Oracle® Communications Performance Intelligence Center

Reference Data User Guide

Release 9.0

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ORACLE®

Oracle Communications Performance Intelligence Center Reference Data User Guide, Release 9.0

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Table of Contents

REFERENCE DATA USER GUIDE ..... **Error! Bookmark not defined.**
Table of Contents 3
List of Figures 4
Chapter1: About this Help Text 5
Scope and Audience 6
About the Performance Intelligence Center 6
Setting User Preferences 7
Customer Care Center 14
PIC Documentation Library 17
Locate Product Documentation on the Customer Support Site 17
Chapter2: Getting Started with Reference Data 20
Introduction to Reference Data 21
Opening Reference Data 22
Reference Data Home Screen 23
Reference Data Screens with Tables and Records 24
Chapter3: Managing Records in the Reference Data Application 27
Working with Reference Data Tables 28
Adding a Reference Data Record 28
Modifying a Reference Data Record 29
Deleting a Reference Data Record 30
Deleting a Dependent Reference Data Record 30
Exporting Reference Data Files 32
Importing a CSV Records to the Reference Data Application 32
Viewing, Applying and Canceling Pending Changes 34
Chapter3: Reference Data Description 38
Overview 39
About Direction Processing 39
About Countries 39
About Carriers 40
About SSN Fallback 40
About Q850 Parameters 41

List of Figures

Figure 1 : PIC Overview 7
Figure 2 : Time Formatting Page 8
Figure 3: Directory Page 9
Figure 4: Mapping Page 10
Figure 5: Point Code Tab 11
Figure 6: CIC Page 12
Figure 7: Alarm Page 13
Figure 8: Privacy Page 14
Figure 9: NSP Portal Login Screen 22
Figure 10: Reference Data Application Icon 23
Figure 11: Reference Data Main Screen 23
Figure 12: Reference Data Screen with Tables 24
Figure 13: Populated Tables in Reference Data Screen 25
Figure 14 : Main Tool Bar 25
Figure 15 : Table Navigation Tool Bar 26
Figure 16 : Carrier Categories Screen 28
Figure 17 : Selected Parent Record 30
Figure 18 : Selected Dependent Record 31
Figure 19 : Error in deleting a Dependent Record 32
Figure 20 : Import Reference Data Screen 33
Figure 21 : Import Result Data Screen 34
Figure 22 : Pending Changes Banner 34
Figure 23 : View Pop-up Screen 35
Figure 24 : Apply Pop-up Screen 36
Figure 25 : Cancel Pop-up Screen 37

Chapter1: About this Help Text

Topics:

- *Scope and Audience.....5*
- *About the Performance Intelligence Center.....5*
- *Customer Care Center 13*
- *PIC Documentation Library..... 15*
- *Locate Product Documentation on the Customer Support Site..... 16*

Scope and Audience

This guide is designed to assist those users (individuals with roles NSPConfigManager, NSPAdministrator) using the Reference Data application to manage reference data in the PIC system.

About the Performance Intelligence Center

The Performance Intelligence Center (PIC) is a monitoring and data gathering system that provides network performance, service quality and customer experience - across various networks, technologies, protocols, etc. Beyond monitoring performance and gathering data, the solution also provides analytics, actionable intelligence and potentially an intelligent feedback mechanism. It allows Service Providers to simultaneously look across the Data Link, Network, Transport and Application layer traffic to better correlate and identify the impact of network problems on revenue generating applications and services.

PIC functionality is based on the following general flow. The Integrated Message Feeder (IMF) is used to capture SS7 and SigTran traffic. The Probed Message Feeder (PMF) is used to capture both SS7 and IP traffic. Both products forward Probe Data Units (PDUs) to the Integrated xDR Platform (IXP). The IXP stores this traffic data and correlates the data into detailed records (CDRs, IPDRs, TDRs, etc.). The IXP then stores the data on the system for future analysis. The Network Software Platform (NSP) provides applications that mine the detailed records to provide value-added services such as network performance analysis, call tracing and reporting.

PIC centralized configuration tasks fall into one of two categories:

- Data Acquisition and Processing - the configuration of the probes, routing of PDUs to the xDR builder setup, KPI generation, data feeds, etc.
- PIC System Administration - the configuration of monitoring sites, configuring PIC servers, setting up permissions, etc.

Note: For more information see Centralized Configuration Manager Administration Guide. This is a graphic overview of the PIC system.

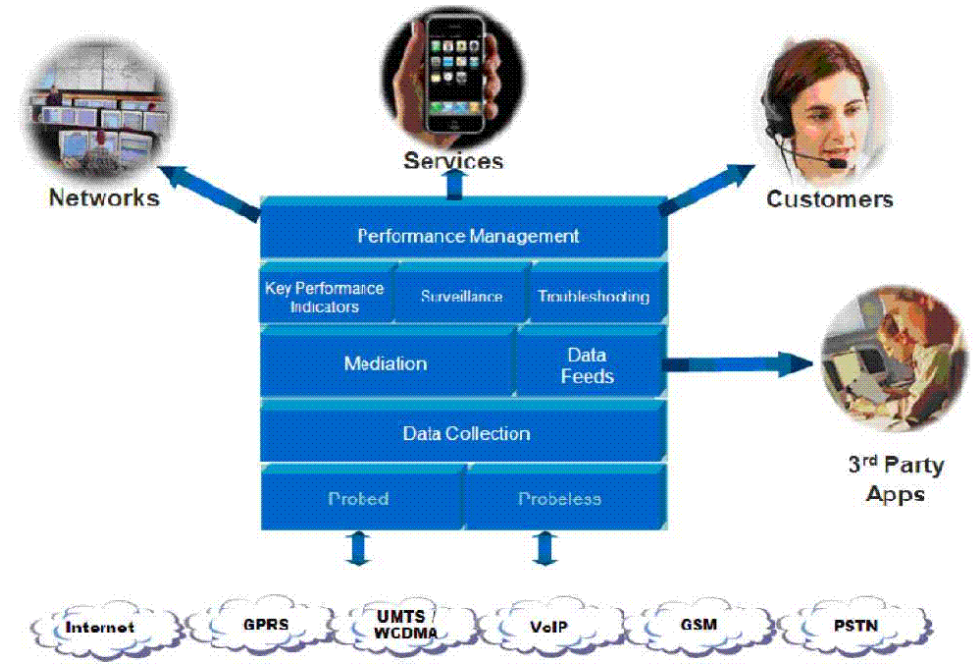


Figure 1 : PIC Overview

Setting User Preferences

Users can set User Preferences that apply across all the NSP applications. These include

- Time specifications (date format, time zone, etc.)
- Directory names (for exporting, uploading, and downloading)
- Enumeration values (numerals vs. text)
- Point code specifications
- CIC specifications
- Default alarm colors
- Default object privacy privileges

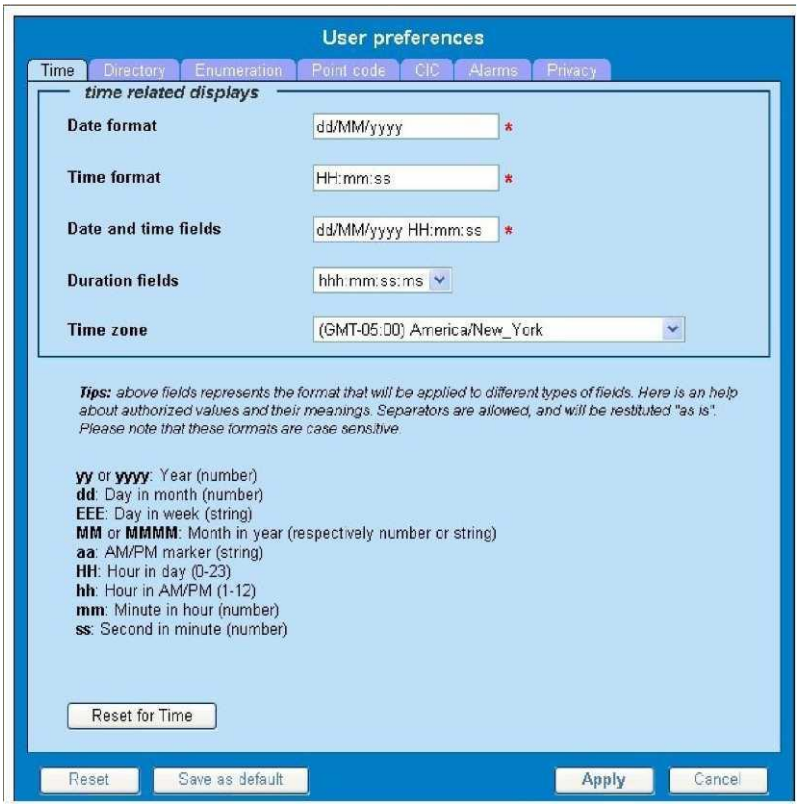
Setting Time Format

Follow these steps to set the time format:

1. Click **User Preferences** on the Application board. The User Preferences page is displayed.
2. Click the **Time** tab.
   The Time page is displayed. The red asterisk denotes a required field.

