illuminet

# NUMBER PORTABILITY DATA DOWNLOAD

## USER GUIDE

V1.0

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# 1

# OVERVIEW

## In This Chapter

## Understanding Local Number Portability

Twenty years ago, consumers had few options when it came to telephone service providers. Much like their counterparts of the same era, the public utilities, telephone companies were not *chosen*, but *signed up with*. Consequently, the services offered were limited to whatever the given local provider was capable of providing.

Since that time, the long distance market has opened up to competition, and now the local exchange markets are open as well. The restrictions on competition for local and long distance telephone service no longer exist, which allows local and long distance telephone companies to compete in local markets.

Service providers who want to compete in local markets must meet certain requirements. Among these requirements is local number portability, commonly referred to as LNP.

LNP refers to the ability of consumers to keep their existing telephone numbers when they change local telephone service providers or move to a new location within a defined "zone of portability."

Historically, all telephone numbers within a numbering plan area exchange (NPA-NXX) belonged to a single telephone switch. With LNP, an individual telephone number within an NPA-NXX can be moved to a different telephone switch. As a result, the NPA-NXX no longer uniquely identifies the switch that serves the telephone number.

To identify the switch, a ported number is assigned a 10-digit location routing number (LRN). Instead of the NPA-NXX, the LRN is used to route calls to the appropriate switch.

## The Role of the NPAC

To support LNP, Number Portability Administrative Centers, called NPACs, operate at the regional level to administer the process of porting telephone numbers from one service provider to another, and eventually, from one region to another.

It is the responsibility of the NPAC to ensure that both service providers (old and new) have specified the correct information for a port to occur. If everything proceeds without error, the new service provider (the service provider to whose switch the number is being ported) activates the ported number. It becomes the role of the NPAC to notify the various service provider systems attached to the NPAC, called Local Service Management Systems, or LSMSs, of the activation.

There are seven regional NPACs in the United States and one in Canada.

## The Role of the Service Providers

In general, a customer contacts the new service provider and asks that phone service be switched from an old provider. The new service provider processes the

request and sends it to the NPAC. The NPAC, in turn, forwards the request to the old service provider for concurrence.

The old service provider is responsible for acknowledging the request and releasing the subscription version, again, going through the NPAC. The old service provider can release the subscription version or do nothing. (Doing nothing does not prevent the subscription version from being activated.) The old service provider can also dispute the request, which places the subscription version in conflict.

Like the NPACs, the service providers must also implement their own computer applications to support number portability.

## Systems Needed to Support Number Portability

### Service Order Adminstration (SOA)

A service order administration (SOA) system's primary functions are as follows:

- Provide an interface between your own order entry system and the NPAC SMS, with an adapter, so that requests to port numbers can reach the NPAC
- Format a service order into a subscription version

Additional functions are as follows:

- Create, release, view, modify, and disconnect subscription versions
- Maintain gateway GTT routing tables and assign LRNs to subscription versions
- Forward requests to the NPAC to activate subscription versions
- Process NPA splits

### Local Service Management System

The local service management system (LSMS) is the interface between the NPAC and the network element management system (NEMS). Its primary functions are as follows:

- Use information from the NPAC to update network elements
- Maintain a database of subscription version information, showing old and new subscription version statuses and information maintained in the NPAC database
- Substitute end-routing (final) GTT data for gateway GTT data when specified
- Process NPA splits

### Network Element Management System

The network element management system (NEMS) provisions network elements. Its primary functions are as follows:

- Verify that information from NumberManager gets into the correct network

elements

- Permit the splitting of GTT and LRN information among different network elements
- Provision default GTT data on network elements

### System Architecture

The interconnection among the LNP products, regional NPAC system, and the legacy systems is illustrated below.

## Provisioning an SCP

Prior to implementing NumberManager, you must independently implement a Service Control Point (SCP). An SCP is a network-based database used to provide advanced services in intelligent telecommunications networks and is key to implementing NumberManager.

ILLUMINET can assist you in finding an SCP provider in conjunction with your NPDD service. Your SCP contract, however, is separate from your NPDD agreement.

## Database Hierarchy

The NPAC maintains the master database of all current subscription activity. The information in the master database originates in the service order administration (SOA) system. The NPAC downloads information to NumberManager (and other LSMSs in the region), so that, in effect, the NumberManager database is a mirror image of the NPAC database.

Information flows in one direction: from the SOA system through the NPAC to the NumberManager LSMS. It might be helpful to think of the SOA as being "upstream" from the NPAC, which is upstream from NumberManager.

The only way to update subscription versions in the NPAC database is to make a change in the SOA.

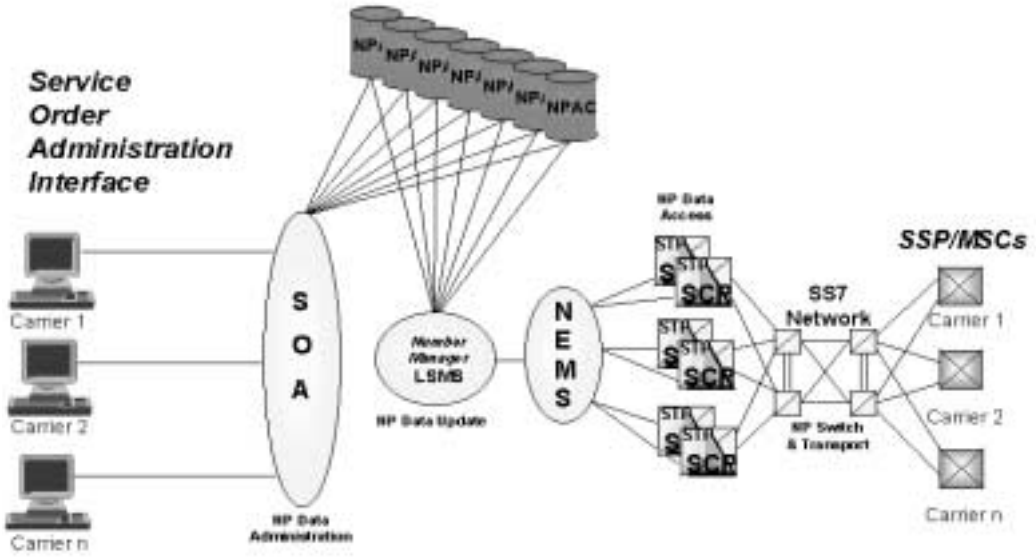
## What NumberManager Does

This user's guide details NumberManager, which provides support for the following processes:

- Receiving subscription version, network, and service provider data from the NPAC, including mass updates
- Viewing active subscription versions
- Updating the network elements through the Network Element Management

System (NEMS)

FIGURE 1. NPDD SYSTEM ARCHITECTURE




### Receiving Data

The NPAC sends active subscription version information from all service providers in the region to NumberManager. The NPAC also notifies NumberManager which subscription versions to delete. NumberManager acknowledges receipt of the subscription versions, and then activates them in its database.

NumberManager receives service provider and network data from the NPAC. These downloads overwrite data previously contained in the NumberManager database. The NPAC also sends mass updates to NumberManager when a large number of subscription version records need to be corrected, such as when GTT information changes. When this occurs, a mass update is sent to each LSMS connected to the NPAC.

### Viewing Subscription Versions

A subscription version is a description of the data needed to port a TN. Subscription versions are identified by a subscription version ID (SV ID), which is assigned by and unique to the NPAC.

NumberManager is used to track subscription versions during the porting process. You can search for and view active subscription versions for all service providers in

the region. You can also temporarily modify network data for all active subscription versions and you can use NumberManager to search for and view old subscription versions in the NPAC database.

To view and work with a subscription version with a status other than **Active** or **Old**, you must use a servicer order administration (SOA) system.

### Updating Network Elements

NumberManager passes routing information from LSMSs in the region to the NEMS. For subscription versions from another LSMS, NumberManager uses gateway information, which identifies the communications network among LSMSs. For its own subscription versions, NumberManager substitutes end office, or final, routing data.

## NumberManager Resources and Customer Support

### User Profiles

NumberManager users are assigned specific security profiles based on the tasks they will be performing. There are two levels of users:

TABLE 1-1

| Task Name | Level 1: General User | Level 2: Administrator |
|---|---|---|
| Audit SCP | X | X |
| Create GTT | | X |
| Delete GTT | | X |
| Find SV | X | X |
| Initiate Audit | X | X |
| Modify GTT | | X |
| Resubmit All SV | X | |

TABLE 1-1

| | | |
|---|---|---|
| View GTT | X | X |
| View LRN | X | X |
| View NPA Split | X | X |

Security profiles are assigned to users per your specifications during service implementation.

If you need to update user profiles for any of your users, please contact your Customer Service Specialist for assistance.

## NPDD Implementation Checklist

### External Contracts and agreements

1. Signed NPAC agreement for each region
2. Signed agreement for connectivity to the AT&T Frame Relay Network
3. Signed agreement with SCP provider:
   - Complete any service provider specific information sheets
   - Complete Installation
   - Conduct Training
   - Complete Testing

### ILLUMINET Implementation

1. Complete NPDD Set-up Form and return with signed contract
2. Provide ILLUMINET Implementation Team with the proposed SCP delivery and installation dates
3. Provide ILLUMINET Implementation Team with the Network Element Code (CLLI)
4. Complete Number Manger Training with Implementation
5. Verify minimum equipment and browser configurations NumberManager GUI)
6. Complete Downstream Bulk Load Testing
7. Set-up GTT Network Data in NumberManager
8. Switch over from current LSMS Database to NPDD Database

## Documentation and Forms On-line

Updated copies of this guide will be posted on-line under the "Product Documentation" section of the "Products and Services" menu on ILLUMINET's web page at www.illuminet.com. Passwords are required. Notification will be sent when service-affecting updates are made to the guide. Passwords – available on request from your Account Manager (AM) and/or your Customer Service Specialist (CSS) – are required for access.

