerID databases are online by typing the commands:

   ```
   ps -ef|grep ora|grep CNAM     or
   ps -ef|grep ora|grep CNSECDB
   ```

   You should see a response similar to the following lines for the two Oracle databases **CNAM** and **CNSECDB**:

```
oracle  4843  1  0 16:45:13 ?  3:06 oracleCNAM (LOCAL=NO)
oracle  1078  1  0 Oct 26 ?    0:11 ora_dbw0_CNAM
oracle  1076  1  0 Oct 26 ?    0:04 ora_pmon_CNAM
oracle  1080  1  0   Oct 26 ?  0:12 ora_lgwr_CNAM
oracle  1082  1  0   Oct 26 ?  2:40 ora_ckpt_CNAM
oracle  1084  1  0   Oct 26 ?  0:13 ora_smon_CNAM
oracle  1086  1  0   Oct 26 ?  0:02 ora_reco_CNAM

oracle  1095  1  0   Oct 26 ?  0:04 ora_pmon_CNSECDB
oracle  1097  1  0   Oct 26 ?  0:00 ora_dbw0_CNSECDB
oracle  1099  1  0   Oct 26 ?  0:02 ora_lgwr_CNSECDB
oracle  1101  1  0   Oct 26 ?  2:25 ora_ckpt_CNSECDB
oracle  1104  1  0   Oct 26 ?  0:14 ora_smon_CNSECDB
oracle  1106  1  0   Oct 26 ?  0:02 ora_reco_CNSECDB
```

Figure 5-1: Example Console Output for Oracle Databases

Viewing ezCallerID Logs (Application Operation)

To track a CNAM order, the System Administrator (and key operations personnel) use DSET's extensive event logging facility to monitor each step of the order transmission.

You can view log files to determine how an ezCallerID request is progressing. Also, if something goes wrong and an ezCallerID request is not processed, you can determine where the problem occurred by displaying the log files.

To view the log files from any web browser, the files should be located in a directory that is accessible to the web server.

Log Directory Structure

All processes in the ezCallerID read a configuration file to determine the UNIX directory where log files are created for each trading partner. At installation, you created a directory structure where the Log Root is a subdirectory of the Web Server Root directory similar to:

- Web Server Root Directory
  - CNAM Log Root Directory

The log directory must be a subdirectory of the Web Server `root` directory, so it is accessible to the web server and the user's web browser.

Once you understand the UNIX file structure for the DSET logs, a System Administrator can use either UNIX commands or the Web Browser in the ezCallerID application to view logs.

The ezCallerID logs reside in the UNIX directories (see Figure 5-2):

- `$DP_DIR/cnam/www/cnam/log/<`*`trading partner`*`>/CnamIgp`
- `$DP_DIR/cnam/www/cnam/log/<`*`trading partner`*`>/Canmgw`
- `$DP_DIR/cnam/www/cnam/log/<`*`trading partner`*`>/Security`

The <*`trading partner`*> is usually expressed as a three or four letter ILEC designation such as **PAC** (Pacific Bell), **SWB** (Southwestern Bell), **USW** (US West), etc.

(See Table 5-2 for a description of the contents of different log files.)

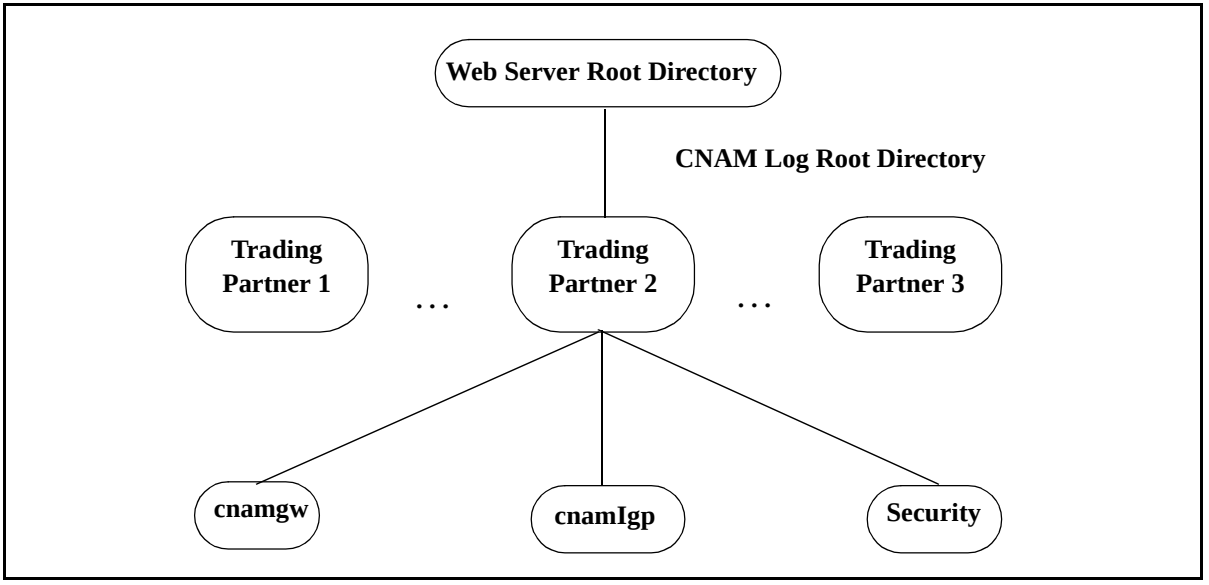


Figure 5-2: Log Directory Structure

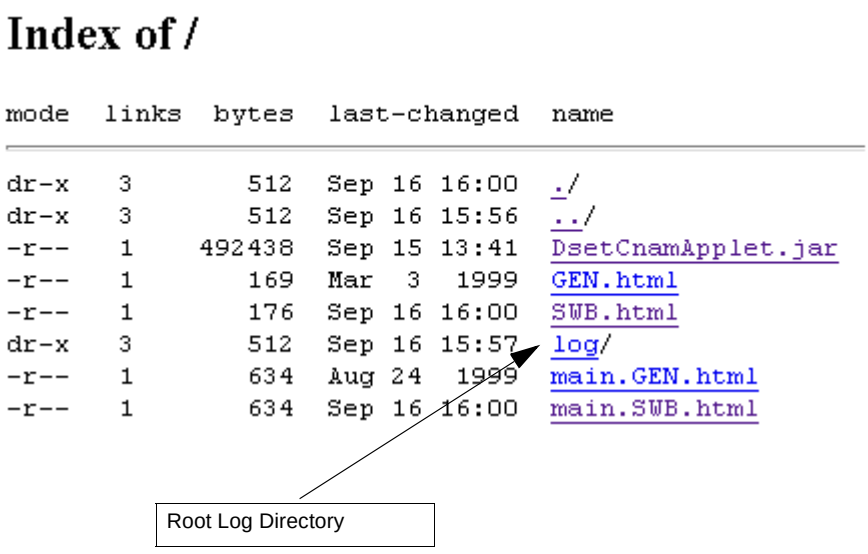


Figure 5-3: Index of web server root directory window

Figure 5-3 shows the top-level directory of the web server. It contains the root directory for all the ezCallerID logs and Java/HTML software for a specific trading partner. In this example, the trading partner is Southwestern Bell, denoted by SWB.

Finding Specific ezCallerID Logs

While it is possible to UNIX commands to navigate through the ezCallerID log subdirectories and view individual files, the DSET standalone GUI permits you to view the file directory structure and the contents of any log file easily.

1. Login to the ezCallerID application (see "Login to ezCallerID" on page 3-1.)

2. Select the **Log > View** command on the ezCallerID primary console window.

   A web browser displays with the Index of the `/Log` file directory, as shown in Figure 5-4.

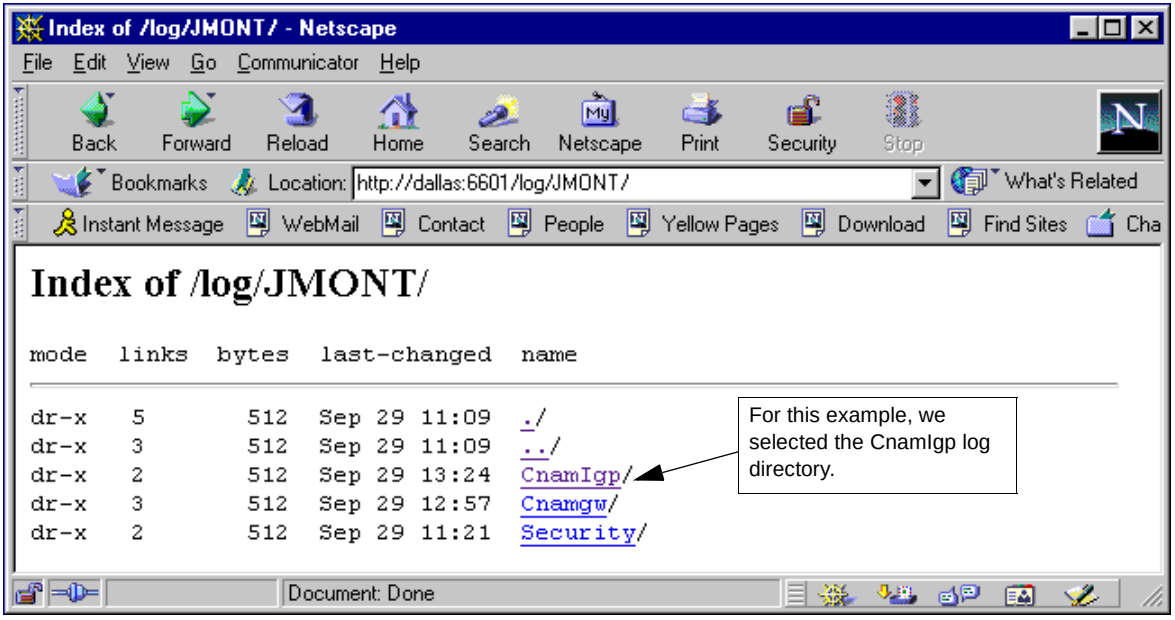


Figure 5-4: Index of /log directory window

This is a list of the log directories available to this ezCallerID application. Each directory provides specific information to the System Administrator.