   Note: Use the tips on the page to help you configure the time format.

Figure 2 : Time Formatting Page



3. Enter the format for these time-related displays.

   - **Date format**
   - **Time format**
   - **Date and time fields**

4. Select the formats for these time-related displays by using the drop-down arrow.

   - **Duration fields**
   - **Time zone**

   Note: You must choose your time zone to get local time.

5. If you want to reset the time-related displays to default settings, click **Reset for Time.** (The bottom **Reset** button resets all the tabbed pages to default settings.)
6. Click **Apply** to save settings.

Setting Directory Preferences

Use the User Preferences feature to set the Export, Upload and Download directory paths for your system. These paths define where xDR's, dictionary files and other elements are stored.

Follow these steps to set the directory preferences.

1. Click **User Preferences** on the Application board. The User Preferences page is displayed.
2. Click the **Directory** tab.

   The Directory page is displayed. The red asterisk denotes a required field.

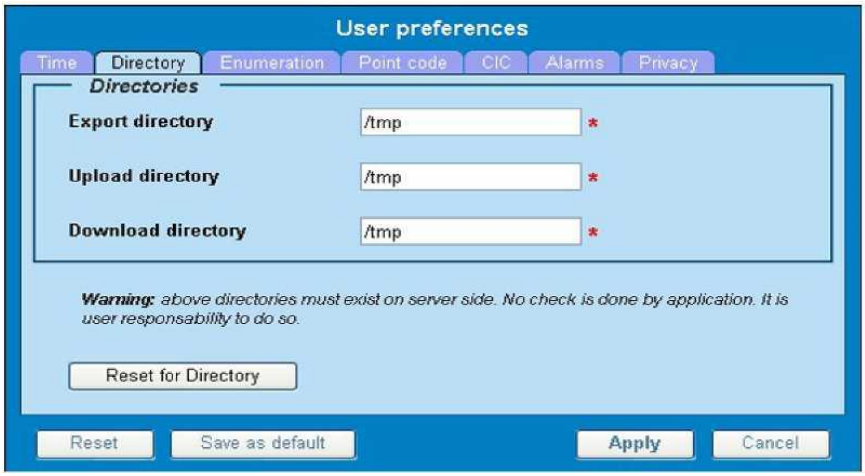


Figure 3: Directory Page

3. Type in the following:

   - **Export directory**
   - **Upload directory**
   - **Download directory**

4. If you want to reset the directories to default settings, click "**Reset for Directory".** (The bottom **Reset** button resets all the tabbed pages to default settings.)
5. Click **Apply** to save your settings.

Setting Mapping Preferences

You can set the Mapping settings using the User Preferences feature.
Follow these steps to set Mapping preferences.

1. Click **User Preferences** in the Application board. The User Preferences page is displayed.
2. Click the **Mapping** tab . The Mapping page is displayed.
3. Check **Translate ENUM values** to display text instead of numerals.

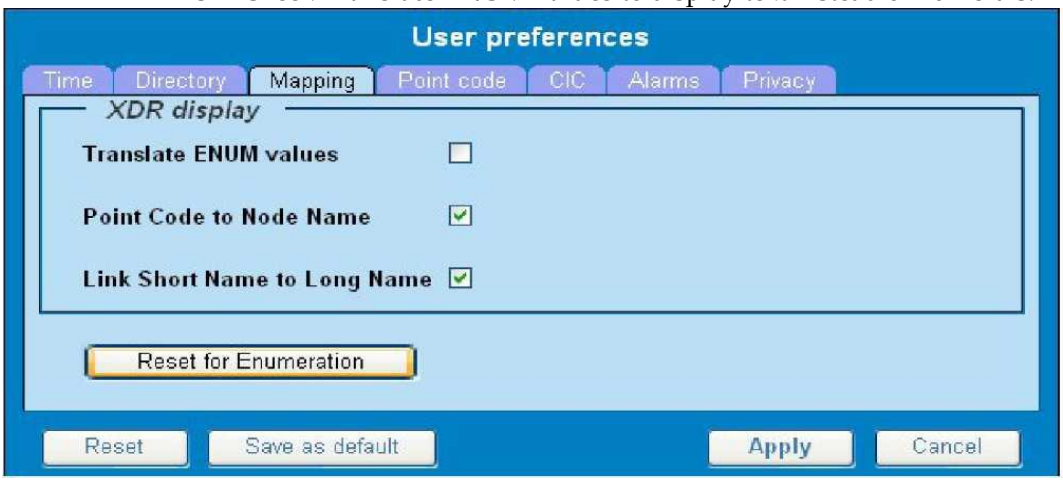


Figure 4: Mapping Page

Enumeration is used by xDRs to display text values instead of numeric. (For example, rather than showing the numeral for Alarm Severity, the user interface will show the actual word, such as "Major" or "Critical.")

4. Check **Point Code to Node Name** to display the custom (user-defined) name of the node. Otherwise, the Point Code value is displayed.
5. Check **Link Short Name to Long Name** to display the custom (user-defined) link name or the Eagle link name. Otherwise, the short name is displayed, which is the name that begins with an asterisk (*).
6. To reset the Mapping values to the default, click **Reset for Enumeration.** (The bottom **Reset** button resets all the tabbed pages to default settings.)
7. Click **Apply** to save the changes.

Setting Point Code Preferences

The User Preferences feature enables you to set the Point Code preferences for your system. A Point Code is a unique address for a node (Signaling Point), used to identify the destination of a message signal unit (MSU).

Follow these steps to set the Point Code preferences.

1. Click **User Preferences** in the Application board. The User Preferences page is displayed.
2. Click the **Point Code** tab.
   The Point Code page is displayed. The red asterisk denotes a required field.

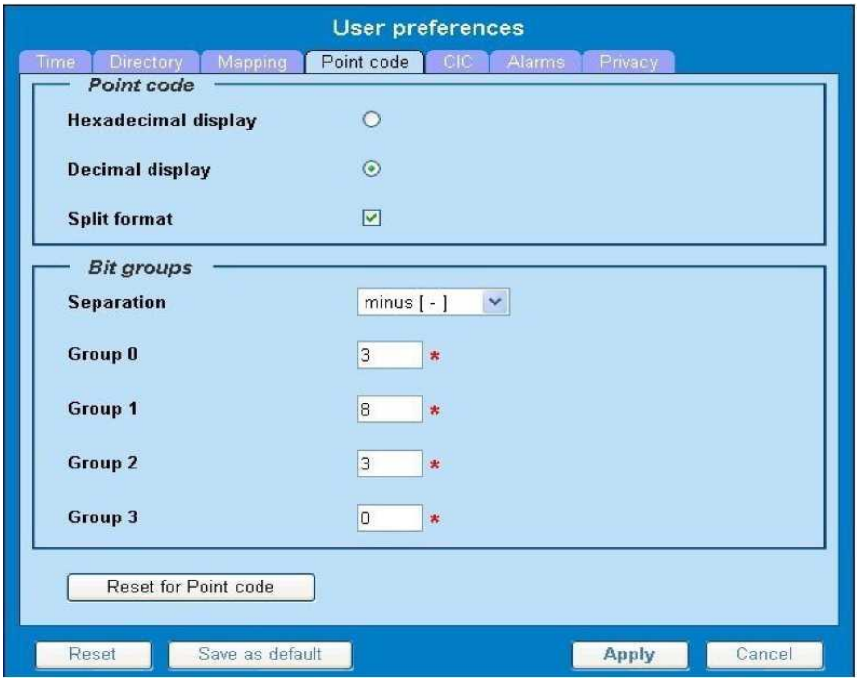


Figure 5: Point Code Tab

3. Select either **Hexadecimal display** or **Decimal display.**
4. Select or de-select **Split format.**
   If **Split format** is checked, the Bit groups settings in the box below are active. If **Split format** is not checked, Bit groups settings are not applicable.
5. If you selected Split format above, go to the next step. If you did not select Split format, go to step *11*.
6. In the Bit groups panel, use the drop-down box to select the **Separation** type .
7. Type in values for **Groups 0-3.**
8. To reset the point code preferences to default settings, click **Reset for Point code.** (The bottom **Reset** button resets all the tabbed pages to default settings.)
9. Click **Apply** to save your settings.

Setting CIC Preferences

The Circuit Identification Code (CIC) provides a way to identify which circuit is used by the Message Signaling Unit (MSU). This is important in ProTrace applications. Use the User Preferences feature to set the CIC settings for your system.

Complete these steps to set the CIC preferences:

1. Click **User Preferences** in the Application board. The User preferences page is displayed.
2. Click the **CIC** tab. The CIC page is displayed. The red asterisk denotes a required field.