Up-to-the minute copies of all forms are available 24-hours-a-day via the web page. Please utilize this valuable resource to assure prompt implementation.

**NOTE**

YOU MUST HAVE ADOBE ACROBAT READER – A FREEWARE APPLICATION THAT CAN BE DOWNLOADED FREE OF CHARGE THROUGH ADOBE'S WEB SITE (WWW.ADOBE.COM) TO ACCESS INFORMATION RESOURCES VIA THE ILLUMINET WEB PAGE. A LINK TO ADOBE'S ACROBAT READER DOWNLOAD PAGE IS PROVIDED FOR YOUR CONVENIENCE AT THE TOP OF THE ILLUMINET DOCUMENTATION MENU.

### Contacting ILLUMINET

For more information and assistance with your NumberManager service, contact ILLUMINET's LNP Help Desk 24-hours-a-day, seven days a week, at 1-800-416-3882.

# 2

# GETTING STARTED

## In This Chapter



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## Basics of NumberManager

NumberManager is a Web-based application and requires a Web browser. Web browsers provide a means of navigating between Web sites. A Web site is identified by a *uniform resource locator* (URL), also called an address. A URL tells the browser where to go to retrieve the information you are looking for from a Web site.

**Netscape 4.7x** (or higher) is requried to access NumberManager. NumberManager has its own navigation tools, such as menus and buttons, that are specifically designed for the application. Use the NumberManager tools to move around in the application.

## Logging on to NumberManager

Getting to NumberManager is easy. Because NumberManager is a Web-based application, all you need is the required browser (see above) and the URL for your NumberManager application.

*To open NumberManager*

There are three ways you can open NumberManager:

- Enter the URL of the Logon window in the **Location** field on the browser window and press **ENTER**.
- Click **Open** on the browser toolbar on the browser window. This opens a dialog box in which you can enter the URL.
- If you have recently opened NumberManager, use the **Go** menu on the browser menu bar. This menu maintains a list of recently visited URLs, from which you can select the address.

  When you enter the correct URL, the NumberManager logon window opens.

FIGURE 2-1 NUMBERMANAGER LOGON WINDOW


**NOTE**

**WITH THE LOGON WINDOW OPEN, YOU CAN ADD A BOOKMARK — AS A SHORTCUT FOR ACCESSING THE WINDOW IN THE FUTURE.**

*To log on to NumberManager*

1. In the **User ID** field, enter your user name or ID.

   User IDs and passwords are case-sensitive. Be sure to use the correct capitalization for logging on.

2. Press **TAB**.

   The cursor moves to the **Password** field

3. Enter your password.

   Asterisks appear as you type your password.

4. Click **Logon** or press **ENTER**.

   NumberManager verifies your user ID and password. An information window will appear with your user ID and the date of your last successful logon. If you have previous unsuccessful logon attempts, the logon confirmation window tracks the number of unsuccessful attempts and the date of your last unsuccessful logon.

When it is time to change your password, the logon confirmation window includes a warning message with the number of days remaining before your password expires. Note: Passwords automatically expire every 90 days.

For information on updating a password, see CHANGING YOUR PASSWORD, on page 2-4.

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

## Maximum Incorrect Logon Attempts

If you enter an incorrect user ID or password, a "logon incorrect" window appears. If you exceed the maximum failed logon attempts, you will receive a "Session Verification Failed" message.

For security reasons, a logon lockout period of 30 minutes will require you to wait for the IP address to automatically reset. Any request from your computer to the Web server fails until your IP address is reset.

*To reload the logon window*

If you enter an incorrect user ID or password and then log on a second time, you might receive a message telling you that the logon page has expired. Follow these steps to reload the logon window:

1. Click **OK** to close the error message window.
2. On the browser toolbar, click **Reload**.

   The logon window reloads to restart the logon process.
3. Enter your user ID and password.
4. Click **Logon** or press **ENTER**.

### User Already Active

Several situations might cause NumberManager to give you a message saying that your logon is already active:

- You are currently logged on and you try to log on again (using the same user ID and password).
- Another user is logged on with your user ID and password.
- Your previous session was not terminated due to not correctly logging off (see LOGGING OFF, on page 2-9).

If you get a message saying there is already an active session for your user ID, click **OK** to terminate the active session and continue with logon, or click **Cancel** to stop the logon process.

## Changing Your Password

It is a good idea to periodically change your password. If you do not change your password, it expires after 90 days. When your password is about to expire, a warning message appears in the logon confirmation window. When you see this message, change your password immediately to avoid being locked out of the system in the future. If your password expires after you log on, contact your system administrator.

### Rules for Passwords

Your system administrator can modify password rules. Check with your system administrator for any changes to the following guidelines. Typically, passwords must:

- Be six to eight characters in length
- Contain at least one capitalized letter
- Contain at least one special character – for example, ? or $ – (#, | and @ cannot be used)
- Not contain your logon user ID

*To access the window*

1. Click **Session** on the NumberManager main menu.

   The Session menu opens.

2. Click **Change Password**.

   The Change Password window opens.

FIGURE 2-2 CHANGE PASSWORD WINDOW

*To change your password*

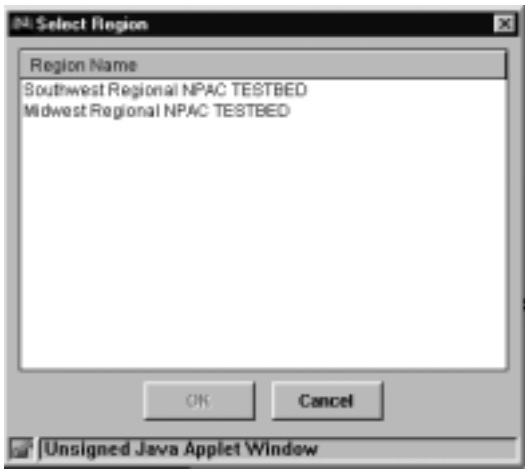
1. Enter your current password in the **Old Password** field.
2. Enter your new password in the **New Password** field.
3. Enter your new password in the **Confirm Password** field.
4. Click **OK** to update your password in NumberManager.

Your new password is effective the next time you log on to NumberManager.

## Selecting a Region

If your company works in two or more regions, NumberManager displays the Select Region window after confirming your logon. When you select a region, you are selecting an NPAC. This is the NPAC that is affected by the data you enter into the application.

FIGURE 2-3 SELECT REGION WINDOW




**NOTE**

**IF YOUR COMPANY PARTICIPATES IN ONLY ONE REGION, NUMBERMANAGER AUTOMATICALLY SELECTS YOUR REGION AND THE SELECT REGION WINDOW DOES NOT APPEAR.**

NumberManager receives notifications and data from all of the NPACs regardless of the selected region, as long as connection with an NPAC is active.

*To select a region at logon*

1. Select a region on the Select Region window.

2. Click **OK**.

   If you click **Cancel**, NumberManager automatically selects the first region in the list.

*To verify the current region*

Anytime you are about to enter information in NumberManager, verify that the region in which you want to work is currently selected. The name of the current region appears in the following places:

- on the main menu, to the right of the **Subscriptions** button (see FIGURE 2-4 NUMBERMANAGER MAIN MENU, on page 7)
- at the top of any data entry window, below the window title (see NUMBERMANAGER WINDOWS, on page 2-8)

*To change regions*

If your company participates in more than one region, you can change to another region at any time.

1. Click **Session** on the NumberManager main menu. (See THE SESSION BUTTON, on page 2-7.)

   The Session menu opens.

2. Click **Change Region**.

   The Change Region window opens.

3. Select a region in the Region Name list.

4. Click **OK**.

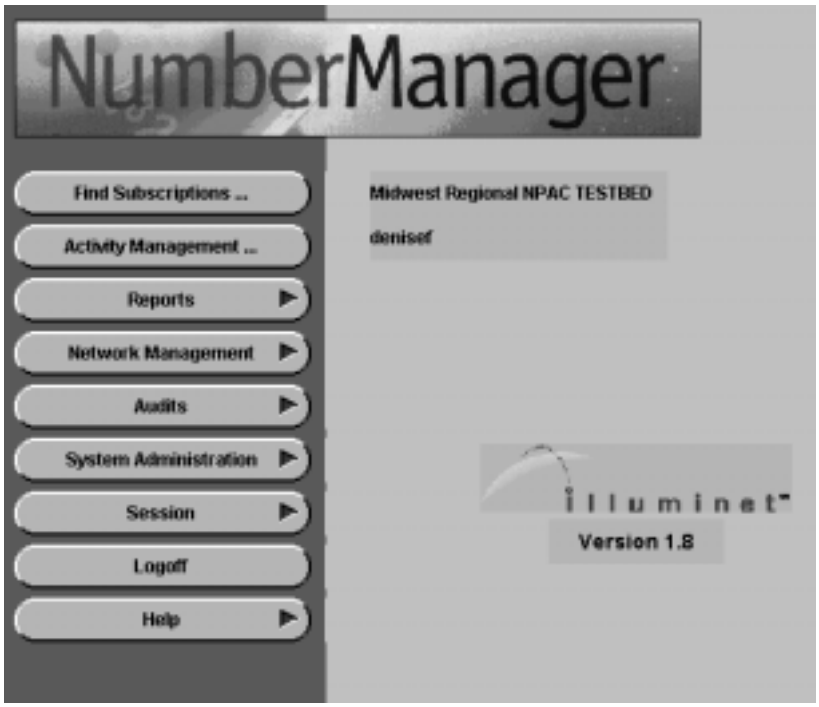
   The Change Region window closes and NumberManager changes to the selected region.