Table 5-1: Log Directories

Directory Name	Description
Cnamgw	Contains daily logs that show the order (document) activity through the ezCallerID gateway. The trace logs highlight significant software events from a developer's perspective. This information is usefully to DSET customer service personnel to help determine solutions to problems.
CnamIgp	Contains daily logs that define the activity of documents sent to the trading partner and any notification messages/errors received from the trading partner (ILEC).
Security	This file describes all the security activity (establish User IDs, establish Privilege levels, change User ID privileges, assign or change functionality of privilege levels.)

3. Click the directory to display a list of log files contained in the directory.

   The browser now displays all the log file names from the selected directory.

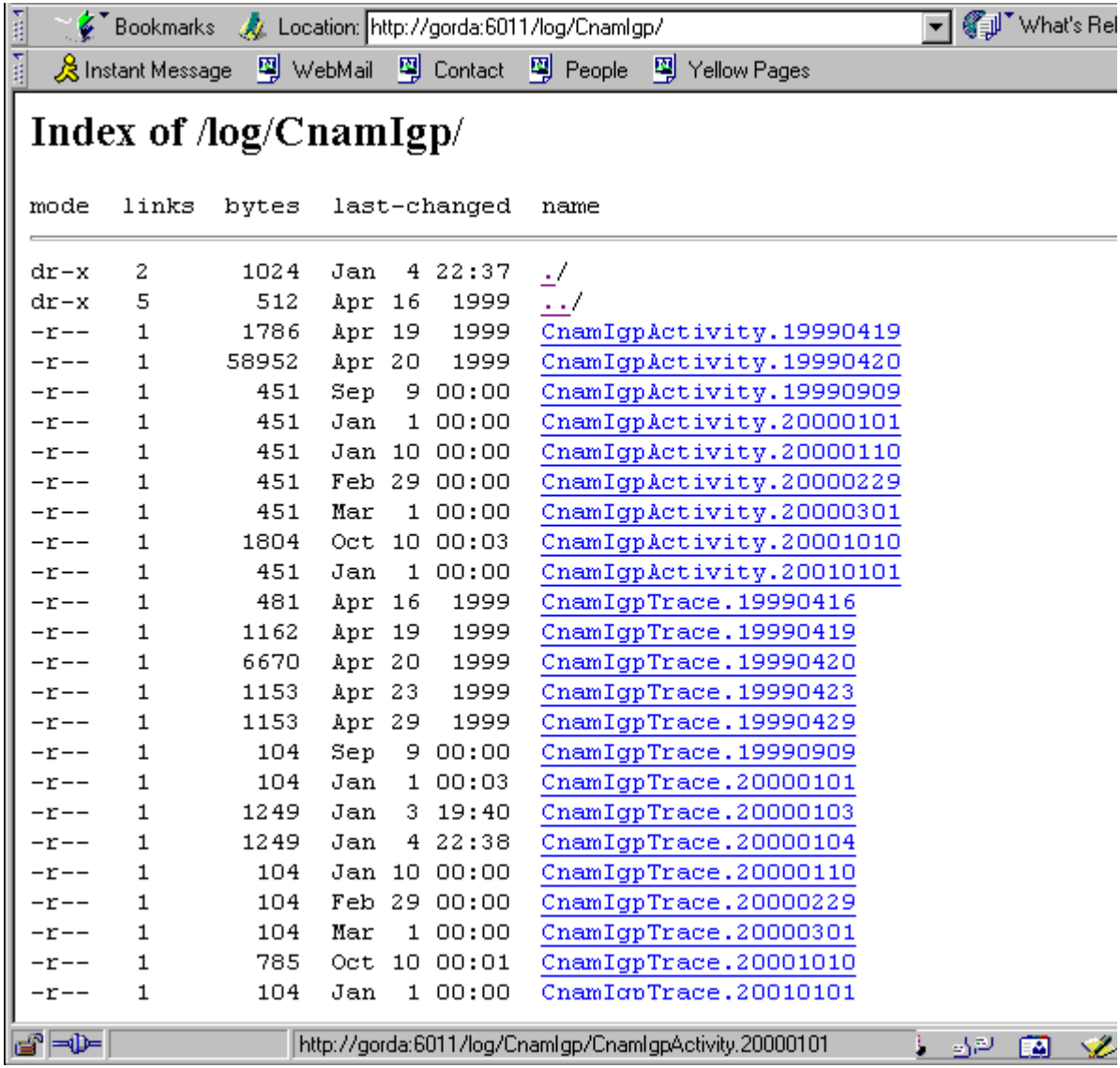


Figure 5-5: Index Of /log/Cnamgw directory window

Type of Logs

The ezCallerID performs five types of activity, software event monitoring, and security logging. The different types of logs generated include:

Table 5-2: Types of Logs

File Name	Description
CnamIgpActivity.YYYYMMDD	Contains logs that show when the IGP receives orders from the gateway or messages/errors from the trading partner. YYYY is a 4-digit year MM is a 2-digit month DD is a 2-digit day
CnamIgpTrace.YYYYMMDD	Logs generated primarily for troubleshooting of the ezCallerID Igp module. It has printed statements at different software checkpoints, that is, operation entry, operation exit, and error conditions.
SecurityTrace.YYYYMMDD	This file contains security changes made to user ID validation files on the indicated date.
CnamgwActivity.YYYYMMDD	Contains all user ID logins and logouts as well as ezCallerID's key functions of handling CNAM orders. Also reflects the ezCallerID orders passed from the CORBA/OSS software.
CnamgwTrace.YYYYMMDD	This file contains error reports or other unusual activities happening in the ezCallerID Gateway. This log primarily is for troubleshooting. It has trace statements at different software checkpoints.
DROP (only for CORBA interface)	Directory where CNAM documents reside when the link between the CNAM Gateway and the OSS server is interrupted while transferring a document.

4. Click the specific log file you want to view. From a System Administrator's viewpoint, most of the useful information is contained in the `CnamgwActivity.YYYYMMDD` and `CnamIgpActivityYYYYMMDD` types of logs.

   Exerpts from the contents of several Activity log file displays. An example is shown in Figure 5-6.

5. Select the **View > Refresh** command to update the display of the log contents.

6. To stop displaying the log file contents, exit the Web browser window.

   The ezCallerID main console window displays.

```
CNAM-GW >> ACTIVITY LOG << 1999 Nov 12 15:17:18 >>
No user login : Message type - FROM OSS
MESSAGE IgpLoginRequest {transid 1, authkey "0000000000", source "s-adm00", dest "",
userid "s-adm00", passwd "SEC-ADM1", spid ""}

 CNAM-GW >> ACTIVITY LOG << 1999 Nov 12 15:17:29 >>
 User - s-adm00 : Message type - FROM OSS
MESSAGE CreateAccount {transid 2, authkey "1111111111", source "s-adm00", dest "",
acntName "11111", aText "test"}

 CNAM-GW >> ACTIVITY LOG << 1999 Nov 12 15:17:46 >>
 User - s-adm00 : Message type - FROM OSS
MESSAGE CreateDsi {transid 4, authkey "1111111111", source "s-adm00", dest "", acntName
"11111", protocol ABSENT, inQ {weekMask ABSENT, periodic ABSENT}, outQ {weekMask
ABSENT, periodic {interval 30}}}

 CNAM-GW >> ACTIVITY LOG << 1999 Nov 12 15:18:22 >>
 User - s-adm00 : Message type - FROM OSS
MESSAGE lIDBCreate {transid 5, authkey "1111111111", source "s-adm00", dest "", octnum
"111111", npa "111", nxx "111", line "1111", recType "0", recSType "P", recSType2 "0", pkey "0",
acode "C", pin "", pinaction "I", cardtype "U", brindicator "B", cardnum "", sind "H", lscnbind "Y",
billname "", holdername "", usagecat "055", addrline "", addrline2 "", addrcity "", addrstate "",
addrzip "", ocn "", bsp "", rao "", bnscode "A", effdate "", clcode ""}
```

Figure 5-6: Activity Log for ezCallerID Gateway

Figure 5-6 illustrates some of the information contained in the `CnamgwActivity.YYYYMMDD` logs.

```
 >> ACTIVITY LOG << 1999 Nov 12 16:37:58 >>
 ----- IGP agent: New Document Received ... Data = ----
IgpMessageData OCT_STR len=280
" MESSAGE  cNamCreate  {
 transid 0,
 authkey "1111111111",
 source "",
 dest "",
 octnum "111111",
 npa "444",
 nxx "444",
 line "4444",
 recType "2",
 recSType "00",
 tType "C",
 pIndicator "R",
 cName  "90123451",
 ocn  "1111",
 bsp  "1111",
 rao  "111",
 effdate  "110399"
 }"
----- End of Document -----
```

Figure 5-7: Activity Log for the Interconnectivity Gateway Platform

Figure 5-7 illustrates some of the CNAM order information contained in the `CnamIgpActivity.YYYYMMDD` logs.

Tracking a Request

Needs Information From Quality Assurance And Customer Service To Formulate Procedures For This Section.

Troubleshooting Problems

Using a set of test procedures and available programs, you can determine the probable source of the difficulty with the ezCallerID application. Use Table 5-3 to isolate the source of the ezCallerID application difficulty and then perform the appropriate action in the following section of this chapter to correct the problem. When problems arise with the ezCallerID application, always restart the CNAM Gateway. This helps determine if the problem is with the ezCallerID product, or with one of the third-party applications with which it interacts.

Problem Determination Table

Important!: Remember - If ezCallerID is not performing as it normally does, stop and restart it. There will be no data loss and it automatically connects itself to the OSS server.