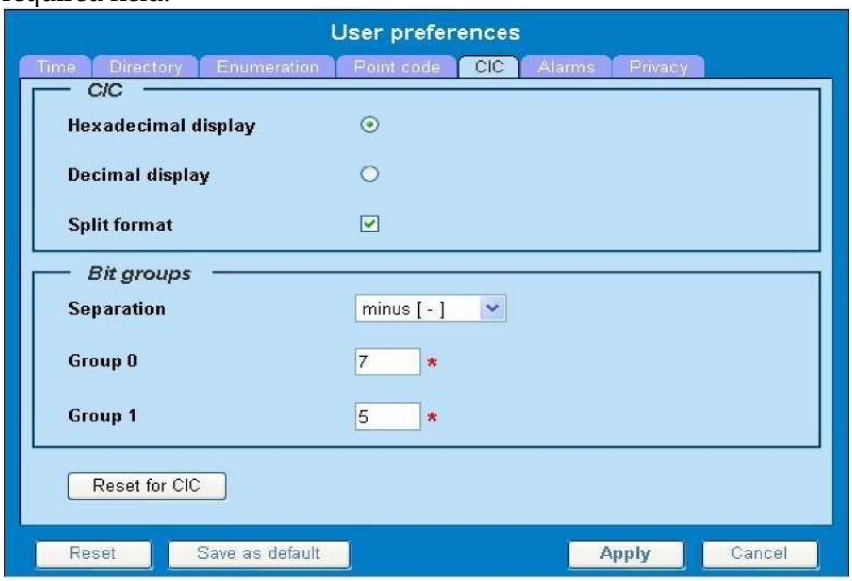


Figure 6: CIC Page

3. Select either **Hexadecimal display** or **Decimal display.**
4. Select or de-select **Split format.**
   If **Split format** is checked, the Bit groups settings in the box below are active. If **Split format** is not checked, Bit groups settings are not applicable.
5. If you selected Split format above, go to the next step. If you did not select Split format, go to *12*.
6. In the Bit groups panel, use the drop-down box to select **Separation** type..
7. Type in values for **Group 0** and **Group 1.**
8. If you want to reset CIC preferences to the default, click **Reset for CIC.** (The bottom **Reset** button resets all the tabbed pages to default settings.)
9. Click **Apply** to save your settings.

Setting Alarms Preferences

Use the Alarms tab in User Preferences to define the default colors that indicate alarm severity. The colors are displayed in the Perceived Severity column of alarms tables and on object icons in maps.

Follow these steps to modify alarm status colors.

1. Click **User Preferences** in the Application board. The User preferences page is displayed.
2. Click the **Alarms** tab.
   The Alarms page is displayed. The red asterisk denotes a required field.

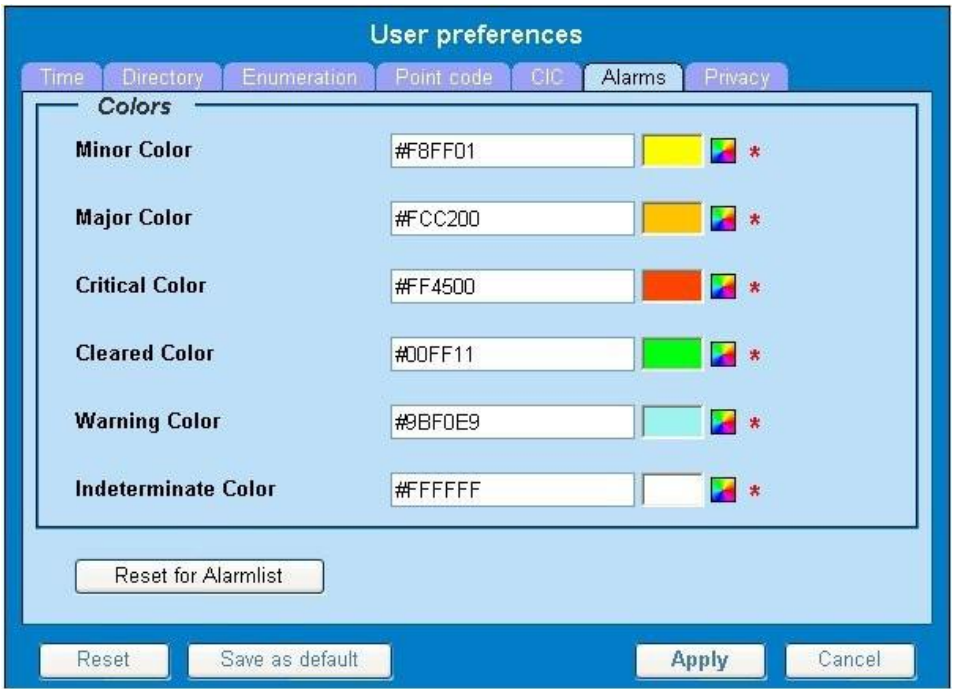


Figure 7: Alarm Page

3. Click the color palette (icon on the right side of the screen) associated with the alarm status color(s) you want to modify.
   A pop-up palette window is displayed.
4. Click the color you want for the type of alarm.
   The color palette pop-up is closed and the color box for the alarm displays the selected color. The number for the color is also displayed.
5. If you want to reset the Alarm preferences to the default, click **Reset for Alarmlist.** (The bottom **Reset** button resets all the tabbed pages to default settings.)
6. Click **Apply.**
   The changes do not take effect until you log out of and in again to NSP.

Setting Default Object Privacy

All NSP users can set default access privileges for Objects (data) they create in NSP applications. An owner has full rights to modify or delete the object . Other users are assigned to a Profile and have access to these Objects through that Profile's associated Privacy Roles.

To enter the default Object Privacy (data) settings, follow these steps:

1. Click **User preferences** in the Application board menu.
   The User Preferences window is displayed. The **Time** tab is active by default.
2. Click the **Privacy** tab.

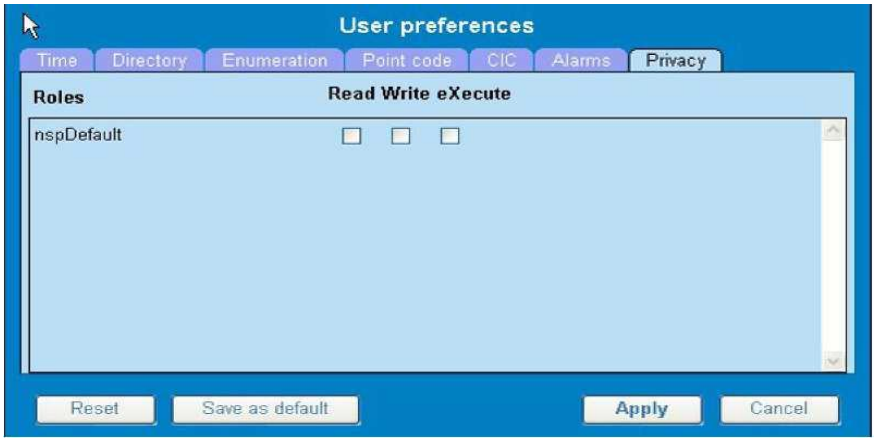


Figure 8: Privacy Page

The Privacy page is displayed.

3. Click the appropriate box to select **Read, Write,** or **eXecute.** If you want the role to have no access to the selected object(s), ensure that no box is checked.
4. Click **Save as default.**
5. To reset all the tabbed pages to default settings, click **Reset.**
6. Click **Apply.**
   The settings are saved.

Customer Care Center

The Tekelec Customer Care Center is your initial point of contact for all product support needs. A representative takes your call or email, creates a Customer Service Request (CSR) and directs your requests to the Tekelec Technical Assistance Center (TAC). Each CSR includes an individual tracking number. Together with TAC Engineers, the representative will help you resolve your request.

The Customer Care Center is available 24 hours a day, 7 days a week, 365 days a year, and is linked to TAC Engineers around the globe.