   If you click **Cancel**, NumberManager does not change the current region.

## NumberManager Main Menu

The "starting gate" in NumberManager is its main menu, which provides quick access to major areas of the system. The main menu is organized by the items you use most often, starting with Subscriptions, Activity Management and Reports.

FIGURE 2-4 NUMBERMANAGER MAIN MENU




## Menu Buttons

A u symbol on a main menu button indicates that a menu of options opens when you click the button. Buttons and menu options with an ellipsis (**...**) take you directly to a window.

**NOTE**

**THE APPEARANCE OF THE MAIN MENU REFLECTS YOUR PRE-SET SECURITY PROFILE AS DETERMINED BY THE ILLUMINET SYSTEM ADMINISTRATOR.**

## The Session Button

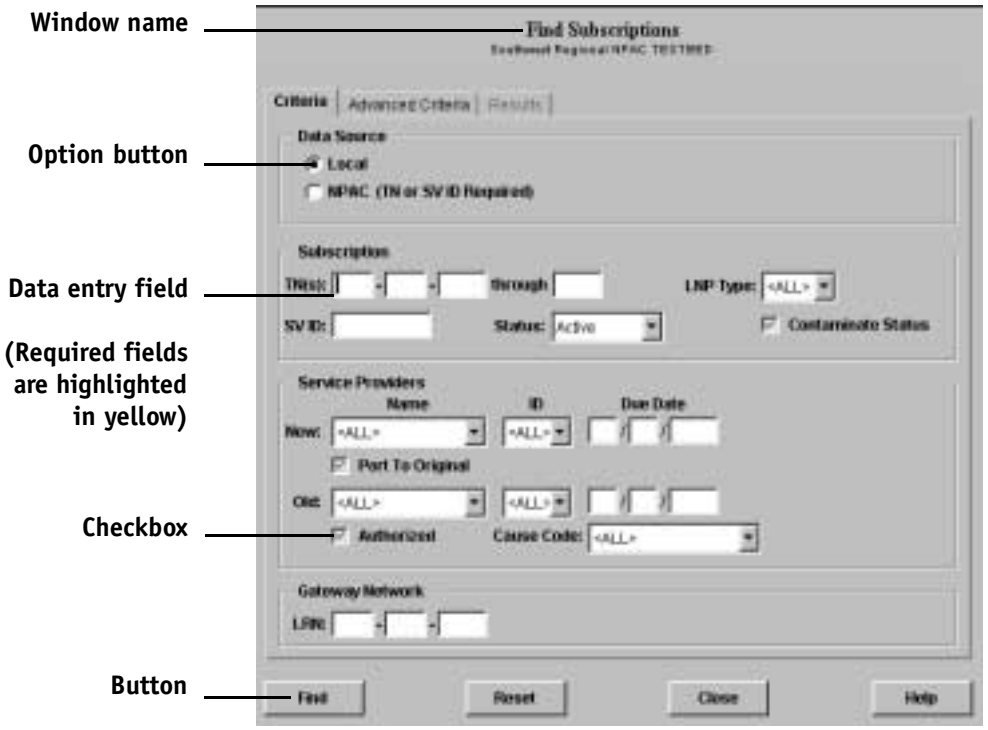
When you successfully log on to NumberManager, you begin a *session*.

To optimize your productivity during a session, a **Session** button is available on the main menu. With the **Session** button you can change regions, change your logon password, or monitor high priority notifications as they are received in NumberManager.

## NumberManager Windows

All of the windows you use in NumberManager have a similar design made up of data entry fields, checkboxes, option buttons and standard buttons.

FIGURE 2-5 ELEMENTS OF A WINDOW




Some items in a window can be interactive, meaning the behavior of one item depends on another item you select. For example, in the window shown above, the two option buttons of **Create** and **Release** determine which data entry fields and checkboxes you can use for your task. Fields that do not apply to the action you choose are grayed out.

## Required Fields

Fields that appear in a yellow highlight are *required fields*, in which you must enter valid data. When you submit (click **Save**) the information you enter in a window, NumberManager validates the data, ensuring that all required fields contain the necessary data to complete the request.

## Security Restrictions

Some fields or functions in NumberManager might not be available to you because of your security profile. Restrictions might also occur because your company does not have a valid access key for a licensed feature within the application.

## System Messages

NumberManager displays various system messages as you work in the application:

- A confirmation message will appear when a process is successfully completed, such as a user logon confirmation.
- An informational message appears when data is entered in an incorrect format or when a required field is left blank.
- An error message notifies you of an application error and provides a brief explanation of the probable cause.

Other messages ask you to confirm whether you want to continue with a process that could impact the system or take a while to complete, such as a search for subscriptions at the NPAC or finding NPA-NXXs in the local database. These messages give you the option to cancel a process or continue.

## Logging Off

You should log off at the end of your session and at any time that you do not plan to use the application for a while. NumberManager terminates a session if no activity occurs after one hour.

When you log off, your session closes down correctly.

*To log off*

1. Click **Logoff** on the main menu.

   A confirmation message appears.

2. Click **OK** in the message window.

   NumberManager ends your session.

# 3

# VIEWING SUBSCRIPTION VERSIONS

## In This Chapter

## Viewing Active Subscription Versions for Porting TNs

Using Number Portability Data Download, you can view the network and end-office data of subscription versions.

You should make changes to subscription versions through your service order administration (SOA) system. The SOA database updates the NPAC, which in turn queries and, if necessary, overwrites (updates) the data in NumberManager.

## Subscription Version Status

When a subscription version is created, the NPAC assigns it an ID and a status. The status of a subscription version lets the NPAC and service providers follow the progress of a subscription version in the porting process. Examples of subscription version status are **Pending**, **Active**, **Old** and **Conflict**. A subscription version can have only one status at any given time.

In NumberManager, you can view and work with subscription versions with a status of **Active** or **Old**. An active subscription version is one that has been successfully ported and is currently active in the network.

An old subscription version is one that was previously active in the network but is now disconnected or superseded by another active subscription version. Old subscription versions exist only in the NPAC database and you must query the NPAC database to find them.

To view and work with a subscription version with a status other than **Active** or **Old**, you must use a SOA system.

## Finding Subscription Versions

Using the Find Subscriptions window, you can find *active* subscription versions based on specific search criteria such as the TN or service provider. NumberManager finds and returns a list of active subscription versions that match your search criteria.

*To access the window*

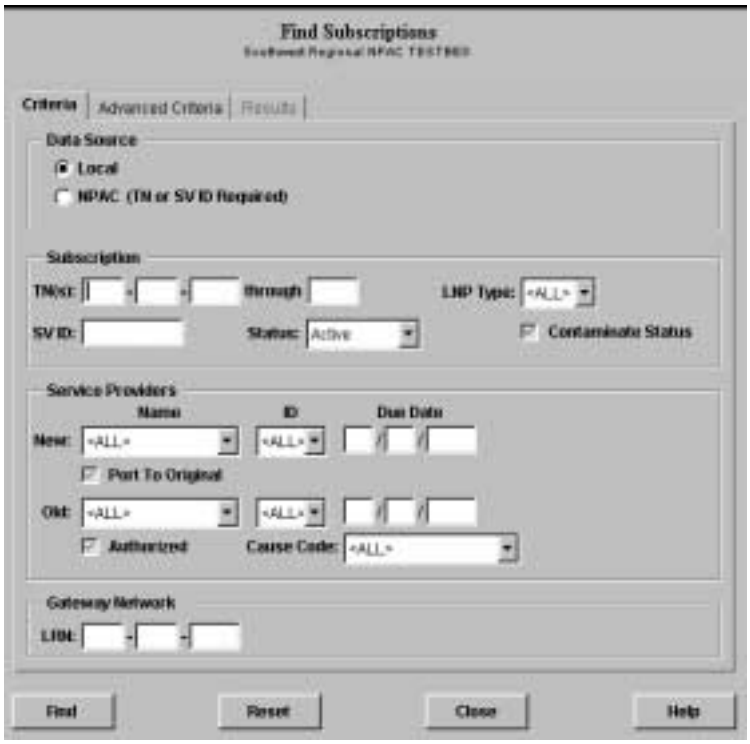
1. Click **Find Subscriptions** on the NumberManager main menu.

   The Find Subscriptions window opens.

2. To display additional search criteria fields, click the Advanced Criteria tab. See SEARCHING WITH ADVANCED CRITERIA, on page 3-6.

FIGURE 3-1 FIND SUBSCRIPTIONS WINDOW, CRITERIA TAB

**Main Menu**
▼
**Find Subscriptions**




### Items on the Window

The following table defines items on the Find Subscriptions window, Criteria tab.