Table 5-3: ezCallerID Problem Determination (1 of 2)

What if...	Then Do...
[cnamgw: Retrying connection to host 'paris' port 1570] [cnamgw: Retrying connection to host 'paris' port 1570] 10092-- Communication failure - No Orbix daemon at node : paris [Completion status : COMPLETED_NO]	CORBA communication Error when the remote CORBA host (OSS) is not available. This should prompt the System Administrator to check out the CORBA daemon (Orbix) and PSR Ancillary API server on the OSS system. Most likely someone rebooted the OSS, shutdown processes, or the UNIX machine is down.
Message - `startup: Make sure nememgr is running before you start the agent.`	Increase the time interval (seconds) between when the **`nememgr`** process starts and subsequent processes.
Message - Can't create SAP. Make sure that nememgr is running	Increase the time interval (seconds) between when the **`nememgr`** process starts and subsequent processes.
The transfer protocol link between the ezCallerID and the Service Center is interrupted while sending an order (document).	The ezCallerID keeps every document that goes through it in a persistent database. If the acknowledgement (997) is not received from the Service Center within a the time you specify, the order (document) is sent again.

Table 5-3: ezCallerID Problem Determination (2 of 2)

What if...	Then Do...
The transfer protocol link between ezCallerID and the Service Center is interrupted while receiving a notification message.	***See Transfer Protocol corrective actions.***
The link between ezCallerID and the OSS breaks while transfering a document	As determined by the OSS Server. Any complete document that reaches ezCallerID is stored in a persistent database. The Gateway has a variable that determines the number of times the gateway retries to send the order. Any orders not sent, will ultimately reside in the **`Drop`** subdirectory of the **`Log`** directory.
The UNIX system the ezCallerID runs on crashes	Restart the CORBA process daemon, restart Oracle database instances, roll-back the Oracle databases to the last good transactions, and start the ezCallerID application. Check the Logs and make sure CNAM documents were written to the CNAM Oracle Database. To automatically start the CNAM Gateway during system reboot, include the cnam `startup` script as a UNIX startup daemon.
The ezCallerID application goes down.	The Gateway restart es every time it goes down. Since all the documents and user ID login information is in a persistence database, there will not be any loss of information
The Service Center system breaks down.	If the notification message is not received from the Service Center within the time you set, the document is sent again.
The OSS server breaks down.	The ezCallerID will be waiting to receive transactions. When the OSS server comes back up, the ezCallerID will reconnect to it.
This Message displays: `D_usr_opendb failed`	Make sure the database files specified in the configuration files exist and have the correct permissions.
This Message appears: `Can't create SAP. Make sure that` **`namemgr`** `is running`	Issue the *ps* command to verify **`namemgr`** is running. If the process is running, the time lag between the namemgr process and the other processes in the **`startup`** config file is too small. Stop the ezCallerID application, edit the $DP_DIR/cnam/config/cnam.startup file to increase the time lag and restart the Gateway.
A terrorist strike happens.	DSET believes you are on your own when this happens. Best of Luck!

Actions to Resolve Problems

This section provides a brief description of the responses you can use to overcome problems with the ezCallerID application's environment.

Should problems arise with the Gateway, the first thing to check are the processes. Verify that the processes listed in "Application Process Health" on page 5-3 are all performing properly. If not, stop and restart the ezCallerID application. This will specify whether the problem lies in the Gateway or in one of the applications integrated with.

Restarting the ezCallerID Application

To restart the ezCallerID, use the UNIX machine where the application resides. Login as ezCallerID System Administrator with the recommended.

Note: To ensure that the Gateway has successfully shutdown, issue the *ps* command and verify that all ezCallerID processes are not running after stopping the Gateway. Similarly, issue the *ps* command to verify that all ezCallerID processes are running after starting the ezCallerID.

1. Enter command: `$DP_DIR/cnam/bin/cnam stop`

   Response would be similar to:

   ```
   Info : ./cnam invoked on pts/2 by cnam
   Date : Mon Nov 1 18:59:07 CST 1999
   Checking for environment variables
   Killing Process Id 4820
   CNAM successfully shutdown
   ```

2. When all processes have stopped, restart the ezCallerID Gateway by typing command:

   `$DP_DIR/cnam/bin/cnam start`

Manually Ending ezCallerID Processes

If executing the `cnam stop` script does not end all the ezCallerID gateway processes, you can manually stop the processes using the **`ps`** and **`kill –2`** commands. Manually stop the process IDs for the following processes: `thttpd`, `startup`, `namemgr`, `cnamgw`, `secAgent`, and `cnamIgp`.

3. If the ezCallerID application was not successfully started, you may receive this message and need to manually terminate the application processes with the **`kill`** command.

```
/ezConnect/home/cnam/cnam2.0.6/cnam/d-dir/files/
.CNAM.start.pid.cnam does not exist
You may not have started CNAM
```

4. If not, determine the process identification number for individual process names with the command:

   `ps -ef | grep <ezCallerID_process_name>`
   The Process Identification (PID) is listed.

5. Using the PID number from Step 4, terminate the process with the command:
   `kill -2 <ezCallerID_process_name PID>`

Note: This last line means you need to find the **`process`** that belongs to the owner **`cnam`** and manually kill this process.

6. Make sure ALL ezCallerID processes have stopped:

   `ps -ef|grep <ezCallerID_processes>`

   Replace `<ezCallerID_processes>` with each process: `startup`, `lsrgw`, `cnamIgp`, `secAgent`, `namemgr`, and `thttpd`

Checking namemgr

Several processes in the ezCallerID use the `namemgr` to register information. If it is not running, the following message may appear:

```
Can't create SAP.  Make sure that namemgr is running
```

Issue the **`ps`** command to see if `namemgr` process is running. If the `namemgr` process is running and this problem occurs, the time lag between the `namemgr` process and the other ezCallerID processes in the **`startup`** config file is not sufficient.

1. Stop the ezCallerID application (see
2. Using a text editor to modify the `$DP_DIR/cnam/config/cnam.startup` file.
3. increase the time lag and
4. restart the Gateway.

Verifying Database Access

The secAgent and cnamIgp processes need access to database files to input or access information. If they can not access the database, the following message may appear:

```
D_usr_opendb failed
```

Make sure the database files specified in the configuration files exist and have the correct file permissions.

Starting the ezCallerID Gateway

1. Start from directory: `$DP_DIR/cnam/bin`
2. Type the command: `cnam stop`
3. Make sure all **`CNAM`** processes have stopped: `ps -ef|grep <LSR_processes>`

Replace <*CNAM_processes*> with each of these processes: `startup`, `lsrgw`, `lsrIgp`, `secAgent`, `namemgr`, and `thttpd`.

4. When all processes have stopped, restart the Gateway from the same directory: `cnam start`

CORBA (Orbix) Software

Determine if CORBA Daemon Running

To verify that Orbix is running properly (for CORBA/OSS configuration users):

1. From the console that the software was installed, type the command:

```
ps -aef | grep orbixd
```

Manually Kill the CORBA Daemon Process

These are the UNIX commands that force the CORBA (Orbix) process to terminate:

```
PID=‘ps -ef |grep orbixd |grep -v grep|awk ’{ print $2
}’‘
if [ -n "$PID" ]; then
  kill -9 $PID 2>&1 >/dev/null
fi
```

Manually Start the CORBA Daemon Process

2. If the Orbix daemon is not running, switch to directory: `/etc/rc2.d`

3. Type the command: `./S99iona start`

   This restarts the Orbix daemon.

4. Restart the CNAM Gateway (see *Starting the ezCallerID Gateway* on page 5-17).

   If the Orbix daemon (CORBA) is running, the OSS is able to contact the CNAM Gateway.

If the Orbix daemon is running and the OSS is *unable* to contact the LSR Gateway, go to `$DP_DIR/lsr/config/` and locate file `<ILEC>.lsrgw.cfg`

5. Using VI or another text editor, edit the variable: `RMT_CORBA_HOST_NAME`

   It needs to match the OSS server's name in the variable: `RMT_CORBA_SERVER_NAME`

   If these variables are consistent, the problem may be in the OSS.

Checking the Oracle Databases

If you see this message: `D_usr_opendb failed,` check to make sure the oracle processes are running by typing:

```
ps -aef|grep ora
```

If the CNAM orders (**`CNAM`**) and Security databases (**`CNSECDB`**) and the LISTENER process are not running, follow these procedures:

Starting the CNAM Orders Database

1. Login as **`oracle`** User Id.

2. Set ORACLE_SID environment variable to *IGP_Database* by typing:

   ```
   export ORACLE_SID=CNAM
   ```

3. Use the Oracle server manager by commands:

   ```
   svrmgrl
   connect internal
   startup
   ```

   `exit` (out of the Oracle server manager)

Starting the Security Agent Database

1. Login as **`oracle`** User ID (unless you did it in step 1 for the CNAM Orders database.)

2. Set ORACLE_SID database instance environment variable to *Security_Database* by typing:

   `export ORACLE_SID=`**`CNSECDB`**

3. Use the Oracle server manager by commands:

   `svrmgrl`

   `connect internal`

   `startup`

   `exit` (out of the Oracle server manager)

Starting the Oracle Listener

1. Login as **`oracle`** User ID (unless you did it in step 1 for the Security Agent database.)

2. Start the **`listener`** by typing the commands:

```
lsnrctl stop
lsnrctl start
exit
```

Increase the Time Lag for the namemgr Process

Several processes in the ezCallerID Gateway use the `namemgr` to register information. If it is not running, the following message may appear:

```
startup: Make sure namemgr is running before you start the
agent.
```

Verify that the namemgr process is running when this error happens. If the process is running and this problem occurs, the time lag between the namemgr and the other processes in the startup configuration file is not enough for your system. Increase the time lag, then stop and restart the LSR Gateway.

Backup and Archival

For the ezCallerID application, the System Administrator will need to backup the ezCallerID logs and the actual CNAM orders (documents) stored in the Oracle database. The ezCallerID logs can be backed-up with standard UNIX utilities. The Oracle files can be backed-up as necessary using the standard Oracle utitlities or the database orders can be archived, removed from the files, and any needed disk space reclaimed.

- Backing-up Oracle ezCallerID orders ..... on page 5-22
- Archiving ezCallerID logs..... on page 5-23

When you reach 80% capacity of UNIX disk space or Oracle tablespace size, you need to begin to archive CNAM documents, along with notification messages and errors. Once you have archived all documents and files belonging to a specific period (for example, say two months), delete the UNIX files and remove the CNAM records from your Oracle database.

ezCallerID Logs Directory

The ezCallerID creates log files on a daily basis. These files tend to get large quickly. We recommend you set the log files to backup to tape daily (or as frequently as needed based on your schedule) for retrieval when needed. The names of log files end with the date they were created.The logs are simple ASCII files and can be backed up using tar or other UNIX utilities.