Tekelec TAC Engineers are available to provide solutions to your technical questions and issues 7 days a week, 24 hours a day. After a CSR is issued, the TAC Engineer determines the classification of the trouble. If a critical problem exists, emergency procedures are initiated. If the problem is not

critical, normal support procedures apply. A primary Technical Engineer is assigned to work on the CSR and provide a solution to the problem. The CSR is closed when the problem is resolved.
Tekelec Technical Assistance Centers are located around the globe in the following locations:
Email (All Regions): support@tekelec.com

- **USA and Canada**

  Phone:

  1-888-FOR-TKLC or 1-888-367-8552 (toll-free, within continental USA and Canada)

  1-919-460-2150 (outside continental USA and

  Canada)

  TAC Regional Support Office Hours:

  8:00 a.m. through 5:00 p.m. (GMT minus 5 hours), Monday through Friday, excluding holidays

- **Caribbean and Latin America (CALA)**

  Phone:

  USA access code +1-800-658-5454, then 1-888-FOR-TKLC or 1-888-367-8552 (toll-

  free)

  TAC Regional Support Office Hours (except Brazil):

  10:00 a.m. through 7:00 p.m. (GMT minus 6 hours), Monday through Friday, excluding holidays

  - **Argentina**

    Phone:

    0-800-555-5246 (toll-free)

  - **Brazil**

    Phone:

    0-800-891-4341 (toll-free)

    TAC Regional Support Office Hours:

    8:30 a.m. through 6:30 p.m. (GMT minus 3 hours), Monday through Friday, excluding holidays

  - **Chile**

    Phone:

    1230-020-555-5468

  - **Colombia**

    Phone:

    01-800-912-0537

  - **Dominican Republic**

    Phone:

    1-888-367-8552

  - **Mexico**

Phone:

001-888-367-8552

- **Peru**

  Phone:

  0800-53-087

- **Puerto Rico**

  Phone:

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- **Venezuela**

  Phone:

  0800-176-6497

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  - **Software Solutions**

    Phone:

    +33 3 89 33 54 00

- **Asia**

  - **India**

    Phone:

    +91 124 436 8552 or +91 124 436 8553

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    10:00 a.m. through 7:00 p.m. (GMT plus 5 1/2 hours), Monday through Saturday, excluding holidays

  - **Singapore**

    Phone:

    +65 6796 2288
    TAC Regional Support Office Hours:

    9:00 a.m. through 6:00 p.m. (GMT plus 8 hours), Monday through Friday, excluding holidays

PIC Documentation Library

PIC customer documentation and online help are created whenever significant changes are made that affect system operation or configuration. Revised editions of the documentation and online help are distributed and installed on the customer system. Consult your NSP Installation Manual for details on how to update user documentation. Additionally, a Release Notice is distributed on the Tekelec Customer Support site along with each new release of software. A Release Notice lists the PRs that have been resolved in the current release and the PRs that are known to exist in the current release.

Listed is the entire PIC documentation library of user guides.

- Security User Guide
- Alarms User Guide
- ProAlarm Viewer User Guide
- ProAlarm Configuration User Guide
- Centralized Configuration Manager Administration Guide
- Customer Care User Guide
- Alarm Forwarding Administration Guide
- Diagnostic Utility Administration Guide
- ProTraq User Guide
- ProPerf User Guide
- ProPerf Configuration User Guide
- System Alarms User Guide
- ProTrace User Guide
- Data Feed Export User Guide
- Audit Viewer Administration Guide
- ProDiag User Guide
- SigTran ProDiag User Guide
- Report Server Platform User Guide
- Reference Data User Guide
- Exported Files User Guide
- Scheduler User Guide
- Quick Start User Guide

Locate Product Documentation on the Customer Support Site

Access to Tekelec's Customer Support site is restricted to current Tekelec customers only. This section describes how to log into the Tekelec Customer Support site and locate a document. Viewing the document requires Adobe Acrobat Reader, which can be downloaded at www.adobe.com.

1. Log into the *Tekelec Customer Support* site.

Note: If you have not registered for this new site, click the **Register Here** link. Have your customer number available. The response time for registration requests is 24 to 48 hours.

2. Click the **Product Support** tab.
3. Use the Search field to locate a document by its part number, release number, document name, or document type. The Search field accepts both full and partial entries.
4. Click a subject folder to browse through a list of related files.
5. To download a file to your location, right-click the file name and select "**Save Target As".**

Chapter2: Getting Started with Reference Data

Topics:

- *Introduction to Reference Data 18*
- *Opening Reference Data 18*
- *Reference Data Home Screen 20*

Introduction to Reference Data

The reference data application is developed for users, (individuals who have role, NSPConfigUser, NSPConfigPowerUser, NSPConfigManager and NSPAdministrator), to view and manage reference data for PIC analytics packages.

The following information and structures are utilized:

- All reference data such as carrier network data, subsystem numbers, area codes, etc is displayed in tabular format.
- All data that provides the basic information within the reference data structure. The

information and structures are used to:

- Map customer data to monitored network data.
- Enrich monitored network data with customer data.
- Filter monitored network data.
- Map technical network data values to values recognized in the customer's domain. For example, to map an address to a name.
- Make analytics, charts, and reports understandable
- Group monitored network data. For example, group IP addresses to a common SGSN name.

These privileges are assigned to the roles listed

Feature - Authority	**NSPConfigUser**	**NSPConfig PowerUser**	**NSPCOnfig Mgr**	**NSPAdministrator**
Open	**X**	X	X	X
View	x	X	X	X
Modify, Update, Delete Reference Data			X	X
Export			X	X
Import			X	X
Import Reference Metadata*				X
Remove Reference Metadata*				X

* = Operations are completed by Tekelec Service

Opening Reference Data

Complete these steps to open the Reference Data application.

Note: Reference Data is an application that runs on NSP, it must be opened from the NSP application board.

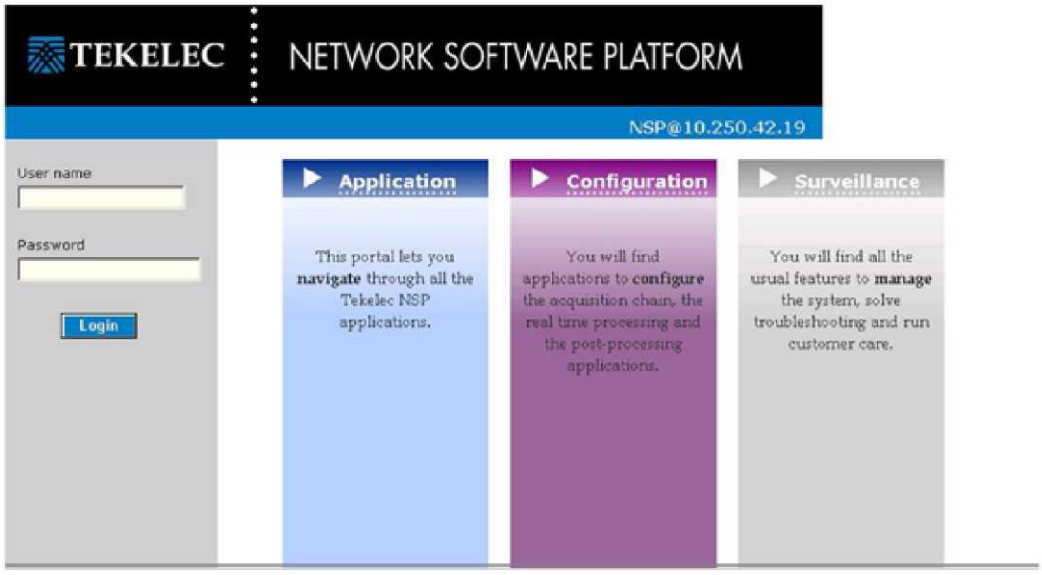
1. Using a Web browser, type in the IP Address of the NSP *Server.*

Note: NSP only supports versions of IE 7.0 or later and Firefox 3.6 or later. Before using NSP, turn off the browser pop up blocker for the NSP site.

Note: Reference Data runs on a Web interface and uses an IP address to access the NSP platform. The URL can be saved in the Favorites list on your browser.

Note: Contact your system administrator to obtain the IP address for the NSP *Server.* The NSP login screen appears

Figure 9: NSP Portal Login Screen



2. Log into NSP by typing:
   a) **Your Userid**
   b) **Your Password**

   Note: Check with your system administrator for your userid and password. The NSP Application Board opens.

3. To open the Reference Data application, click the **Reference Data** icon located in the configuration section of the application board.

Figure 10: Reference Data Application Icon

Reference Data Home Screen

The main screen has a left and right section.

The Reference Data application manages the reference data to be used in the PIC system from one main screen. After opening the application from the PIC Application Board, the Reference Data Home Screen opens.

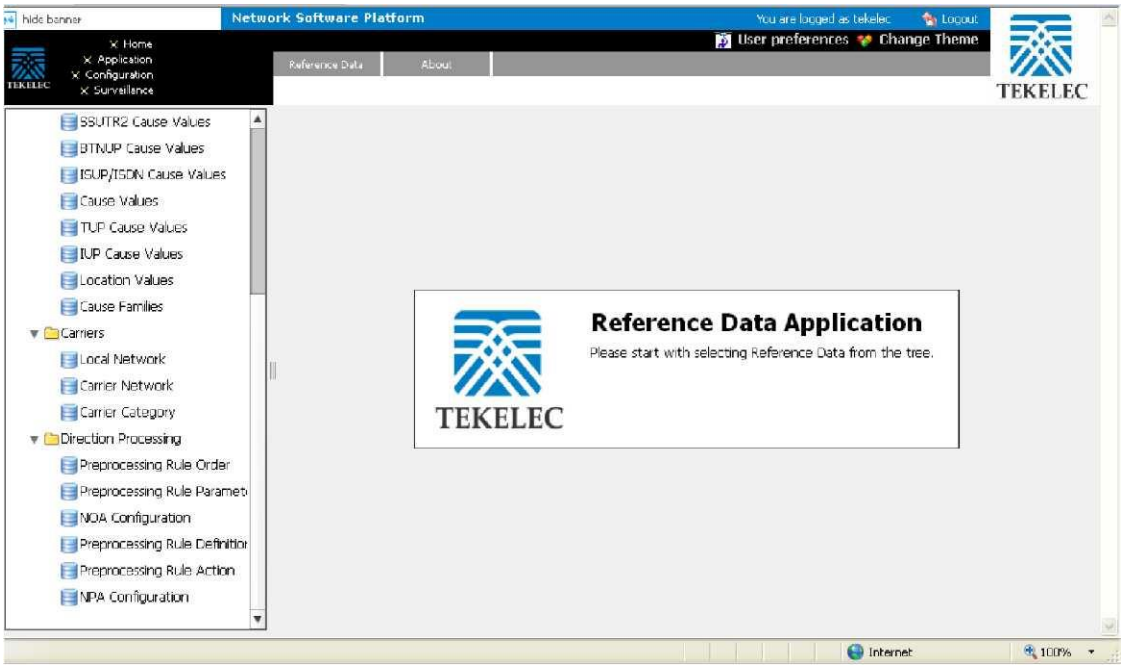


Figure 11: Reference Data Main Screen

The left section lists all the reference data entity groupings with associated reference data.