TABLE 3-1 ITEMS ON THE FIND SUBSCRIPTIONS WINDOW, CRITERIA TAB

| ITEM | DESCRIPTION |
|---|---|
| **Data Source** | |
| **Data Source** | Options that indicate which database you want to search:<br>• **Local** - search the NumberManager database<br>• **NPAC** - button not available (appears grayed out) |

TABLE 3-1 ITEMS ON THE FIND SUBSCRIPTIONS WINDOW, CRITERIA TAB (CONTINUED)

## Subscription

| ITEM | DESCRIPTION |
|---|---|
| **tn(s)** | The telephone number or the starting TN in a range of TNs you want to find. You can enter the full TN or part of the TN (for example, NPA, NXX, NPA and NXX, or Station). |
| **through** | The station of the ending TN in a range of TNs that you want to find. |
| **LNP Type** | Type of port that you want to find:<br>• **All** - all types of port in the database<br>• **LSPP** - Local Service Provider Port (interservice port)<br>• **LISP** - Local Intraservice Port (porting a number to a different switch within your own network)<br>• **POOL** - a pooled TN. |
| **SV ID** | The ID of the subscription version that you want to find. The ID is assigned to each subscription version by the NPAC. |
| **StatusLocal** | The status of the subscription versions you want to find.<br>• All<br>• Active |
| **Database** | • Old<br>• All History (provides the subscription history of a TN) |
| **NPAC database** | • Failed<br>• Partial Failure<br><br>All History (provides the subscription history of a TN) |

## Service Providers

| ITEM | DESCRIPTION |
|---|---|

TABLE 3-1 ITEMS ON THE FIND SUBSCRIPTIONS WINDOW, CRITERIA TAB (CONTINUED)

| | |
|---|---|
| **Name, ID (New service provider)** | The name of the new service provider for the subscription versions you want to find. When you select a name, the associated ID is automatically selected. |
| **Due Date (New service provider)** | Do not use this field to search for subscriptions. If you use this field, your search will be unsuccessful because the due date is not stored with most of the subscription versions in NumberManager. |
| **Port to Original** | This checkbox is not applicable to finding subscription versions in NumberManager and does not affect the results of a search. |
| **Name, ID (Old service provider)** | The name of the old service provider for the subscription versions that you want to find. When you select a name, the associated ID is automatically selected. |
| **Authorized** | This checkbox is not applicable to finding subscription versions in NumberManager and does not affect the results of a search. All subscription versions sent to NumberManager and other LSMSs are authorized. |
| **Cause Code** | This option is not applicable to finding subscription versions in NumberManager and does not affect the results of a search. All subscription versions sent to NumberManager and other LSMSs are authorized. |

### Gateway Network

| ITEM | DESCRIPTION |
|---|---|
| **LRN** | The location routing number of the subscription versions. This is the information supplied by the NPAC. To use this in a search, you must enter the full LRN. |

### Buttons

| ITEM | DESCRIPTION |
|---|---|

TABLE 3-1 ITEMS ON THE FIND SUBSCRIPTIONS WINDOW, CRITERIA TAB (CONTINUED)

| | |
|---|---|
| **Find** | Searches for subscription versions and displays the results on the Results tab. |
| **Reset** | Clears all search criteria fields on the Criteria and Advanced Criteria tabs. |
| **Close** | Closes the current window and returns to the main menu. |
| **Help** | Opens online help for the current window. |

*To find subscription versions in the local database*

1. Enter your search criteria in the entry fields. Be as specific as possible to limit the number of subscriptions that NumberManager returns to within the 100 TN limit. You do not need to enter a TN or SV ID. However, if you do not enter any search criteria and click **Find**, NumberManager displays only the first 100 TNs of all of the active subscription versions in the local database.
2. To enter additional search criteria such as GTT data or particular timestamps, click the Advanced Criteria tab and enter additional search criteria here. (See SEARCHING WITH ADVANCED CRITERIA, on page 3-6.)

   NumberManager combines the entries on the Criteria and the Advanced Criteria tabs to determine the entire search criteria.
3. Click **Find**.

   NumberManager displays the results of the search on the Results tab.

   If your search does not find the subscription versions you are looking for, you can refine your search criteria or start a new search.

*To refine the search criteria*

Click the Criteria tab and refine your search by modifying the existing search criteria. You can make changes to the previous criteria fields and add more criteria.

*To start a new search*

Click **Reset** to clear the existing criteria from the Criteria and Advanced Criteria tabs and enter new search criteria.

## Searching with Advanced Criteria

Use the Advanced Criteria tab on the Find Subscriptions window to include network data or timestamps in your search. NumberManager combines the entries on the Criteria and the Advanced Criteria tabs to determine the entire search criteria.

*To access the window*

1. On the Find Subscriptions window, click the Advanced Criteria tab.

   The tab opens with criteria options for a more advanced search of subscriptions.

FIGURE 3-2 FIND SUBSCRIPTIONS WINDOW, ADVANCED CRITERIA TABT

**Main Menu**
▼
**Find Subscriptions**
▼
**Advanced Criteria**


### Items on the Window

The following table defines the items on the Find Subscriptions window, Advanced Criteria tab.

TABLE 3-2 ITEMS ON THE FIND SUBSCRIPTIONS WINDOW, ADVANCED CRITERIA TAB

### Network

Network data includes Destination Point Code (DPC) and Subsystem Number (SSN) values for four types of global title translation (GTT) data, listed below.

The DPC requires nine numbers (three groups of three)—e.g., "XXX-XXX-XXX" or "238-013-000," and the SSN requires one group of three numbers—e.g., "XXX"or "001."

Each group is limited to numbers between 000 and 255. In Number Portability Data Download, you can enter an SSN value without a corresponding DPC value.

| ITEM | DESCRIPTION |
|---|---|
| **LIDB: DPC, SSN** | Line Information Database (LIDB): Destination Point Code (DPC) and Subsystem Number (SSN). |
| **CNAM: DPC, SSN** | Calling Name (CNAM): Destination Point Code (DPC) and Subsystem Number (SSN). |
| **CLASS: DPC, SSN** | Custom Local Area Signaling Services (CLASS): Destination Point Code (DPC) and Subsystem Number (SSN). |
| **ISVM: DPC, SSN** | Interswitch Voice Messaging (ISVM): Destination Point Code (DPC) and Subsystem Number (SSN). |

### Miscellaneous

| ITEM | DESCRIPTION |
|---|---|
| **End-User Location Value** | This information applies to billing and is not used (12 digit numeric format). |
| **End-User Location Type** | This information applies to billing and is not used (2 digit numeric format). |
| **Billing ID** | This information applies to billing and is not used (4 digit numeric format). |

TABLE 3-2 ITEMS ON THE FIND SUBSCRIPTIONS WINDOW, ADVANCED CRITERIA TAB (CONTINUED)

**Timestamps**

| ITEM | DESCRIPTION |
|---|---|
| **Local** | Add a local timestamp as search criteria, which is recorded when a local action is taken. In the Type list, select the applicable type of timestamp. |
| **NPAC** | Add an NPAC timestamp as search criteria, which is recorded when the NPAC is queried. In the Type list, select the applicable type of timestamp. |
| **NPAC Notification** | Add an NPAC Notification timestamp as search criteria, which is recorded when certain NPAC notifications are received. In the Type list, select the applicable type of timestamp. |
| **Type** | Type of timestamp(s) to add as search criteria. Multiple timestamps can be selected. |
| **Start** | Beginning date and time for the range of timestamps to include in the search. Enter the time in local time, 24-hour format. |
| **End** | Ending date and time for the range of timestamps to include in the search. Enter the time in local time, 24-hour format. |

**Buttons**

| ITEM | DESCRIPTION |
|---|---|
| **Add** | Adds a user-defined timestamp to the search criteria. You must enter a start and end date/time to add a timestamp. Multiple timestamps can be selected as search criteria. |
| **Delete** | Removes a selected timestamp from the list of timestamps used for search criteria. |
| **Find** | Searches for subscription versions and displays the results on the Results tab. |

TABLE 3-2 ITEMS ON THE FIND SUBSCRIPTIONS WINDOW, ADVANCED CRITERIA TAB (CONTINUED)

| | |
|---|---|
| **Reset** | Clears all fields on the Criteria and Advanced Criteria tabs and resets the default values. |
| **Close** | Closes the current window and returns to the main menu. |
| **Help** | Opens online help for the current window. |

### Timestamps

You can search for subscriptions that changed status at a particular time by including search criteria based on NPAC timestamps.

Some timestamps (for example, conflict) have no relation to the operation of NumberManager. The following table describes the timestamps you can add as search criteria.