They are located in `$DP_DIR/cnam/www/cnam/log` directory. Three subdirectories are used for each DSET product to store the daily logs.

The ezCallerID logs reside in directories (see Figure 5-8):

- `$DP_DIR/lsr/www/cnam/log/<`*`trading partner`*`>/CnamIgp`
- `$DP_DIR/lsr/www/cnam/log/<`*`trading partner`*`>/Canmgw`
- `$DP_DIR/lsr/www/cnam/log/<`*`trading partner`*`>/Security`

The `<trading partner>` is usually expressed as a three or four letter ILEC designation such as **PAC** (Pacific Bell), **SWB** (Southwestern Bell), **USW** (US West), etc.

(See Table 5-2 for a description of the different logs.)

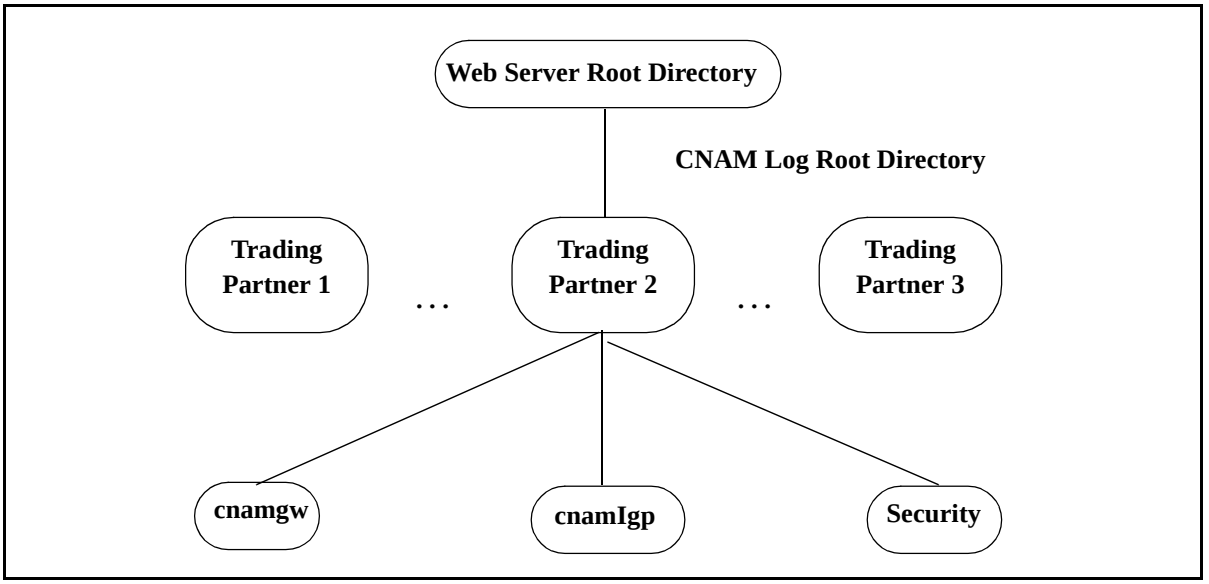


Figure 5-8: Log Directory Structure

Backup CNAM Orders (documents)

To prevent from running out of storage space, it is recommended that the ezCallerID document output files be removed periodically. These files should be backed up to tape prior to deleting them.

1. To remove CNAM documents stored in the Oracle database, the Oracle DBA needs to:
   - > Stop the ezCallerID application with the appropriate script
   - > Bring Oracle **`CNAM`** database offline and stop the ezCallerID *listener* processs.
   - > Use SQL*PLUS commands to archive orders.
   - > Delete desired **`CNAM`** document records.
   - > Free up space in the actual `user_data datafile`: `$ORACLE_MOUNT/oracle1/oradata/`**`CNAM`**`/user01.dbf`
   - > Mount the **`CNAM`** Oracle database and turn-on the *listener* process
   - > Start the ezCallerID application.

Backing up Messages and Errors

2. To remove CNAM notification messages and errors, type the commands:

```
cd $DP_DIR/cnam/DATA/ACNTS/<Service_Center1>
tar uvf /dev/rmt0 /input <--- use tape on /dev/rmt0
rm -rf /input
cd ../<Service_Center2>
tar uvf /dev/rmt0 /input
rm -rf /output
<continue for each service center>
```

Backing up the Logs

The names of log files end with the date they were created. We recommend that the ezCallerID log files are backed-up to tape weekly. The logs are simple ASCII files and can be backed up using standard UNIX utilities. After backups, you can delete the log files so that the system does not run out of space.

3. To remove CNAM log files, type the commands:

```
cd $DP_DIR/cnam/www/cnam/log/<Service_Center1>
tar uvf /dev/rmt0 /cnamgw <--- use tape on /dev/rmt0
rm -rf /cnamgw <--- remove gateway logs
tar uvf /dev/rmt0 /cnamIgp
rm -rf /cnamIgp <--- remove interconnectiovity gateway platform logs
tar uvf /dev/rmt0 /Security
rm -rf /Security <--- remove security logs
```

Oracle Database Maintenance

Handling Database Instances

This section describes the handling of the Oracle database instances created by the DBA. The database instances are created by the specifications, after matching the customer requirements on the number of CNAM orders per week or by month. Once the database instances are created, you can let the ezCallerID System Administrator register the database schema by running the DSET ezCallerID Installation script. Once the schema is registered, it is ready for population with the CNAM orders (documents).

If the Oracle databases are not prepared before you run the ezCallerID Installation script, you must manually run the SQL scripts found in the DSET schema directory:

```
$DP_DIR/cnam/schema
```

You have to use these scripts to perform the schema registration and other Oracle operations. (See DSET ezCallerID product subdirectories described in Table 2-7.)

Manually Registering Oracle Schema

Schema registration will overwrite any existing schema if any and will makes the Oracle DB instance ready to receive orders. This needs to be done for the first time when the DB instances are created. The SQL scripts that describe the table definitions and the organization of the fields:

- `regSch.sql`
- `regGenSch.sql`
  Called by `regSch.sql` to perform name change conversions for schema.)
- `regIgpSch.sql`
- `regSecSch.sql.`

The **`cnam`** Oracle database instance needs the `regGenSch.sql` and `regIgpSch.sql` scripts.

The **`cnsecdb`** Oracle database instance needs the `regGenSch.sql` and regSecSch.sql scripts to define the tables.

These scripts contain the table definitions and table creation operations. The table definitions should never be changed, as this will effect the operation of the ezCallerID gateway system.

Important!: The table creation operations can be modified to suit the needs of your specific site. Your Oracle DBA can suggest script changes based upon the storage location, access performance, indexing, disk mirroring capabilities, etc. Check with your Oracle DBA regarding these scripts, have the DBA examine the scripts, and get approval before registering the ezCallerID schema. Skipping this step may affect the performance of the ezCallerID Gateway.

Manually Register the ezCallerID Order Database Schema

To manually register the Oracle ezCallerID orders Database schema, you must go through these steps:

1. Start the CNAM Orders Database

   Login as **`oracle`** User Id.
   Set ORACLE_SID variable by typing: `export ORACLE_SID=`**`CNAM`**

2. Start the CNAM Orders Database with the Oracle server manager with commands:

   ```
   svrmgrl
   connect internal
   startup
   exit (out of the Oracle server manager)
   ```

3. Login as **`oracle`** User ID (unless you did it in Step 1) and start the **`listener`** by typing the commands:

   ```
   lsnrctl stop
   lsnrctl start
   exit
   ```

4. Run the two scripts to define the ezCallerID orders **CNAM** Oracle database tables:

```
cd $DP_DIR/cnam/schema
export $IGP_DB_NAME=CNAM
regSch.sql dbadm/dbadm@CNAM $DP_DIR/cnam/schema
regIgpSch.sql >>/dev/null <continuation of command>
```

5. Use these commands in a script to test for successful manual registration:

```
if [ $? != 0 ]; then
  echo
  echo "Warning : register $IGP_DB_NAME schema failed."
  echo "There may be permission problems"
  echo
else
  echo
  echo "Register the ezCallerID CNAM Oracle database"
  echo "schema is done."
  echo
fi
```

Manually Register ezCallerID Security Database Schema

To manually register the Oracle ezCallerID Security Agent Database schema, you must go through these steps:

1. Start the CNAM Orders Database

   Login as **oracle** User Id.
   Set ORACLE_SID variable by typing: `export ORACLE_SID=CNSECDB`

2. Start the CNAM Security Database with the Oracle server manager with commands:

```
svrmgrl
connect internal
startup
exit (out of the Oracle server manager)
```

3. Login as **oracle** User ID (unless you did it in Step 1) and start the **listener** by typing the commands:

```
lsnrctl stop
lsnrctl start
exit
```

4. Run the scripts to define the ezCallerID security **CNSECDB** Oracle database tables:

```
cd $DP_DIR/cnam/schema
export $SEC_DB_NAME=CNSECDB
regSch.sql dbadm/dbadm@CNSECDB $DP_DIR/cnam/schema
regSecSch.sql >>/dev/null <continuation of command>
```

5. Use these commands in a script to test for successful manual registration:

```
if [ $? != 0 ]; then
  echo
  echo "Warning : register $SEC_DB_NAME schema failed."
  echo "There may be permission problems"
  echo
else
  echo
  echo "Register the ezCallerID CNAM Oracle database"
  echo "schema is done."
  echo
fi
```

Cleaning Up Oracle DB Schema

Cleaning up the Oracle database schema involves “dropping” the tables and the records. This is sometimes necessary, if the schema provided in on the DSET distribution media has to be changed for any of these reasons:

- Tablespaces for the database tables need to be modified.
- Table indexing must to be changed to ensure better performance.
- Storage spaces (initial extent, next extent size, etc.) suggested by your Oracle DBA need to be modified.