Note: Groupings can change according to what report packages are loaded on the system.

The groupings such as: SSN Fallback, Countries, Q850 Parameters, Carriers and Direction Processing appear as folders that contain their associated reference data shown as blue icons.

The right section has the following functionality.

Menu Bar

- Reference Data menu - provides options to:

  - Apply changes - applies reference data changes to the PIC system (alternative means to the Pending Changes banner).
  - Cancel changes - cancels any changes/modifications to reference data (alternative means to the Pending Changes banner).

- Refresh - refreshes the screen to show any changes that have occurred to the system.

- About menu - this menu has one option:
  - About Application - opens a screen that shows the application name and software release installed. In addition it provides the corporate headquarters address and pertinent phone numbers for corporate offices.

- User Preferences - provides a link to set generic preferences on default time format, directory, mapping (xDR display), Point Code, CIC, Alarms and Privacy (privileges) for all PIC applications. (See *Setting User Preferences*)
- Change Theme - enables the choice of six different screen themes such as sky, sage, cobalt, graphite, desert or the default theme.

- Workspace - provides a tabular format to view and work with records.

Reference Data Screens with Tables and Records

This is an example of reference data screen (Carrier Network entity) with both main and navigation tool bars.
This figure shows an example of a reference data screen showing the tables populated with a sample record.

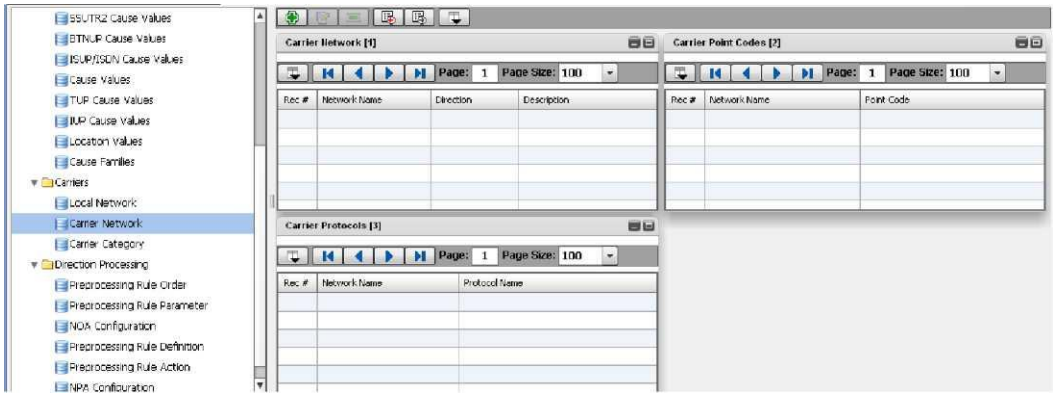
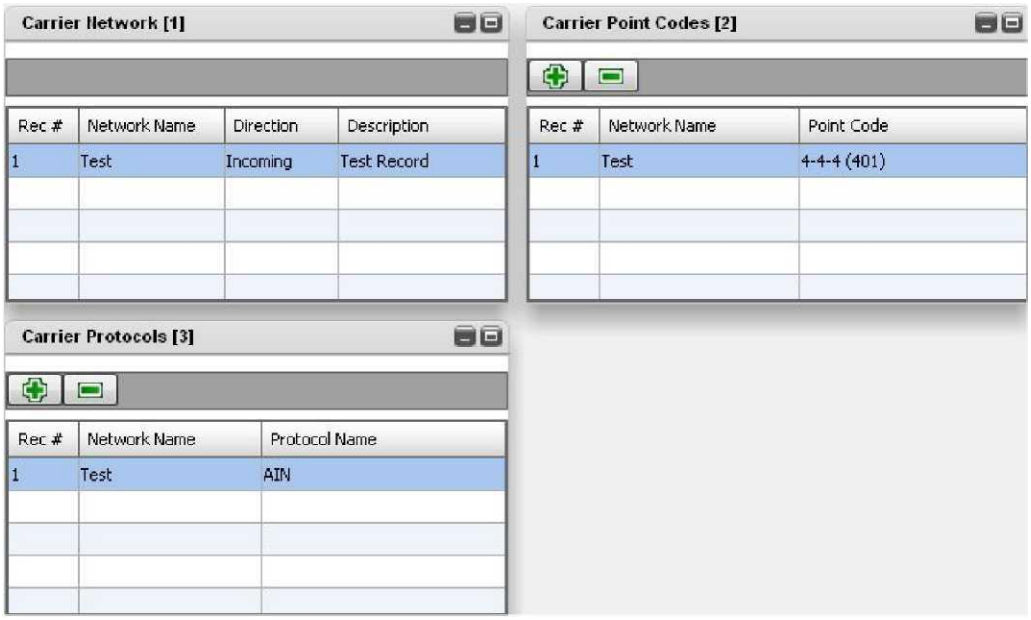


Figure 12: Reference Data Screen with Tables

Figure 13: Populated Tables in Reference Data Screen



Note: All screens are configurable and allow for different table layouts (column layout button). Tables can be minimized or maximized so that the desired table can always be viewed. Record columns can to be re-arranged (by drag and drop) and sort order (ascending or descending) is changed by clicking on the column heading.

Reference Data Tool Bars

The Reference Data application main tool bar provides a limited number of operations.

Main Tool Bar

Figure 14 : Main Tool Bar

- Add - enables the addition of a reference data entity record.
- Modify - enables the modification of a selected record.
- Delete - enables a selected record to be deleted.
- Import - enables the importing of files in csv format.

  Note: Imports can be either fresh or incremental. A fresh import erases the existing data and replaces it with the imported data. The incremental import appends any new data to the existing data as well as merging modified records.

- Export - enables the export csv files in zip format to the local disk.
- Columns - allows for the selection of specific column layouts.

Table Navigation Tool Bar

Figure 15 : Table Navigation Tool Bar

Reference data can have more than one table on the screen (protocol name, subsystem number, area code, etc.). Each table belonging to the reference data has a navigation tool bar. The navigation tool bar provides the following operations:

- Column select - enables the selection/de-selection of columns viewed. (A check mark beside the column name designated that the column is selected for viewing.)
- First - click this button to go to the first record on the first page.
- Previous - click this button to move to the previous page.
- Next - click this button to move to the next page.
- Last - click this button to go to the last page.
- Page - this field shows what page the selected record is located. (Helpful with searching for a record in a very large group of records.)
- Page Size - this field shows the number of records on each page. (The default is 100. The selections are: 100, 200, 500, 1000, 2000, 5000.)

Chapter3: Managing Records in the Reference Data Application

Topics:

- *Working with Reference Data Tables 25*

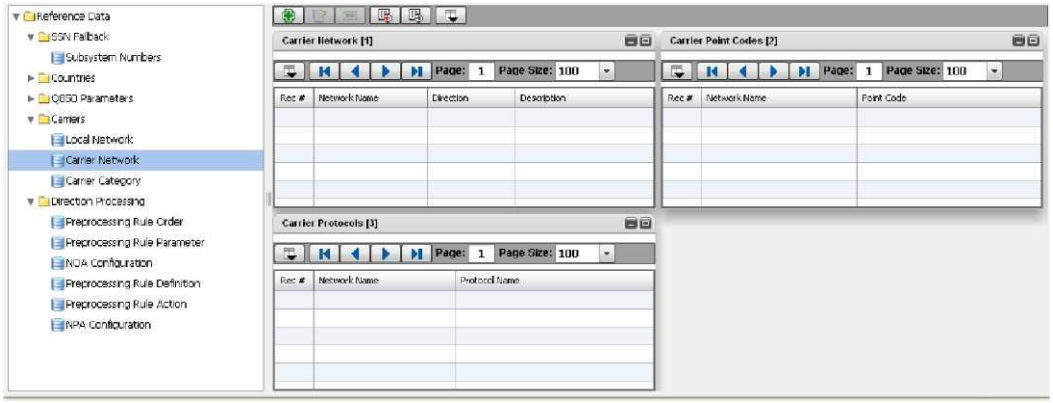
Working with Reference Data Tables

The Reference Data application contains Performance Intelligence Center (PIC) system-wide information that can be customized. The information is organized in tabular form, the reference data is comprised of one or more tables depending on the nature of the data. For example, NOA Configuration data is comprised of one table with three columns (NOA, NOA Description and Prefix Value) while NPA Configuration contains four tables with each table containing two to seven columns.