**NOTE**

**NOT EVERY SUBSCRIPTION VERSION HAS ALL OF THESE TIMESTAMPS. FOR EXAMPLE, ONLY A CANCELED SUBSCRIPTION VERSION WILL HAVE A CANCELLATION TIMESTAMP.**

TABLE 3-3 TIMESTAMPS ASSOCIATED WITH SUBSCRIPTIONS

**NPAC**

| TIMESTAMP | DESCRIPTION |
|---|---|
| **Activation - NPAC** | Date and time the subscription version is successfully activated. |
| **Broadcast - NPAC** | Date and time the NPAC broadcasts to all LSMSs in the region that a subscription version is activated. |
| **Cancellation - NPAC** | Date and time the subscription version is canceled. |
| **Conflict - NPAC** | Date and time the subscription version is put into conflict by the old SP. |
| **Creation - NPAC** | Date and time the subscription version is created by the NPAC (at the request of the new or old service provider). |

TABLE 3-3 TIMESTAMPS ASSOCIATED WITH SUBSCRIPTIONS

| | |
|---|---|
| **Customer Disconnect - NPAC** | Date the request to disconnect a customer's subscription is issued. |
| **Disconnect Complete - NPAC** | Date that at least one LSMS has responded to the NPAC broadcast to disconnect the subscription version. The subscription status is set to Old on the NPAC. |
| **Effective Release Date - NPAC** | Date that the subscription version is to be deleted from all LSMSs in the region. |
| **Modified - NPAC** | Date and time that the subscription version is modified and broadcast to all LSMSs in the region. |
| **New SP Cancellation - NPAC** | Date and time the new SP submits a cancel request for the subscription version. |
| **New SP Creation - NPAC** | Date and time the NPAC created the subscription version as a result of a create request from the new service provider. |
| **Old - NPAC** | Date and time that the subscription version status changed to Old on the NPAC. |
| **Old SP Authorization - NPAC** | Date and time a subscription version is authorized by the old service provider. |
| **Old SP Cancellation - NPAC** | Date and time the old service provider submits a cancel request for the subscription version. |

TABLE 3-3 TIMESTAMPS ASSOCIATED WITH SUBSCRIPTIONS

**Local**

| TIMESTAMP | DESCRIPTION |
|---|---|
| **Creation - Local** | These timestamps are available if the Subscription Version History and Enhanced Timestamp Management feature is licensed for your NumberManager application. |
| **Authorization - Local** | |
| **Cancellation - Local** | |
| **Resolve - Local** | |
| **Concur - Local** | |
| **Modified - Local** | |
| **Activation - Local** | |
| **Disconnect - Local** | |

**NPAC Notification**

| TIMESTAMP | DESCRIPTION |
|---|---|
| **Modified - Notification** | These timestamps are available if the Subscription Version History and Enhanced Timestamp Management feature is licensed for your NumberManager application. |
| **Broadcast - Notification** | |
| **Disconnect - Notification** | |

## Viewing the Results of the Search

When the search for subscription versions is complete, NumberManager displays the results in the Results tab of the Find Subscriptions window.

If NumberManager does not find any results, it displays a message saying "No items found." If you get this message, revise your search criteria.

FIGURE 3-3 FIND SUBSCRIPTIONS WINDOW, RESULTS TAB

**Main Menu**
▼
**Find Subscriptions**
▼
**Criteria**
▼
**Find**


### Items on the Window

The following table defines the items on the Results tab of the Find Subscriptions window.

TABLE 3-4 ITEMS ON THE RESULTS TAB OF THE FIND SUBSCRIPTIONS WINDOW

**Results List**

| ITEM | DESCRIPTION |
|---|---|
| **TN** | Telephone number associated with the subscription version. |

TABLE 3-4 ITEMS ON THE RESULTS TAB OF THE FIND SUBSCRIPTIONS WINDOW

| | |
|---|---|
| **SV ID** | Subscription version ID. A unique number assigned by the NPAC to each subscription version. |
| **Status** | Current Status of the subscription. |
| **New SP** | Name of the new service provider for the subscription version. |
| **New DD** | Subscription version due date as defined by the new service provider. |
| **Old SP** | Name of the old service provider for the subscription version. |
| **Old DD** | Subscription version due date as defined by the old service provider. |
| **Activation Date/Time** | Date and time the subscription version was activated. |
| **Type** | Type of port that you indicated in the search criteria:<br>• **All** - all types of port in the database<br>• **LSPP** - Local Service Provider Port (interservice port)<br>• **LISP** - Local Intraservice Port (porting a number to a different switch within your own network)<br>• **POOL** - a pooled TN. |
| **Failed Count** | Failed count or the number of LSMSs unable to provision the subscription. You can see which service providers were unable to provision this subscription using the Failed Dest tab of the View Subscription window. |

### Record Information

| ITEM | DESCRIPTION |
|---|---|

TABLE 3-4 ITEMS ON THE RESULTS TAB OF THE FIND SUBSCRIPTIONS WINDOW

| | |
|---|---|
| **Record counts** | Information that appears below the results list and shows:<br><br>How many records in the list you have selected.<br><br>The number of records returned and displayed. (The maximum number of records returned is determined by a system parameter.)<br><br>The total number of records found by the query. If this number is high, a new query with more restrictive criteria should reduce the number of records found. |

### Buttons

| ITEM | DESCRIPTION |
|---|---|
| **Sort** | Displays the Sort Subscription Query Results window where you can select three different criteria on which to sort results in ascending or descending order. |
| **View/Modify** | Displays detailed information about the selected subscription version. |
| **Refresh** | Refreshes and updates the information on the Results tab. |
| **Reset** | Clears all fields on the Criteria and Advanced Criteria tabs and resets the default values. |
| **Close** | Closes the current window and returns to the main menu. |
| **Help** | Opens online help for the current window. |

## Viewing Subscription Version Data

You can view all the data associated with a subscription version on the View Active Subscription window.

*To access the window*

1. From the Results tab of the Find Subscriptions window, click to highlight the subscription version your wish to view.

2. Click **View**.

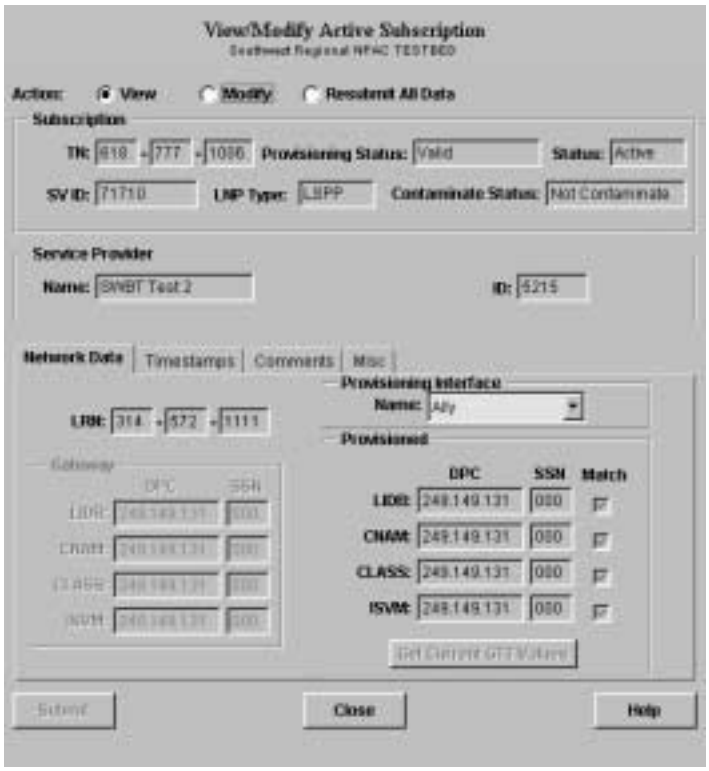
   The View Active Subscription window opens.

**NOTE**

**YOU CAN DOUBLE-CLICK A SUBSCRIPTION VERSION ON THE RESULTS TAB TO OPEN THE WINDOW.**

FIGURE 3-4 VIEW ACTIVE SUBSCRIPTION WINDOW

**Main Menu**
▼
**Find Subscriptions**
▼
**Criteria**
▼
**Results**
▼
**View/Modify**




*To access the window*

1. Click **Find Subscriptions** on the NumberManager main menu.

   The Find Subscriptions window opens.

2. Enter the search criteria on the Criteria tab.

   See FINDING SUBSCRIPTION VERSIONS, on page 3-1 for information about finding subscriptions.

3. Click **Find**.

   NumberManager displays the results of the search on the Results tab.

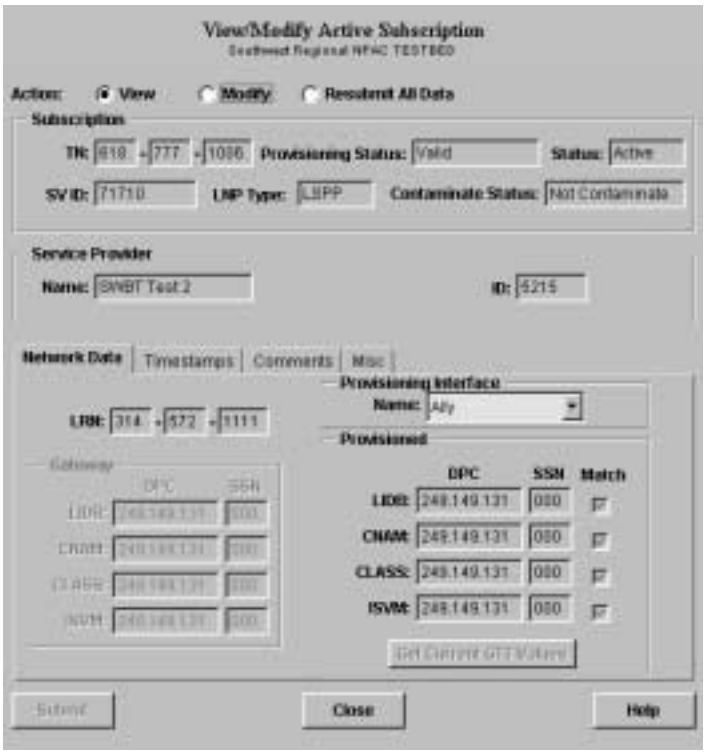
4. Click to highlight a subscription version with a status of **Active**.

5. Click **View/Modify**.

   The View/Modify Active Subscription window opens.