To clean-up the Oracle database schema, you need to:

1. Drop the current schema from the datbase instances

2. Modify the contents of the corresponding schema registration SQL scripts.

3. Re-register the appropriate schema as described in "Manually Registering Oracle Schema" on page 5-24.

The Oracle SQL scripts that define which database tables are dropped:

- `dropDB.sql`
- `dropGenDB.sql`
  Called by `dropDB.sql` to drop the tables that describe the schema name changes.)
- `dropIgpDB.sql`
- `dropSecDB.sql.`

The **`CNAM`** Oracle database instance needs the `dropDB.sql` and `dropIgpDB.sql` scripts.

The **`CNSECDB`** Oracle database instance needs the `dropDB.sql` and `dropSecDB.sql` scripts to drop its tables.

Dropping the ezCallerID Orders Database

1. If the Oracle ezCallerID Orders database is not online, repeat the first three steps found in "Manually Register the ezCallerID Order Database Schema" on page 5-25.

2. Run the script to drop the tables containing the ezCallerID orders in the **`CNAM`** Oracle database:

```
cd $DP_DIR/cnam/schema
export ORACLE_SID=CNAM
dropDB.sql dbadm/dbadm@CNAM $DP_DIR/cnam/schema
dropIgpSch.sql >>/dev/null <continuation of command>
```

Dropping the ezCallerID Security Database

1. If the Oracle Security Agent database is not online, repeat the first three steps found in "Manually Register ezCallerID Security Database Schema" on page 5-26.

2. Run the script to delete the Oracle security database tables:

```
cd $DP_DIR/cnam/schema
export ORACLE_SID=CNSECDB
dropDB.sql dbadm/dbadm@CNSECDB $DP_DIR/cnam/schema
dropSecDB.sql >>/dev/null <continuation of command>
```

Deleting Existing Oracle Database Records

The ezCallerID orders (documents) that populated the Oracle CNAM database tables, can be deleted using one of the scripts provided by DSET Corporation. You may want to do this if you want to start over with a clean database instance, after your company has finished its initial testing.

Prior to re-starting the ezCallerID application, you must **re-register** the Oracle database schema using the procedures in "Manually Register the ezCallerID Order Database Schema" on page 5-25 and in "Manually Register ezCallerID Security Database Schema" on page 5-26.

The Oracle SQL scripts that define which tables to delete:

- `delDB.sql`
- `delGenDB.sql`
  Called by `delDB.sql` to delete the tables that describe the schema name changes.)
- `delIgpDB.sql`
- `delSecDB.sql.`

The **`CNAM`** Oracle database instance needs the `delDB.sql` and `delIgpDB.sql` scripts.

The **`CNSECDB`** Oracle database instance needs the `delDB.sql` and `delSecDB.sql` scripts to delete its tables.

Deleting CNAM Order Tables

1. If the Oracle ezCallerID Orders database is not online, repeat the first three steps found in "Manually Register the ezCallerID Order Database Schema" on page 5-25.

2. Run the script to delete the ezCallerID orders **CNAM** Oracle database tables:

```
cd $DP_DIR/cnam/schema
export ORACLE_SID=CNAM
delDB.sql dbadm/dbadm@CNAM $DP_DIR/cnam/schema
delIgpSch.sql >>/dev/null <continuation of command>
```

Deleting Security DB tables

1. If the Oracle Security Agent database is not online, repeat the first three steps found in "Manually Register ezCallerID Security Database Schema" on page 5-26.

2. Run the script to delete the Oracle security database tables:

```
cd $DP_DIR/cnam/schema
export ORACLE_SID=CNSECDB
delDB.sql dbadm/dbadm@CNSECDB $DP_DIR/cnam/schema
delSecDB.sql >>/dev/null <continuation of command>
```

Glossary

This glossary provides a description of abbreviations, acronyms, and terminology used in the DSET ezCallerID product guides.

Table A-1: Glossary (1 of 3)

Abbreviation/ Acronym	Description
CLEC	Competitive Local Exchange Carrier The new group of deregulated telecommunications providers that compete on a selective basis to provide long distance, celular, and other services.
CNAM	Calling Name Delivery Former name for the ezCallerID application. The name and telephone number of the originating party is displayed on a Caller ID device at the destination subscriber's telephone.
CORBA	Common Object Request Broker Architecture CORBA is an industry specification for the design of Object Request Brokers (ORBs). ORBs allow different kinds of computer systems to exchange object data with each other. PowerBRoker is an example of an Object Request Broker that conforms to the CORBA specification.
DSI	DownStream Interface The portion of the gateway that collects service orders into files, translates data into the desired format, and sends the data to a service center. The interface also receives confirmation and error messages, reformats them, and passes the files back to the user interface.
GUI	Graphical User Interface The generic name for any computer interface that substitutes graphic elements (windows, menus, drop-down selection lists, and so on) for character commands.
IDL	Interface Definition Language OMG's Interface Definition Language, an implementation-neutral language used to specify interface definitions in CORBA.
IGP	Interconnectivity Gateway Platform The portion of the DSET software that controls storing service order documents and the resulting notification messages.

Table A-1: Glossary (2 of 3)

Abbreviation/ Acronym	Description
ILEC	Incumbent Local Exchange Carrier A traditional, old incumbent local exchange carrier that was part of the Bell System or an Independent Local Exchange Carrier such as GTE or Alltel.
NPA	Number Plan Area A fancy way of saying area code of the telephone number.
OCN	Operating Company Number A valid operating company number thats required for portable exchanges.
OSS	Operations Support System Methods and procedures that directly support the daily operation of the telecommunications infrastructure. The average Local Exchange Carrier has hundreds of systems supporting order negotiation, order processing, line assignment, line testing, and billing.
PDF	Portable Document Format A format developed by Adobe to allow printed documents to retain formatting while viewed online with multiple operating systems. DSET transforms its written documents into PDF for distribution to customers.
PON	Purchase Order Number A unique number automatically assigned to the service order by the ezCallerID application.
SC	Service Center A clearinghouse that collects and processes roaming and billing information from a number of carriers. It then transfer the compiled data (including confirmation codes and error messages) to the proper carriers.
SCP	Service Control Point A remote database within the System Signaling 7 network which supplies the translation and routing data needed to deliver advanced network services.
SMS	Service Management System An SS7 operations support system (OSS) used to help the provisioning and loading of data into the ezCallerID/ezCallingCard service control point (SCP) database.

Table A-1: Glossary (3 of 3)

Abbreviation/ Acronym	Description
TBS	Telecom Business Solution™ The Operation Support System (OSS) provided by MetaSolv Software that acts as a user-interface to create CNAM orders through the DSET ezCallerID gateway.
TNS	Transparent Network Substrate A simple way to manage many combinations of communications protocols that can access a single Oracle database instance.
UFS	UNIX File System The tree-structured file system supported by the UNIX operating system.
URL	Universal Resource Locator An internet address that locates a file on any computer connected to the Internet in the world. The URL is ultimately translated to a TCP/IP address and a directory location on that computer.

Technical Reference

This chapter describes the technial processes of the ezCallerID and the configuration parameters necessary to run the application.

Process Flow

This illustration shows a high-level process flow of the ezCallerID and how the components interact with each other.

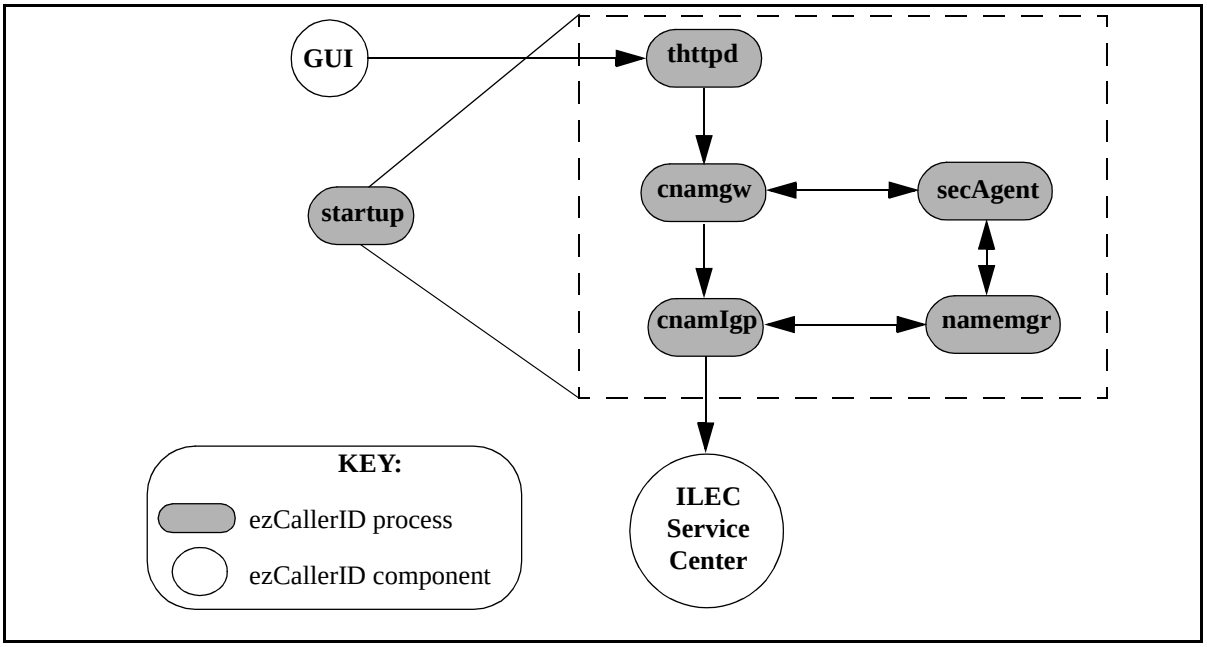


Figure B-1: High Level Process Flow of ezCallerID components

Configuration Files

The ezCallerID uses a set of configuration files to setup the directory paths and customize the variables to your environment.