Although the number of tables and columns can differ according to the reference data, the method of working with them is the same. The general rule navigating within the screen is that the parent table is always on the top left-hand corner of the screen with the dependent tables organized after it.

Figure 16 : Carrier Categories Screen

For example, the reference data Carrier Network is comprised with three tables. The parent or root table, Carrier Network, is in the top left-hand of the screen with its dependent tables listed after it.



When creating a new reference data record it is best to follow the work flow of the screen (top left to bottom right).

Adding a Reference Data Record

Complete these steps to add a reference data record.

Note: This is a generic example of this operation and is represented by adding a carrier network record.

Note: Lists of information appear either as drop-down lists or pop-up screens.

1. **Carriers > Carrier Network.**
2. Click **Add** from the tool bar.
3. Enter the **Network Name** of the carrier network table.
4. Select the **Direction** (Incoming, Outgoing) from the pull-down list.
5. (Optional) Enter a **Description** of the carrier network.
6. Click **Add** on the Carrier Point Codes table tool bar.

7. Click on the **format list** and select the **point code format.**
8. Enter the **point code.**

   Note: The point code must be in the proper format for the protocol. If the information that is entered is not in the correct format, the field will be highlighted in red and a tool tip appears stating that an incorrect format has been entered.

   Note: Repeat steps 6-8 to add additional point codes to a record.

   Note: A network carrier record can contain 1 to100 point codes.

9. Click **Add** on the Carrier Protocols table tool bar.
10. Select the **Protocol Name** from the pop-up screen.

    Note: Repeat steps 9-10 to add additional protocols to a record.

    Note: A network carrer record can contain 1 to 5 protocols.

11. Click **Save.**

    Note: Follow steps 2-10 to add additional records to the reference data.

    Note: A "Pending Changes" banner appears showing what reference data has been modified, (in this case Carrier Network), with three buttons: View, Apply and Cancel. (See *Viewing, Applying and Canceling Pending Changes* for more information.) In addition, on the left-hand section of the screen the Reference Data header is highlighted in bold print with an "*" beside it as well as the specific reference data modified.

Modifying a Reference Data Record

Complete these steps to modify a reference data record.

Note: This is a generic example of this operation and is represented by modifying a carrier network record.

1. **Grouping (Carriers) > Reference Data (Carrier Network).**
2. Select the **record** to be modified.
3. Click **modify** on the screen tool bar.
4. Modify the appropriate information.

   Note: Selecting a dependent record in either the modify or delete operation opens the reference table pop-up screen. From this screen a different reference can be selected.

5. Click **Save.**

   Note: Follow steps 2-4 to modify additional records in the reference data.

   Note: A "Pending Changes" banner appears showing what reference data has been modified, (in this case Carrier Network), with three buttons: View, Apply and Cancel. (See *Viewing, Applying and Canceling Pending Changes* for more information.) In addition, on the left-hand section of the screen the Reference Data header is highlighted in bold print with an "*" beside it as well as the specific reference data modified.

Deleting a Reference Data Record

Complete these steps to delete a reference data record (parent record and all dependent records).
Note: This is a generic example of this operation that is represented by deleting a carrier network dependent record.

1. Select **Grouping (Carriers) > Reference Data (Carrier Network).**
2. Select the **record** to be deleted.
3. Click **Delete** on the screen tool bar.

   Note: Click **Cancel** if the operation is to be canceled.

4. Click **Yes** to confirm the deletion. The parent record and all dependent records are deleted.

   Note: A "Pending Changes" banner appears showing what reference data record has been modified, (in this case Carrier Network), with three buttons: View, Apply and Cancel. (See *Viewing, Applying and Canceling Pending Changes* for more information.) In addition, on the left-hand section of the screen the Reference Data header is highlighted in bold print with an "*" beside it as well as the specific reference data record modified.

Deleting a Dependent Reference Data Record

Complete these steps to delete a dependent reference data record.

Note: This is a generic example of this operation that is represented by deleting a carrier network dependent record.

Note: In this example all references (parent tables) must have a dependent (child) associated to them. If a dependent record is deleted leaving the reference "blank" the system will signal an error with a red box around the reference field. If such a condition exists, click the **plus** (+) button on the dependent record field and add the record.

1. Select **Grouping (Carriers) > Reference Data (Carrier Network).**
2. Select the **parent record** that will have the a dependent record deleted.

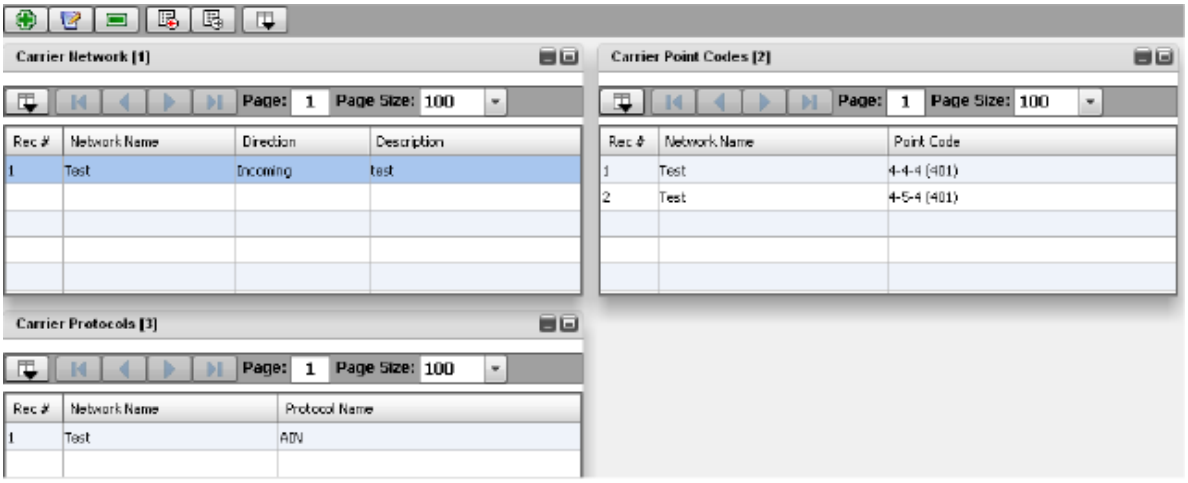


Figure 17 : Selected Parent Record

3. Click **modify** on the main tool bar.

4. Select the **Dependent Record** to be deleted

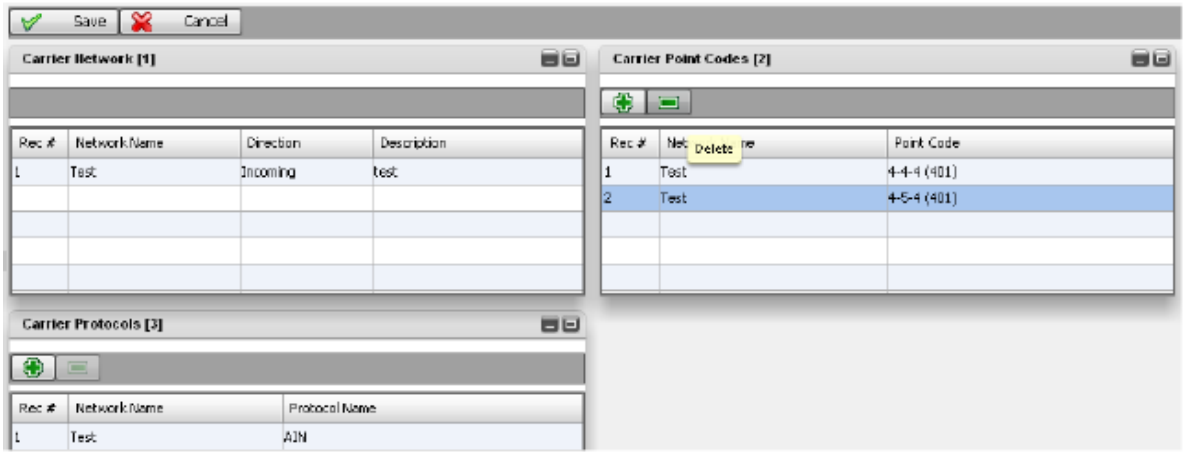
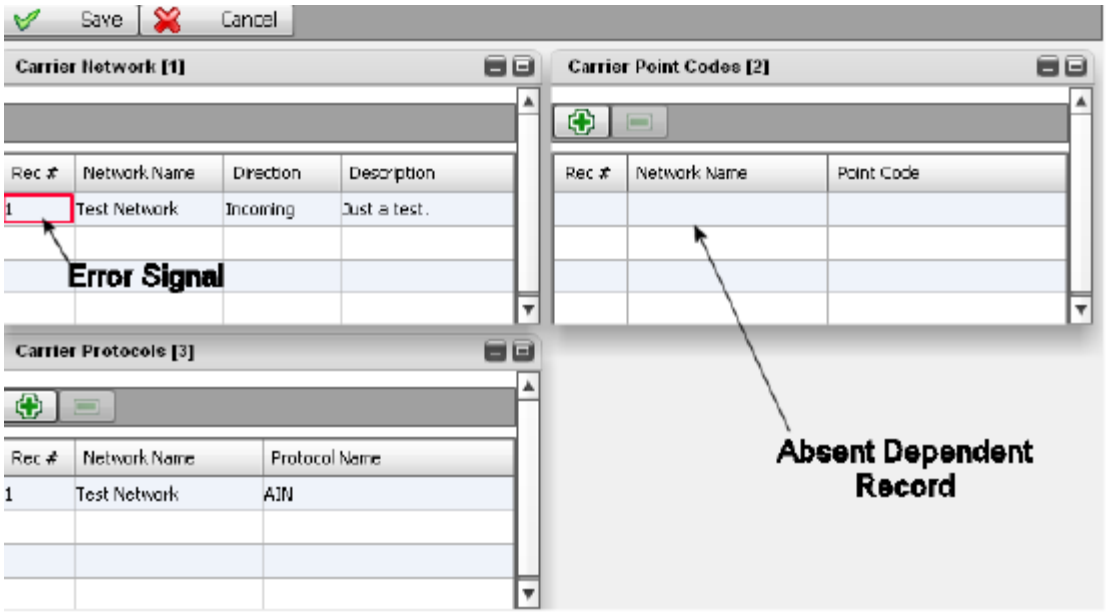