FIGURE 3-5 VIEW/MODIFY ACTIVE SUBSCRIPTION WINDOW

**Main Menu**
▼
**Find Subscriptions**
▼
**Criteria**
▼
**Results**
▼
**View/Modify**




### Items on the Window

The following table defines all of the items on the View/Modify Active Subscription window.

TABLE 3-5 ITEMS ON THE VIEW/MODIFY ACTIVE SUBSCRIPTION WINDOW

### Action

| ITEM | DESCRIPTION |
|---|---|
| **Action** | Options for using the window:<br>• **View-** Review the subscription information without making changes<br>• **Resubmit all data -** Resend the subscription version to the network elements without changing any data on the window. This button is active only if you have the appropriate security privileges for it. |

### Subscription

| ITEM | DESCRIPTION |
|---|---|
| **TN** | Telephone number associated with the subscription version. |
| **LNP Type** | Subscription version port type:<br>• **LSPP** - Local Service Provider Port (interservice port)<br>• **LISP** - Local Intraservice Port (porting a number to a different switch within your own network)<br>• **POOL** - a pooled TN. The National Number Pooling Basic feature must be licensed for your NumberManager application before you can view or modify a pooled TN. |
| **SV ID** | Subscription version ID. A unique number assigned by the NPAC to each subscription version. |

TABLE 3-5 ITEMS ON THE VIEW/MODIFY ACTIVE SUBSCRIPTION WINDOW

| | |
|---|---|
| **Provisioning Status** | Status of the subscription version in the provisioning process. Possible provisioning statuses are:<br><br>**Valid**<br><br>**Pending** - Currently provisioning.<br><br>**Failed** - The last attempt to provision failed.<br><br>**Not Requested** - The imported subscription version was not provisioned. |
| **Status** | Current status of the subscription version. |

### Service Providers

| ITEM | DESCRIPTION |
|---|---|
| **Name, ID** | Name and ID of the current service provider. |

### Network Data tab

| | |
|---|---|
| **LRN** | Location Routing Number. LRN data can be modified when you click **Modify** at the top of the window. |
| **Gateway** | Fields that contain the default or Gateway |
| **LIDB: DPC, SSN** | Line Information Database (LIDB): Destination Point Code (DPC) and Subsystem Number (SSN). |
| **CNAM: DPC, SSN** | Calling name (CNAM): Destination Point Code (DPC) and Subsystem Number (SSN). |
| **CLASS: DPC, SSN** | Custom Local Area Signaling Services (CLASS): Destination Point Code (DPC) and Subsystem Number (SSN). |
| **ISVM: DPC, SSN** | Interswitch Voice Messaging (ISVM): Destination Point Code (DPC) and Subsystem Number (SSN). |

TABLE 3-5 ITEMS ON THE VIEW/MODIFY ACTIVE SUBSCRIPTION WINDOW

**Timestamps tab**

A list of timestamps applied to this subscription version by the NPAC. If a timestamp does not have a date, the timestamp is not assigned to the subscription version.

**Comments tab**

Comments about the subscription version or a modification to the subscription version. This tab is active only in Modify mode and only for the current service provider.

**Miscellaneous tab**

| | |
|---|---|
| **End-User Location Value** | Applies to billing and is not being used (12 digit numeric format). |
| **End-User Location Type** | Applies to billing and is not being used (2 digit numeric format). |
| **Billing ID** | Applies to billing and is not being used (4 digit numeric format). |

# 4

# MANAGING NETWORK DATA

## In This Chapter



DRAFT

## Working with Routing Information

When the Public Utilities Commission (PUC) determines that additional NPA-NXXs are needed, it directs the incumbent service provider to perform an NPA split. When an NPA split is created, the NXXs for the current NPA are divided between the existing NPA and the new NPA. As a result, the subscription versions assigned to the NPA-NXXs that move to the new NPA are affected.

Not all NPA-NXXs are available for porting. When new NPA-NXXs become available for your company or other service providers, the NPAC notifies all LSMSs in the region. NumberManager automatically adds the NPA-NXX to the database when it receives the notification from the NPAC. You can also add location routing number (LRNs), (end office) GTT data for your company and LRNs of other service providers.

The LRN identifies the switch for local number portability (LNP). Every ported TN must have an LRN assigned to it as part of the subscription version. Like NPA-NXXs, NPAC notifies the LSMSs of any LRN additions or deletions, and NumberManager automatically updates the database.

When you add an LRN for your company to the NumberManager database, you also need to add the final (end office) GTT data associated with the LRN. GTT data is used to provision network elements. It contains the network addresses of information related to additional services such as call forwarding, and alternate billing. In the SOA database you maintain tables of gateway GTT data, which the NPAC broadcasts to all LSMSs in the region when subscription versions are created.

LRNs can be added in either NumberManager or a SOA, because GTT data is not supplied to the NPAC. In NumberManager the LRN needs to be associated with end office (final) GTT data.

The following table summarizes how you add network data to NumberManager for your company and for other service providers.

TABLE 4-1 NUMBERMANAGER NETWORK DATA

| DATA | METHOD OF DATA ENTRY |
|---|---|
| **NPA-NXXs** | Notification from the NPAC. |
| **NPA-NXXs of other service providers** | Notification from the NPAC. |
| **LRNs** | Notification from the NPAC. |

TABLE 4-1 NUMBERMANAGER NETWORK DATA (CONTINUED)

| | |
|---|---|
| **LRNs of other service providers** | Notification from the NPAC. |
| **Final GTT data** | Enter final (end-office) GTT data. |
| **Final GTT data of other service providers** | Subscription versions at the NPAC contain the necessary GTT data. |

## Viewing NPA-NXXs

Use the NPA-NXX Management window to view and update NPA-NXXs.

*To access the window*

1. Click **Network Management** in the NumberManager main menu.

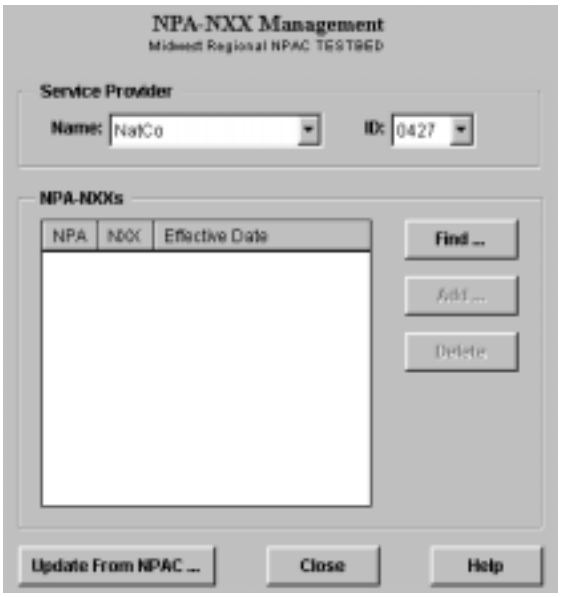
   The Network Management menu opens.

2. Click **NPA-NXX**.

   The NPA-NXX Management window opens.

FIGURE 4-1 NPA-NXX MANAGEMENT WINDOW

**Main Menu**
▼
**Network Management**
▼
**NPA-NXX**



### Items on the Window

The following table defines the items on the NPA-NXX Management window.

TABLE 4-2

**Service Provider**

| ITEM | DESCRIPTION |
|---|---|
| **Name** | Name of the service provider for which you want to view NPA-NXXs. The service providers available from this field are those that are in the current region. (See <Link>"Selecting a Region" on page 5.) The current region is identified below the window title.<br><br>You can select either the name or ID of the service provider. When you select a name, its associated ID is automatically selected. |
| **ID** | ID of the service provider for which you want to view NPA-NXXs. |

**NPA-NXXs**

| ITEM | DESCRIPTION |
|---|---|
| **NPA-NXX, Effective Date** | List of NPA-NXXs currently in the database for the selected service provider, including the effective date and time (local). Use the **Find** button to generate the list. |

**Buttons**

| ITEM | DESCRIPTION |
|---|---|
| **Find** | Opens the Find NPA-NXX Range Locally window. Use the window to search for NPA-NXXs for the selected service provider. |
| **Close** | Closes the current window and returns to the main menu. |
| **Help** | Opens online help for the current window. |

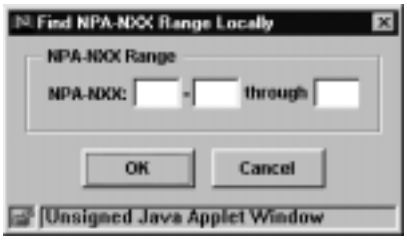
*To find NPA-NXXs available for porting*

You can initiate a search of the local database for NPA-NXXs available for porting for a selected service provider. To view a list of NPA-NXXs, use the Find NPA-NXX

Range Locally window, which opens when you click Find on the NPA-NXX management window.

To find all NPA-NXXs for a service provider, click **OK** without entering any NPA-NXX values. To find specific NPA-NXXs, enter one NPA-NXX or range of NPA-NXXs on the window and click **OK**.

FIGURE 4-2 FIND NPA-NXX RANGE LOCALLY WINDOW




1. On the NPA-NXX Management window, select a service provider from the service provider **Name** list.

   When you select a service provider, the ID is automatically selected.

2. Click **Find**.

   The Find NPA-NXX Range Locally window opens.

3. Enter one NPA-NXX or a range of NPA-NXXs. To find all NPA-NXXs, leave the fields blank.

4. Click **OK**.

   If you did not enter specific NPA-NXXs to find, a confirmation window appears. Click **OK** to continue, or click **Cancel** to narrow the search for NPA-NXXs.