The configuration files for the `startup`, `namemgr`, `secAgent`, `cnamIgp`, and `cnamgw` processes are:

- `$DP_DIR/cnam /d-dir/etc/D_nameTailor`
- `$DP_DIR/cnam /d-dir/etc/EDB`
- `$DP_DIR/cnam /config/<prefix>.cnamIgp.cfg`
- `$DP_DIR/cnam /config/<prefix>.cnamgw.cfg`
- `$DP_DIR/cnam /config/security.cfg`
- `$DP_DIR/cnam /config/cnam.startup`

Note: These filenames are case sensitive.

What was Installed

Now that your installation was successful, this is a list of all the processes now running:

- `secAgent`
- `thttpd`
- `cnamigp`
- `namemgr`
- `cnamgw`
- `startup` - The script used to start the application

Configuration Files

The configuration files in `$DP_DIR/cnam/config` directory:

- security.cfg
- <prefix>.cnamgw.cfg
- <prefix>.cnamIgp.cfg
- cnam.startup

Executable Files

The executable files in `$DP_DIR/cnam/bin` directory:

- igpApp
- cnam
- cnamIgp
- cnamgw
- profile
- secAgent
- startup
- thttpd

Note: The namemgr executable is in $DP_DIR/cnam/d-dir/bin directory.

Log Directories

The log directories in $DP_DIR/cnam/www/cnam/log:

- cnamigp
- cnamgw
- Security

Startup Script

This script, `CNAM.startup`, invokes and monitors the four component processes of ezCallerID. If any one of the five processes stops, the startup script stops all processes and restarts them.

The five processes invoked by the startup script are:

- ../d-dir/bin/namemgr
- ./secAgent
- ./cnamIgp
- ./cnamgw
- ./thttpd

These processes should be running at all times when the exCallerID Gateway is running.

To start the exCallerID Gateway, use the UNIX system where it resides.

1. Start in directory: $DP_DIR/cnam/bin

2. Enter script: `cnam start`

   The following is a sample of the output if cnam.startup is running:

   cnamadm 13461 1 0 Dec 04 pts/20 0:00 startup /export/home/cnamadm/cnamGW/cnam/config/cnam.startup

   DO NOT EDIT this script. Unlike the other scripts, `cnam.startup` is a script that should NOT be edited. None of the variables relate directly to machines outside the exCallerID Gateway, therefore changing variables without checking the Gateway's internal processes would be likely to incapacitate the system.

   You may need to check the script to see whether all four processes are running, and whether all the processes are referring correctly to the same external machines.

   This process takes about 30 seconds to run.

Stop Script

To stop ezCallerID, use the UNIX system where it resides.

1. Start in directory: $DP_DIR/cnam/bin

2. Type the script name and parameter: `cnam stop`

   This invokes the igpApp script with the 'stop' parameter.

   This process takes about 10 seconds to run.

   To set script variables, enter: /*CNAM_INSTALL_DIRECTORY*/cnam/profile

3. At $HOME/, locate file `.kshrc`

4. Use VI or another text-editing tool to add the following line:

   . */CNAM_INSTALL_DIRECTORY*/cnam/profile

Checking Gateway Status

As System Administrator, you need to check the status of the ezCallerID. You can do this from any UNIX machine.

1. On any UNIX terminal, at the command prompt, enter command:

   ```
   ps -aef | grep startup
   ```

   The system will reply will be similar to:

   ```
   cnamadm 14951  1 0 19:51:04 pts/8  0:00 startup/export/home/
   cnamadm/cnamGW/cnam/config/cnam.startup
   ```

   (cnamadm is an example of a username, and 14951 is a sample process ID)

   Instead of running this for startup, you can replace startup with cnamgw, secAgent, igpAgent, or namemgr. These 5 processes should always be running, and results should always resemble the sample above.

Verifying ezCallerID Status

As the ezCallerID administrator, you can check the status of ezCallerID.

At the command prompt, type:

ps –aef | grep startup <Enter>

The result will look like the following:

```
cnamadm 14951  1 0 19:51:04 pts/8  0:00 startup
```

Note: cnamadm is an example of a username and 14951 is a sample process id.

To check for the other processes, replace startup with namemgr, secAgent, cnamIgp, cnamgw and thttpd.

Checking the Web Server

The web server (thttpd daemon) is an http server that should be running on the UNIX machine where the Gateway resides. This process is started as part of the startup process. To access the ezCallerID windows through an HTML browser, first check to make sure that the web server is running:

Enter command: `ps –aef | grep thttpd`

If it is running, the response will be similar to:

```
cnamadm 16103 23455  0 16:09:14 pts/20   0:00 thttpd
```

If the web server (or thttpd daemon) is not running, start it in the background from the $DP_DIR/cnam /bin directory. Enter command:

`./thttpd -p` *`port number`* `-d $DP_DIR/www/cnam &`

Note: The *port number* is a 4-digit value that refers to the port number where ‘thttpd’ should run. $DP_DIR/www/cnam is the ‘root’ directory for the ‘thttpd’ server.

Although the web server is included as part of the ezCallerID, you may configure it to use with other web servers. Verify that the log directories are configured in the web server root directory. You should also comment-out the thttpd line in the cnam.startup script file and add your own web server to this file.

Removing ezCallerID

Remove the ezCallerID from your system by deleting all the files in the `cnam` directory.

BE MORE SPECIFIC AT THIS POINT

#

 # Variables that DCAMS for generic agent.

```
SCHEMA_DCAM=
/ezConnect/home/cnam/cnam2.0.5/cnam/bin/libIgpSch.so

MANAGER_DCAM=
/ezConnect/home/cnam/cnam2.0.5/cnam/bin/libIgpMgr.so

BEH_DCAM=
/ezConnect/home/cnam/cnam2.0.5/cnam/bin/libcnambehD.so
```

DB_DCAM=

 # Added for LIDB

```
SCC_COMPANY_CODE=DSET

SCC_COMPANY_NAME=DSET

OUTPUT_DIR_NAME=
/ezConnect/home/cnam/cnam2.0.5/cnam/DATA/ACNTS/111111/output

COUNTY_ID=1234

STATE_ID=TX

LIDB_AGENT_NAME=cnamAgent
```

```
SVC_CENTER_NAME=111111

SCC_REALEASE_NUMBER=100

SCC_FORMAT_VERSION=1
```

Catalog of Windows and Fields

Service Centers

Creating New Service Center

To Access: **Service Centers > Create a New Service Center**

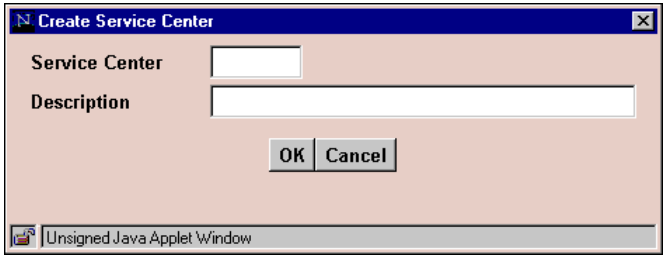


Figure C-1: Create Service Center window

Table C-1: Field Constraints for Create Service window

Field Name	Length - Type	Description (possible values)
Service Center	6 digits	The 6 digit code associated with the Service Center.
Description	1-100 alphanumeric characters	A description of the Service Center.

Viewing Service Centers

To Access: **Service Centers > View all Service Centers**

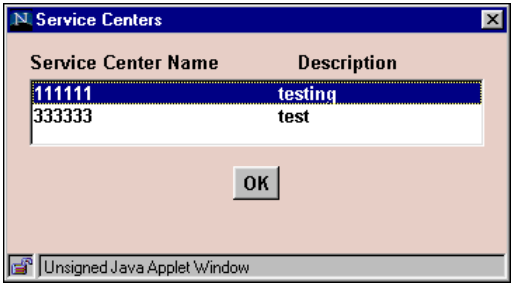


Figure C-2: Service Centers window

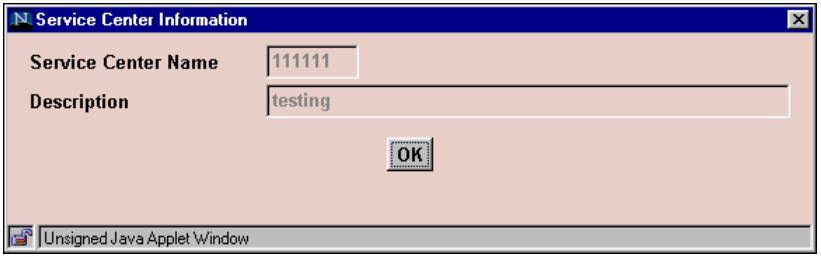


Figure C-3: Service Center Info window

DownStream Interface

Creating DownStream Interface Information

To Access: **DownStream Interface > Create DSI**

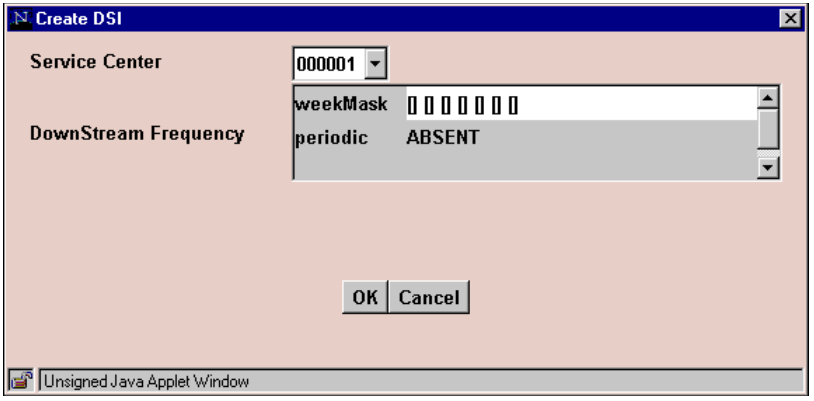


Figure C-4: Create DSI window

Table B-2: Field Value Constraints for Create DSI Information Window

Field Name	Length - Type	Description (possible values)
Service Center	6 digits	The 6-digit code associated with the Service Center. Choose from the drop-down selection list.
DownStream Frequency	This information is entered in the WeekMask window or the Periodic Interval window.	Indicates how often the system should check for downstream messages.