Figure 18 : Selected Dependent Record

5. Click **Delete** on the table tool bar.
6. Click **Yes** to confirm the deletion.

Note: Follow steps 2-4 to delete additional dependent records from the reference data record.

Note: All parent records must have a dependent record associated to them. If a dependent record is deleted leaving the reference "blank" the system will signal an error with a red box around the reference field shown in this figure. In addition, a "tool tip" will appear showing the error. If such a condition exists, cancel the delete operation by clicking the **cancel** button on the tool bar. This action cancels any changes and returns the record to its original state with dependent records.



F

Figure 19 : Error in deleting a Dependent Record

Note: A "Pending Changes" banner appears showing what reference data record has been modified, (in this case Carrier Network), with three buttons: View, Apply and Cancel. (See *Viewing, Applying and Canceling Pending Changes* for more information.) In addition, on the left-hand section of the screen the Reference Data header is highlighted in bold print with an "*" beside it as well as the specific reference data record modified.

Exporting Reference Data Files

You can export a file, as a zip file which contains one csv file per table, from the Reference Data application to a specified directory on a local disk drive.

Note: The export procedure described here is the same for all files, therefore, a generic example is described using the grouping *SSN Fallback* and the reference data *subsystem numbers.*

Complete these steps to export a reference data file in zip file format.

1. Select **Entity Parent (SSN Fallback) > Entity Child (Subsystem Numbers).**
2. Click **Export** on the tool bar.
3. Enter a **Name** for the file to be exported
4. Click **Save.**

   A pop-up screen appears showing the progress of the export. When the export is finished a message appears stating the result (successful or failed).

Importing a CSV Records to the Reference Data Application

The Reference Data application's import operation enables reference data records to be imported, in csv format, from a specified directory.

The import operation imports all the data within a entity. Since the import operation works the same for all entities, Subsystem Numbers is used as a "generic" example for importing reference data records.

Complete these steps to upload a reference data records in csv format.

1. Select **Grouping (SSN Fallback) > Reference Data (Subsystem Numbers).**
2. Click **Import** from screen tool bar.
3. Select if the import is **a fresh import** or **Incremental Import**

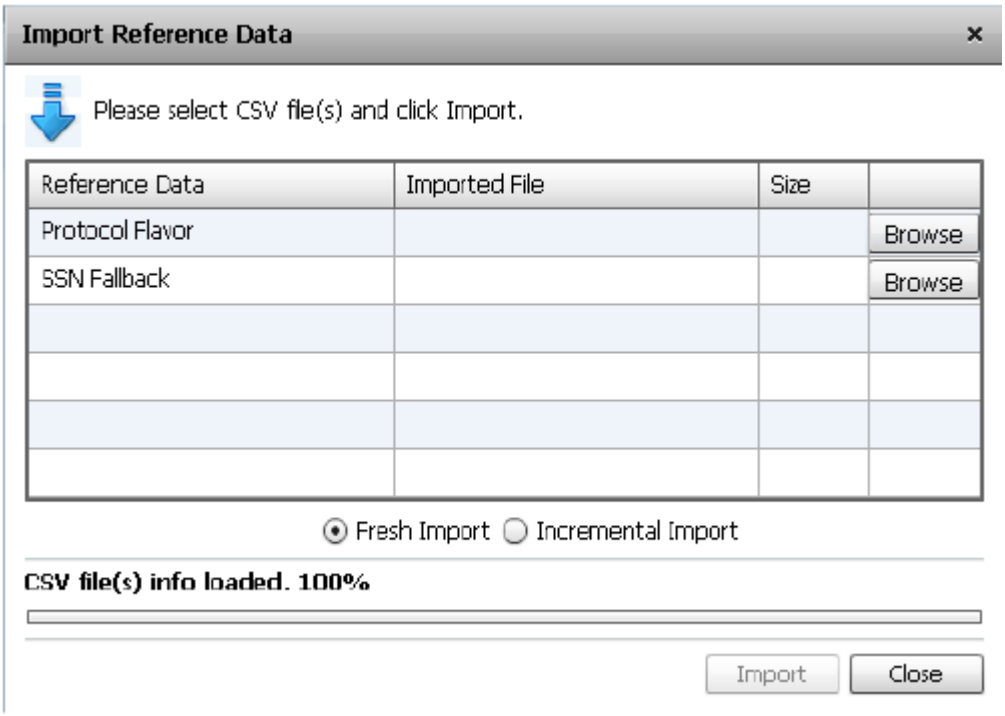


Figure 20 : Import Reference Data Screen

Note: A Fresh Import just imports all records data and replaces it with the modified.

4. Click **Browse** for each table of the reference data record being imported and select each record belonging to the reference data record.
5. Click **Import** to begin the import process.

   A progress bar appears showing the stage of the import. When the import operation is over, a pop-up window appears showing the number of records added, modified or deleted as well as any errors that have occurred during the import process. The screen also shows what record had the errors, what line and what the error was. This is an example of an import pop-up window showing the results of an import with errors

.

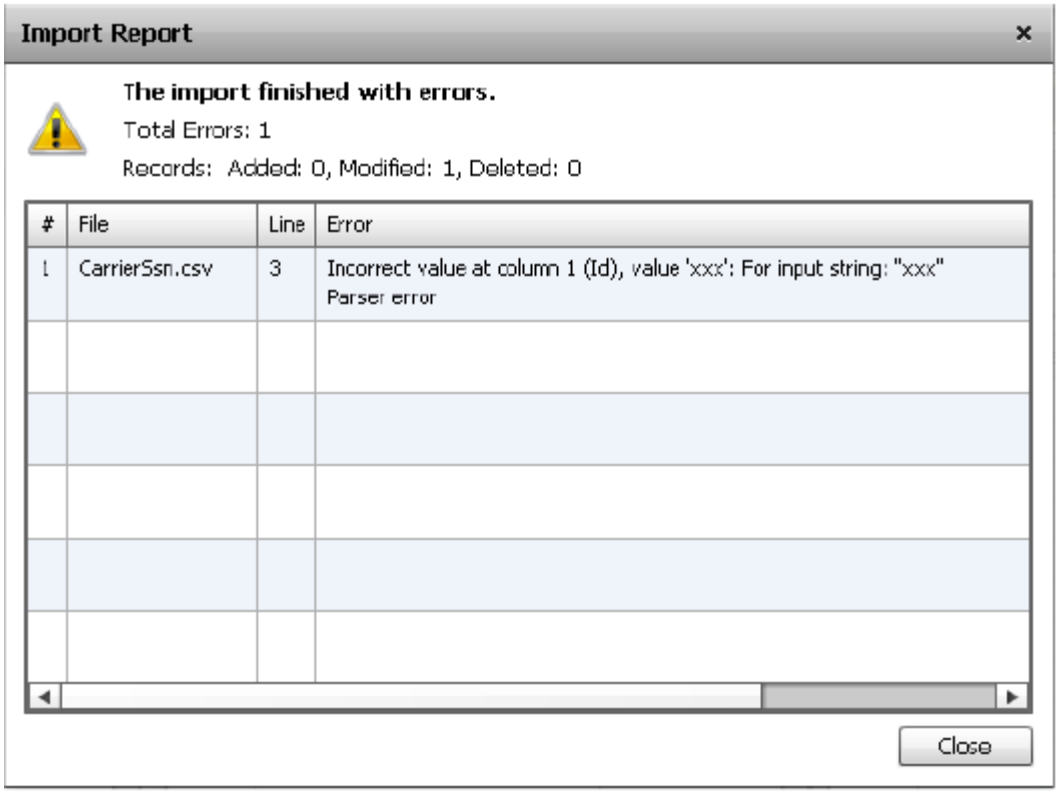


Figure 21 : Import Result Data Screen

Viewing, Applying and Canceling Pending Changes

Because all Reference Data application activity is stored in the PIC system, any additions, modifications or deletions made in the application must also be applied to the PIC system. Each change made in the Reference Data application is prompted by a "Pending Changes" banner showing the reference data record(s) that has changed. (In this example the Network Carrier reference data record has been changed.)