   The Find NPA-NXX Range Locally window closes and NumberManager displays the list of NPA-NXXs on the NPA-NXX Management window.

**NOTE**

**IF OTHER NPA-NXXS ALSO APPEAR IN THE WINDOW, NUMBERMANAGER APPENDS THE NEW NPA-NXXS TO THE LIST. TO VIEW AN ACCURATE AND SORTED LIST OF NPA-NXXS FOR THE SELECTED SERVICE PROVIDER, CLICK FIND.**

5. Click **Close** to close the window and return to the main menu.

## Viewing LRNs

The location routing number (LRN) identifies the switch for a ported TN. Every ported TN must have an LRN assigned to it as part of the subscription version. An LRN looks like a TN but is a number that represents an entire switch through which many TNs are routed.

The LRNs of other service providers are automatically sent to NumberManager from the NPAC. Use the LRN Management window to view and update LRNs in NumberManager.

*To access the window*

1. Click **Network Management** on the NumberManager main menu.

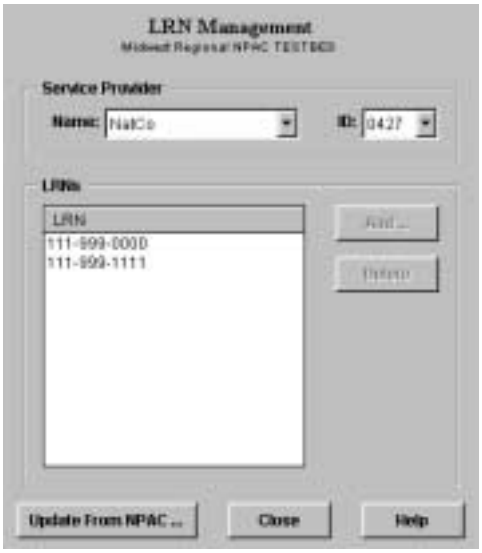
   The Network Management menu opens.

2. Click **LRN**.

   The LRN Management window opens.

FIGURE 4-3 LRN MANAGEMENT WINDOW

**Main Menu**
▼
**Network Management**
▼
**LRN**




### Items on the Window

The following table defines the items on the LRN Management window.

TABLE 4-3 ITEMS ON THE LRN MANAGEMENT WINDOW

| | |
|---|---|
| **Service Provider** | |
| | Name of the service provider for which you want to view LRNs. The service providers available from this field are those that are in the current region. (See SELECTING A REGION, on page 2-5 of CHAPTER 2, GETTING STARTED.)<br><br>You can select either the name or SPID of the service provider. When you select a name, its associated ID is automatically selected. |
| **SPID** | ID of the service provider for which you want to view LRNs. |
| **LRNs** | |
| **LRN** | List of LRNs currently in the database for the selected service provider. |
| **Buttons** | |
| **Close** | Closes the current window and returns to the main menu. |
| **Help** | Opens online help for the current window. |

# Managing GTT Routing Information

Global title translation (GTT) data is used to provision network elements and contains network addresses for information related to additional services, such as call forwarding and alternate billing.

## Types of GTT Data

An LRN can have up to four types of associated GTT data:

- **LIDB** — Line Information Database, including alternate billing services
- **CLASS** — Custom Local Area Signaling Services, including automatic recall and automatic callback
- **CNAM** — Calling Name, or caller ID

- **ISVM** — Interswitch Voice Messaging

GTT data includes DPC and SSN values. The DPC is nine numbers (three groups of three—e.g., "XXX-XXX-XXX" or "238-013-000") and the SSN requires three numbers (one group of three—e.g., "XXX"or "001"). Each group is limited to numbers from 000 to 255. A valid DPC can have an associated SSN value that is null, but each valid SSN must be associated with a valid DPC.

## Gateway and End-Office GTT Data

A subscription version shows *gateway* routing information, which is broadcast by the NPAC to other service providers.

NumberManager replaces gateway routing information with end-office, or *final*, GTT routing information for its own subscription versions, which is sent to the network elements. NumberManager bases this substitution using the associated LRN.

When you add an LRN using the LRN Management window, enter the final GTT routing information for the LRN using the GTT End Office Routing window.

## GTT Data for LRNs Owned by Other Service Providers

Your company might have an agreement with another service provider in the region to provision TNs for that service provider. This usually occurs when a service provider does not have an SCP to do its own provisioning and translation of final LRN GTT data.

If you provision TNs for other service providers, you can enter the final GTT routing information for LRNs owned by those service providers.

*To access the window*

1. Click **Network Management** on the NumberManager main menu.

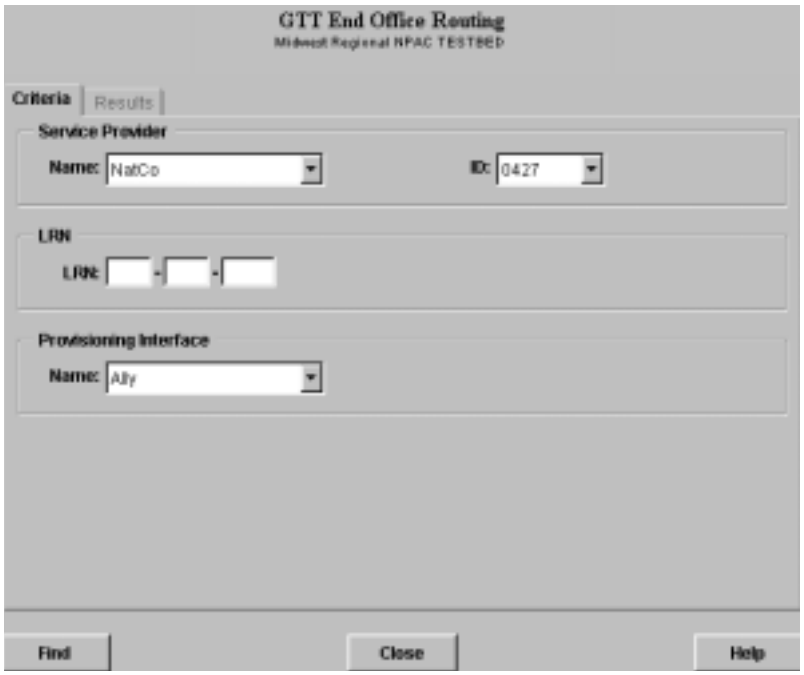
   The Network Management menu opens.

2. Click **GTT End Office Routing**.

   The GTT End Office Routing window opens.

FIGURE 4-4 GTT END OFFICE ROUTING WINDOW

**Main Menu**
▼
**Network Management**
▼
**GTT End Office Routing**




### Items on the Window

The following table defines the items on the GTT End Office Routing window, Criteria tab.

TABLE 4-4 ITEMS ON THE GTT END OFFICE ROUTING WINDOW, CRITERIA TAB

| | |
|---|---|
| **Service Provider** | |
| **Name, ID** | Name of the service provider for the LRN GTT data you want to find. When you select a name, the associated ID is automatically selected. |
| **LRN** | |
| **LRN** | Entry fields for the LRN associated with the final GTT data that you want to find. Leave this field blank to find all LRN GTT data for the selected service provider. |

TABLE 4-4 ITEMS ON THE GTT END OFFICE ROUTING WINDOW, CRITERIA TAB

| Buttons | |
|---|---|
| **Find** | Searches for LRN GTT data and displays the results on the Results tab. |
| **Close** | Closes the current window and returns to the main menu. |
| **Help** | Opens online help for the current window. |

*To find GTT routing data*

1. Select the service provider for which you want to find GTT data.
2. If you want to find GTT data for a specific LRN, enter the LRN.
3. Click **Find**.

   NumberManager displays the results on the Results tab.

FIGURE 4-5 GTT END OFFICE ROUTING WINDOW, RESULTS TAB

**Main Menu**
▼
**Network Management**
▼
**GTT Gateway Routing**

### Items on the Window

The following table defines that items on the GTT End Office Routing window, Results tab.

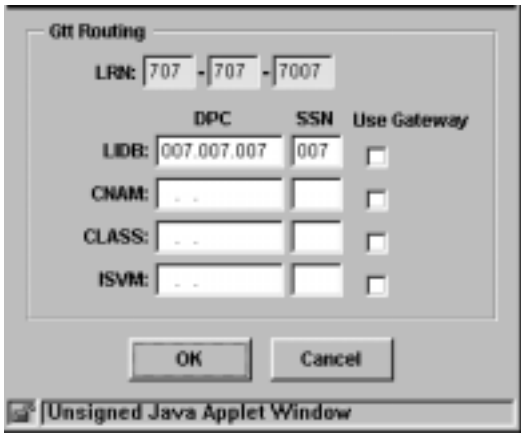
TABLE 4-5 ITEMS ON THE GTT END OFFICE ROUTING WINDOW, RESULTS TAB

| | |
|---|---|
| **Results Tab** | |
| **Results** | Lists the GTT routing data for the specified LRNs. |
| **Buttons** | |
| **Add** | Opens a window where you can add new GTT data. |
| **Modify** | Opens the Modify GTT Routing window for a selected LRN. |
| **Delete** | Deletes the GTT data that you selected from the list. |
| **Find** | Refreshes the data on the Results tab by initiating a new search. |
| **Close** | Closes the current window and returns to the main menu. |
| **Help** | Opens online help for the current window. |

*To add GTT routing data to an LRN*

When you click **Add** on the Results tab, the Add GTT Routing window opens.