Setting Week Mask Download Frequency

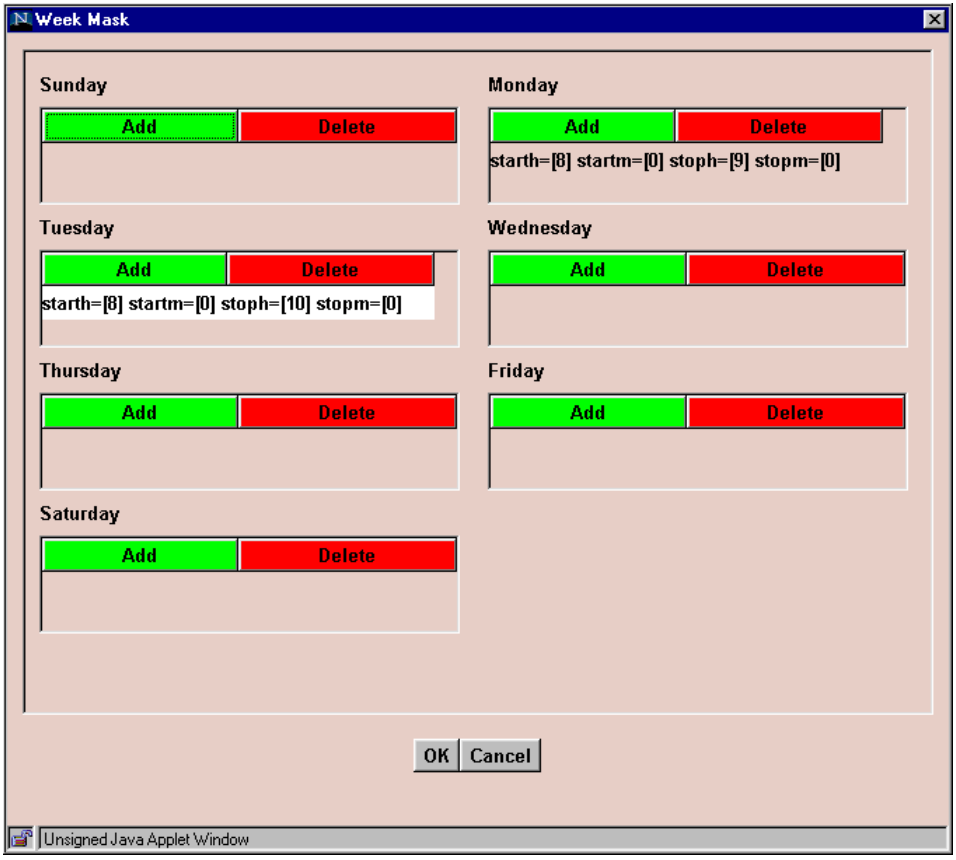


Figure B-5: Week Mask (add new schedules) window

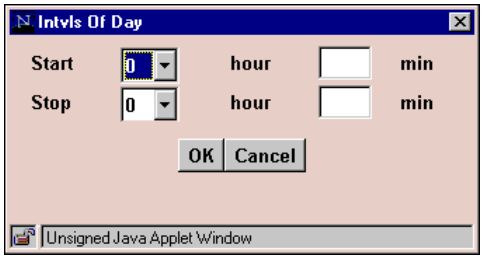


Figure B-6: Interval of Day window

Table B-3: Field Value Constraints for Interval Of Day Window

Field Name	Length - Type	Description (possible values)
Min	1-2 digits	The time interval in minutes to check for downstream information.

Setting Periodic Download Frequency

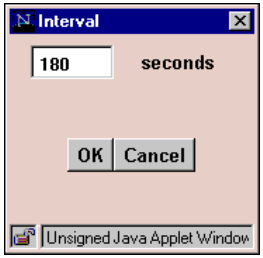


Figure B-7: Interval window

Table B-4: Field Value Constraints for Interval Window

Field Name	Length - Type	Description (possible values)
Seconds	1-5 digits	The time interval in seconds to check for downstream information.

Modifying DSI Information

To Access: **DownStream Interface > Modify DSI**

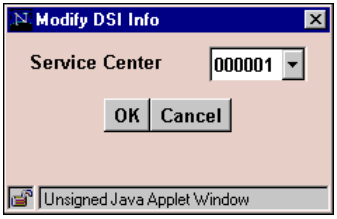


Figure B-8: Modify DSI Info window

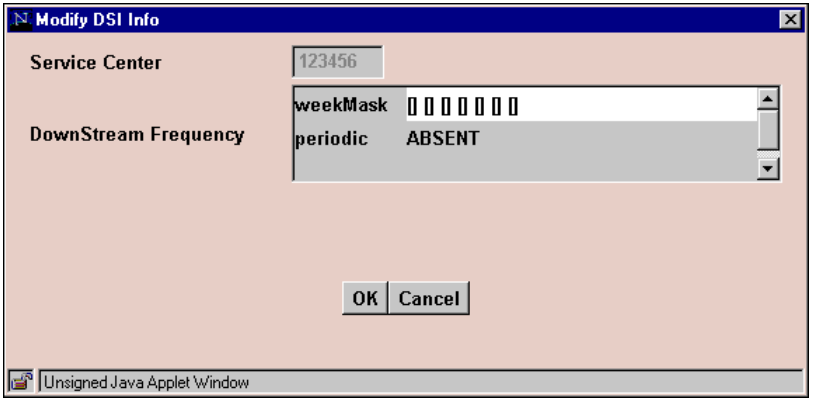


Figure B-9: Modify DSI Info (details) window

Viewing DownStream Interface Information

To Access: **DownStream Interface > View DSI Info**

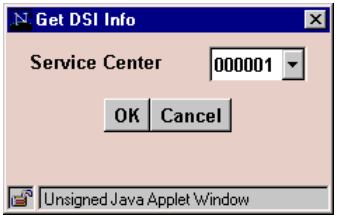


Figure B-10: Get DSI Info window

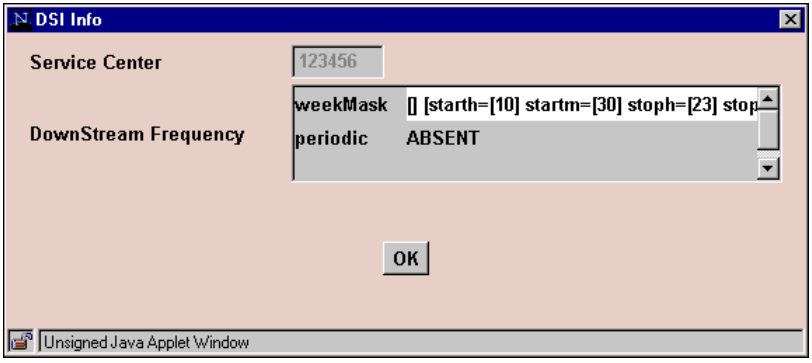


Figure B-11: DSI Info window

Viewing WeekMask Download Frequency

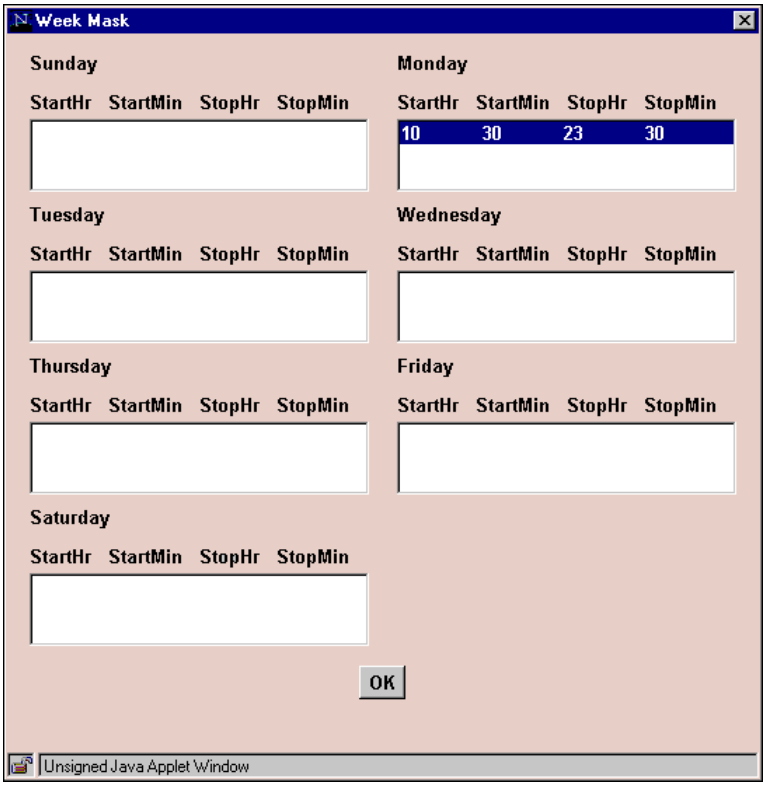


Figure B-12: Week Mask window

Viewing Periodic Download Frequency

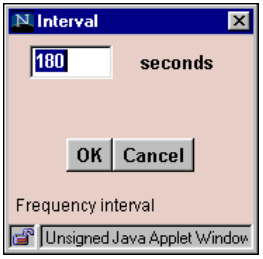


Figure B-13: Interval window

ezCallerID Documents

Creating ezCallerID Documents

To Access: **ezCallerID > Create ezCallerID Document**

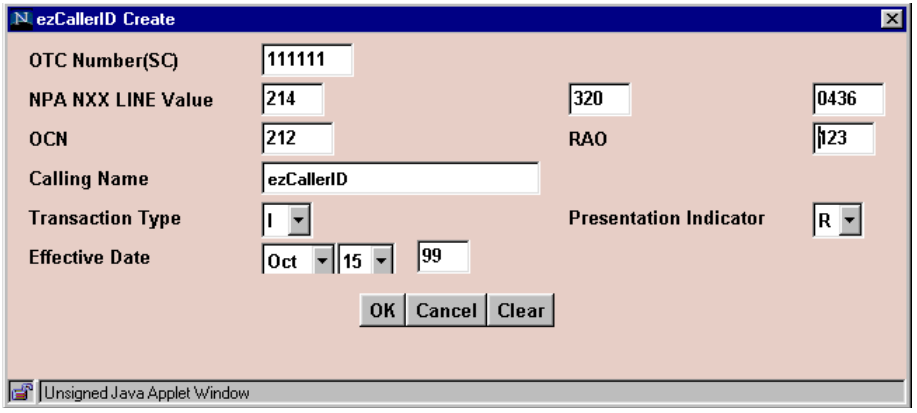


Figure B-14: ezCallerID Create window

Viewing ezCallerID Documents

Table B-5: Field Value Constraints for ezCallerID Create Window (1 of 2)

Field Name	Length - Type	Description (possible values)
OTC Number (also known as Service Center)	6 digits	The 6-digit code associated with the account name of a Service Center defined. The Service Center numbers are defined by the System Administrator.
NPA	3 digits	The first 3-digits of a station number in the format of NPA-NXX-LineNumber.
NXX	3 digits	The next 3-digits of a station number in the format of NPA-NXX-LineNumber.
Line Value (Line Number)	4 digits	The last 4-digits of a station number in the format of NPA-NXX-LineNumber.