Figure 22 : Pending Changes Banner

Viewing Pending Changes

Clicking on the **View** button on the Pending Changes Banner opens a pop-up screen showing the reference data reference data record affected as well as the number of records that have been added, changed or deleted.

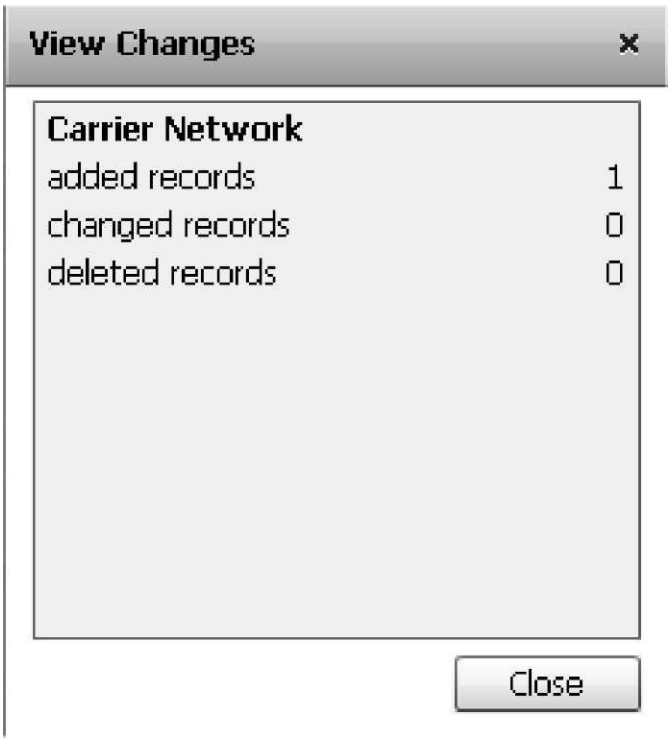


Figure 23 : View Pop-up Screen

Applying Pending Changes

Clicking on the **Apply** button on the Pending Changes Banner opens a pop-up screen showing the reference data record affected as well as the number of records that have been added, changed or deleted.

To apply the pending changes, click the **Apply changes** button.

Figure 24 : Apply Pop-up Screen

Canceling Pending Changes

Clicking on the **Cancel** button on the Pending Changes Banner opens a pop-up screen showing the reference data record affected as well as the number of records that have been added, changed or deleted.

To apply the pending changes, click the **Cancel changes** button.

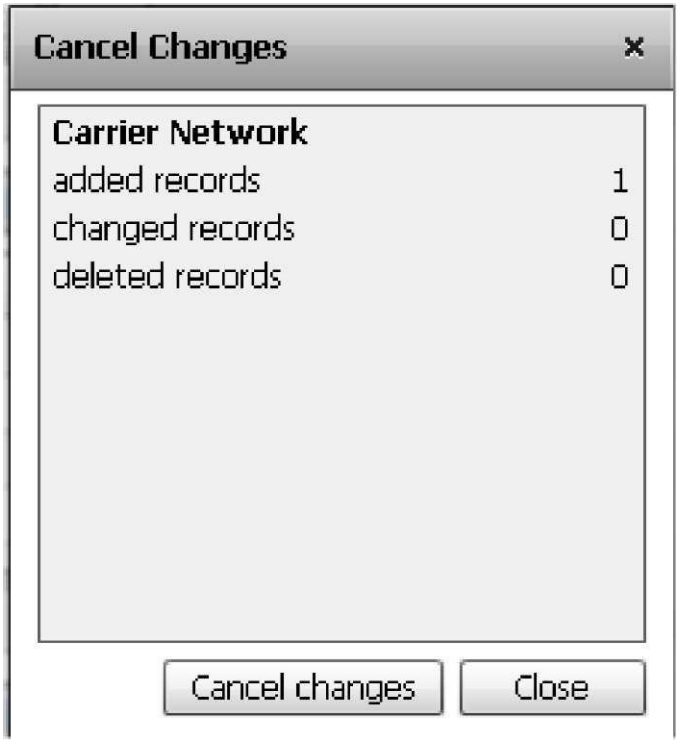


Figure 25 : Cancel Pop-up Screen

Chapter4: Reference Data Description

Topics:

- *Overview 35*
- *About Direction Processing 35*
- *About Countries.....35*
- *About Carriers.....36*
- *About SSN Fallback 36*
- *About Q850 Parameters..... 36*

Overview

The Reference Data application contains Performance Intelligence Center (PIC) system-wide information that can be customized for reporting. The data is provided in a series of records that can either be imported or exported in csv format.

The following Reference Data groupings are provided in this application:

Note: Each grouping has reference data associated with it. For more information on a grouping, click the link for that grouping.

- *About Direction Processing*
- *About Countries*
- *About Carriers*
- *About SSN Fallback*
- *About Q850 Parameters*

Note: The categories of data listed are related to PIC configuration, applications, and analytics packages. The number and type of reference categories available in the Reference Data application is dependent upon the applications and analytics packages present in the PIC system. As new applications and analytics packages are added to the system, the number of categories will increase.

About Direction Processing

Direction processing is business logic applied to an xDR to determine the direction (Country Code) and Area Code/City Code of the A-number and B-number for the phone call.

There are six direction processing entities that utilize the following reference data:

- NPAConfiguration - consists of four tables: NPA Configuration (parent), NPA Max Digits Config (child), NPA Trunk Group (child) and NPA TCIC Range (child)
- NOA Configuration - consists of a single table: NOA Configuration
- Preprocessing Rule Definition - consists of a single table: Preprocessing Rule Parameter
- Preprocessing Rule Action - consists of a single table: Preprocessing Rule Action
- Preprocessing Rule Order - consists of a single table: Preprocessing Rule Order
- Preprocessing Rule Parameter - consists of a single table: Preprocessing Rule Parameter

About Countries

The countries category is made up of the Q708 parameters (a network parameter) that is used to enrich
xDRs.

Q708 Parameters map a point code to a country code. They are used by ISUP, TUP, and SSUTR2 xDR builders. As the party number field for international calls carried in the national network of the destination country (for example, having no more country code).

Q708 parameters utilize the following reference data:

- Country Point Code Prefixes - consists of the single table Country Point Code Prefix
- Area Codes - consists of the single table Area Codes
- Country Codes - consists of the single table Country Codes
- Country Category - consists of two tables Country Category (parent) and Country Category Mapping (child)

Q850 Parameters map cause values and failure messages to location values and cause families to fill xDRs' appropriate fields. They are used by ISUP, ISDN, TUP, SSUTR2, IUP, and BTNUP xDR builders.

About Carriers

Carrier information, such as NAPC point codes, is configured in the Reference Data application. This configured information is then sent and received from remote networks.

There are three types of carriers:

- Local Networks - a list of signaling points and a list of point codes owned by the PIC customer
- Carrier Networks - a list of point codes owned by a named Carrier. Carrier networks are interconnected to your SS7 network
- Carrier Category - a named list of Carrier Networks. You refer to a group of Carriers by a Carrier Category name

Each type of carrier utilizes the following reference data:

- Carrier Network - consists of three tables: Carrier Network (parent), Carrier Point Codes (child) and Carrier Protocols (child)
- Carrier Category - consists of two :Carrier Category (parent) and Carrier Network Category (child)
- Local Network - consists of a single table: Local Network

About SSN Fallback

Subsystem numbers reference data is located under the SSN Fallback heading. This grouping shows all the subsystem numbers (SSN) configured in the system. Each subsystem number record has the following column headings.

Note: There is no upload capability for SSN numbers.

- Protocol - shows the protocol used
- Flavor - shows the flavor of the protocol
- Subsystem Numbers - shows the SSN's used by that protocol
- Actions - shows what actions you can perform on that record listing

About Q850 Parameters

Q850 parameters are a reference data grouping used to enrich xDRs.

Q850 Parameters map cause values and failure messages to location values and cause families to fill xDRs' appropriate fields. They are used by ISUP, ISDN, TUP, SSUTR2, IUP, and BTNUP xDR builders.

The Reference Data application enables you to add, modify or delete Q850 parameters. Any change to a parameter is propagated to the PIC system.