Table B-5: Field Value Constraints for ezCallerID Create Window (2 of 2)

Field Name	Length - Type	Description (possible values)
OCN	4 alphanumeric characters	A valid Operating Company Number acting as the Billing Service (required for portable exchanges).
RAO	3 alphanumeric characters	A valid Revenue Accounting Office.
Calling Name	15 alphanumeric characters	Subscriber name or spaces
Transaction Type	1 alphabet	Type of customer transaction: • I = Insert new line number record • C = Change record • D = Delete record
Presentation Indicator	1 alphabet	Caller ID display option: • A = Calling name to be displayed • R = Block name from displaying
Effective Date	6 alphanumeric characters	Format MM-DD-YY. Only use if you want a future processing date.

To Access: **ezCallerID > View ezCallerID Document**

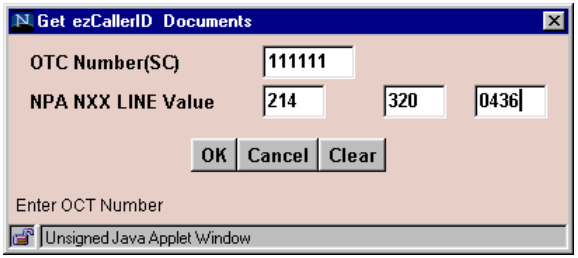


Figure B-15: Get ezCallerID Documents window

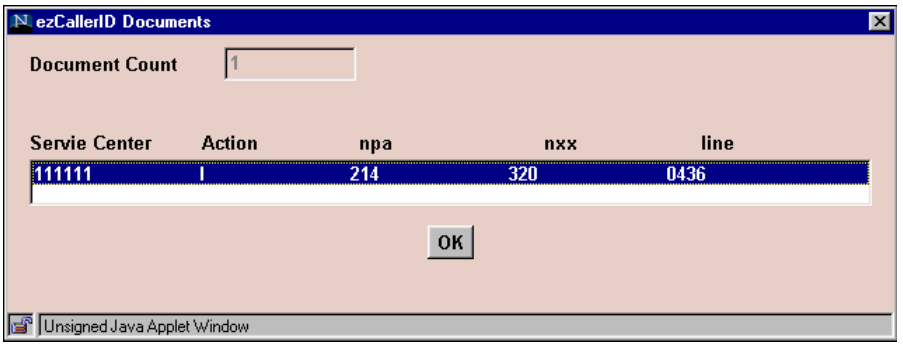


Figure B-16: ezCallerID Documents window

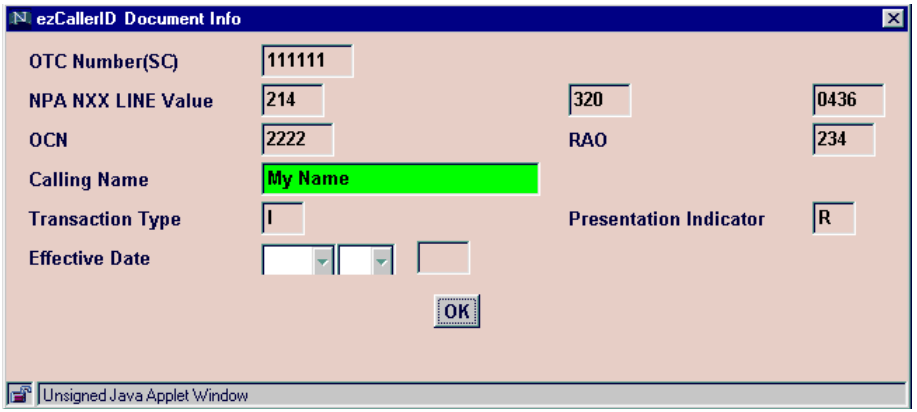


Figure B-17: ezCallerID Documents Info window

EXISTING CATALOG FROM SYSTEM ADMIN MANUAL

Privilege Levels Screens

Creating New Privilege Levels

Access by: **Admin > Privilege > Create**

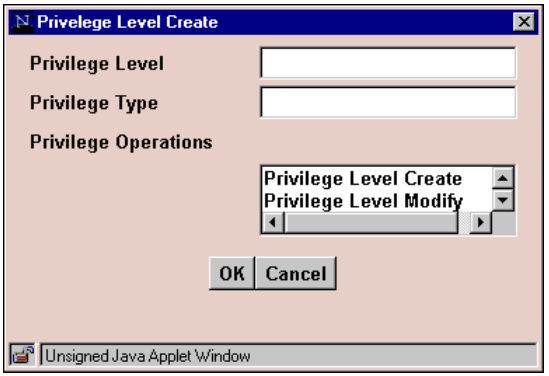


Figure B-18: Privilege Level Create window

Table B-6: Field Value Constraints for Privilege Level Create Window

Field Name	Length - Type	Description (possible values)
Privilege Level	Up to 8 digits	The privilege level indicator that determines the functions a user can perform.
Privilege Type	100 alphanumeric characters	A description of the functions a user can perform when given this privilege level.
Privilege Operations	Choose from the list	A set of operations that determines which functions the user can perform.

Modifying Privilege Level

Access by: **Admin > Privilege > Modify**

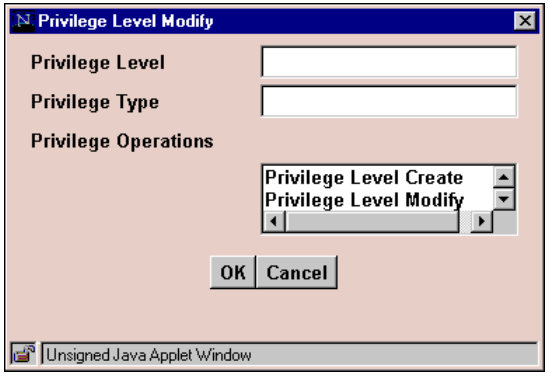


Figure B-19: Privilege Level Modify window

Table B-7: Field Value Constraints for Privilege Level Modify Window

Field Name	Length - Type	Description (possible values)
Privilege Level	Up to 8 digits	The privilege level indicator that determines the functions a user can perform.
Privilege Type	100 alphanumeric characters	A description of the functions a user can perform when given this privilege level.
Privilege Operations	Choose from the list	A set of operations that determines which functions the user can perform.

Viewing Privilege Levels

To Access: **Admin > Privilege > View**

Figure B-20: Privilege Level View Request window

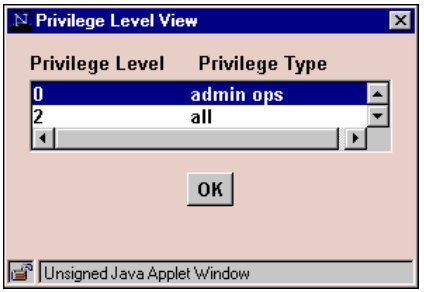


Figure B-21: Privilege Level View window

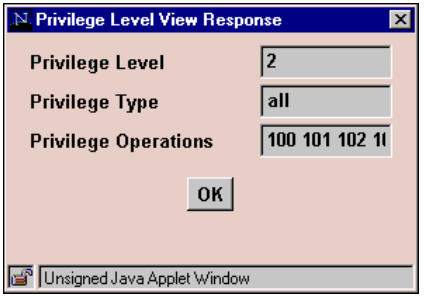


Figure B-22: Privilege Level View Response window

User Groups Screens

Creating amd Modifying New Users

To Access: **Admin > User Menu > Create new User Then next, Admin > User Menu > Modify**

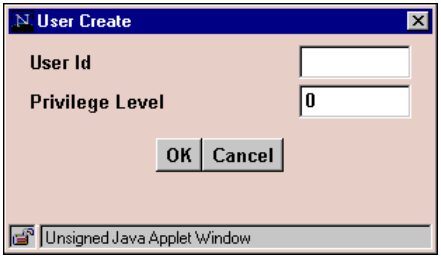


Figure B-23: User Create window

Table B-8: Field Value Constraints for User Create Window

Field Name	Length - Type	Description (possible values)
User ID	1-8 alphanumeric characters	The ID of the user that is being added to the system.
Privilege Level	Up to 8 digits	The privilege level indicator associated with this user's ID. This level determines the functions the user can perform.

Viewing All Users

To Access: **Admin > User Menu > View Then next,** click **OK**

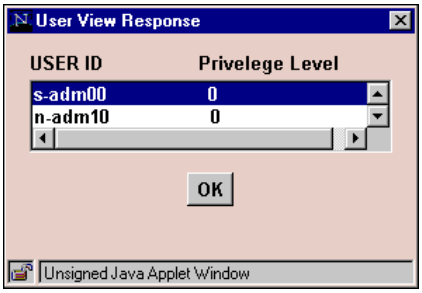


Figure B-24: User View Response window

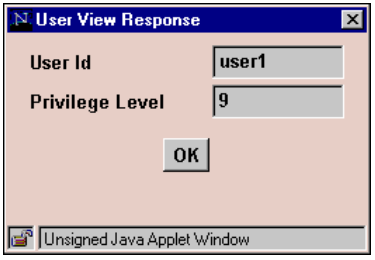


Figure B-25: User View Response window

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