FIGURE 4-6 ADD GTT ROUTING WINDOW




**NOTE**

**BEFORE YOU CAN ADD GTT ROUTING DATA, THE LRN MUST BE IN NUMBERMANAGER.**

1. On the Criteria tab of the GTT End Office Routing, click **Add**.

   The Add GTT Routing window opens.
2. Enter the LRN for which you are adding GTT data.
3. Enter the **DPC** and **SSN** values for all of the items that apply to the LRN: **LIDB**, **CNAM**, **CLASS**, or **ISVM**. (See TYPES OF GTT DATA, on page 4-6.)
4. Click **OK**.

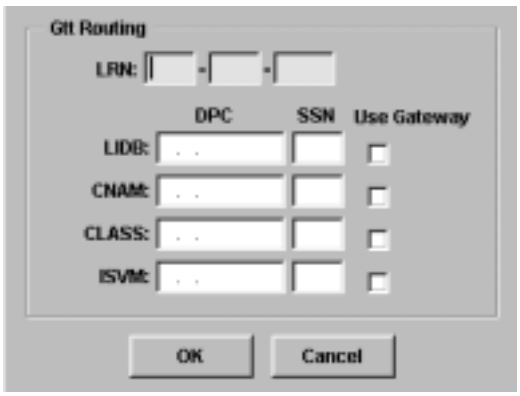
   The Add GTT Routing window closes and a confirmation message appears.
5. Click **OK** to close the message window.

   The new GTT data appears on the Results tab.

*To modify GTT routing data*

When you select a line of GTT data on the Results tab and click **Modify**, the Modify GTT Routing window opens. Some network data fields may not contain data, because not all of these fields are required to route a TN.

FIGURE 4-7 MODIFY GTT ROUTING WINDOW




1. On the Results tab, select an LRN.
2. Click **Modify**.

   The Modify GTT Routing window opens.
3. Modify the **CLASS**, **LIDB**, **ISVM** and **CNAM** fields where applicable. (See <Link>"Types of GTT Data" on page 6.)
4. Click **OK**.

   A confirmation message appears.
5. Click **OK** on the message window.

   The data is saved and the window closes.

*To delete GTT routing data from an LRN*

You should not delete GTT data if any active subscription versions are associated with the LRN.

1. On the Results tab, select an LRN.
2. Click **Delete**.

   A window appears asking you to continue with the deletion.
3. Click **Yes** to confirm the deletion.

   A message window appears.
4. Click **OK** on the message window.

## Managing NPA Splits

When the Public Utilities Commission (PUC) determines that additional NPA-NXXs are needed, it directs the incumbent service provider to perform an NPA split. When an NPA split is created, the NXXs for the current NPA are divided between the existing NPA and the new NPA. As a result, the subscription versions assigned to the NPA-NXXs that move to the new NPA are affected.

When an NPA split is administered, a new NPA is created from an existing NPA in the database and is assigned NXXs.

### Permissive Dialing Period

The *permissive dialing period* is the period of time during which callers can dial the TN using the original NPA or the new NPA. The permissive dialing period determines when you can modify or delete the NPA split from NumberManager.

*To access the window*

1. Click **Network Management** on the NumberManager main menu.

   The Network Management menu opens.

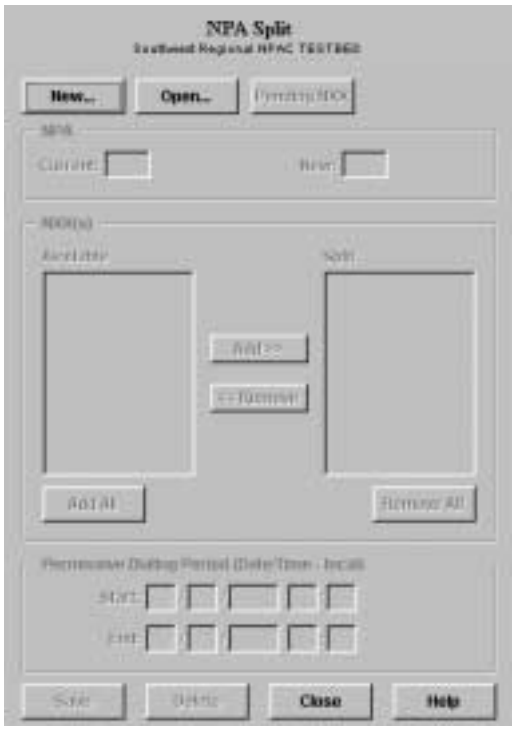
2. Click **NPA Split**.

   The NPA Split window opens.

3. Click **Open**.

   The Select NPA Split Window opens. Choose an appropriate split to view. The available split window appears.

**Main Menu**
▼
**Network Management**
▼
**NPA Split**




### Items on the Window

The following table defines the items on the NPA Split window. Note that the fields are inactive until you click the **New** or **Open** button at the top of the window.

TABLE 4-6 ITEMS ON THE NPA SPLIT WINDOW

**NPA Split (all of the items below are view-only functions)**

| ITEM | DESCRIPTION |
|---|---|
| **New button** | Opens the New NPA Split window for selecting an NPA to split and activates the fields on the window. |

TABLE 4-6 ITEMS ON THE NPA SPLIT WINDOW

| | |
|---|---|
| **NPA** | |
| **Current** | Current NPA to split into a new NPA. |
| **New** | New NPA created as a result of the split. |
| **Buttons** | |
| **Add** | Moves the selected NXX from the **Available** list to the **Split** list. |
| **Remove** | Moves the selected NXX from the **Split** list to the **Available** list. |
| **Add All** | Selects and moves all NXXs in the **Available** list to the **Split** list. |
| **Remove All** | Selects and moves all NXXs in the **Split** list to the **Available** list. |
| **Save** | Saves the NPA split data. |
| **Delete** | Deletes the NPA split. |
| **Close** | Closes the current window and returns to the main menu. |
| **Help** | Opens online help for the current window. |

TABLE 4-6 ITEMS ON THE NPA SPLIT WINDOW

| | |
|---|---|
| **New button** | Opens the New NPA Split window for selecting an NPA to split and activates the fields on the window. |
| **Open button** | Opens the Select NPA Split window for modifying or deleting existing NPA splits and activates the fields on the window. |
| **Pending NXX** | Opens a list of NXXs that are pending in a NPA split. This feature is only available with the Automated Split Processing licensed feature. |

## NPA-NXX-X (Dash-X) Notification Activities

Your NumberManager service features an NPA-NXX-X (Dash-X) Notification Feature, which provides access to the following functions:

- Download network data from an NPAC bulk download file using Service Provider as the filter criteria.
- Export subscription, network (LRN, NPA-NXX, and NPA-NXX-X), or service provider data to a file
- Query the local database for NPA-NXX-X data
- Track the contaminate status of subscription version records

When the NPAC creates, deletes, or modifies an NPA-NXX-X, it sends notifications to service providers. The purpose of the Dash-X feature is to enable NumberManager to accept NPA-NXX-X notifications and find NPA-NXX-X related data received from the NPAC.

This section provides information about NPA-NXX-Xs and using the LNP products to find NPA-NXX-Xs, export NPA-NXX-X network data, track (find) contaminates, and view subscription version data showing contaminate status.

## NPA-NXX-Xs

After an NPA-NXX-X has been created for a block holder, and the effective date of the NPA-NXX-X has been reached, the NPAC can create a *number pooling block* for the NPA-NXX-X.

An NPA-NXX-X is the network data representation of a range of 1000 POOLed TNs within the NPA-NXX, beginning with a station of X000 and ending with a station of X999, where X is a value between 0 and 9.

An example of an NPA-NXX-X is 404-333-3. The block of TNs for this NPA-NXX-X includes all non-contaminated TNs from 404-333-3000 through 404-333-3999.

The service provider that owns the NPA-NXX containing the NPA-NXX-X is referred to as the *code holder*. The NPAC can pool an NPA-NXX-X to another service provider who has already exhausted or will soon exhaust its current supply of TNs. After the NPAC pools this NPA-NXX-X, the new service provider is referred to as the *block holder*.

## Contamination

If the NPA-NXX-X being donated by the code holder includes TNs that are already in service or have been ported away, the NPA-NXX-X is *contaminated*. The contamination level should be no more than 10 percent, and it is the code holder's responsibility to prepare the NPA-NXX for number pooling before donation. There is no functionality in the NPAC SMS that will prevent creation of the NPA-NXX-X if the contamination level exceeds 10 percent.

To prepare the NPA-NXX-X for numbers already in service, the code holder creates an intra-service provider port (LISP) for each TN in service. This creates entries in the NPAC and LSMS databases and ensures that pooled subscription versions will not be created for these TNs.

If the contaminating TNs are already ported to another service provider, they can have a status of **`Active`**, **`Disconnect-Pending`**, **`Sending`**, **`Partial-Failure`**, or **`Old`** with a failed LSMS list. They remain with the current service provider and no pooled subscription versions will be created for these TNs.

## What Happens in NumberManager

Dash-X allows NumberManager to receive NPA-NXX-X notifications and store them in your local NumberManager database.

After NPA-NXX-Xs are in the NumberManager database, the Dash-X licensed features give you these options:

- search the NPAC or the local NumberManager database and display lists of NXX-XXX-Xs
- query for NPAC notifications that include NPA-NXX-X activities
- modify the network data for the pooled subscription versions
- update the database with NPA-NXX-Xs from NPAC
- export NPA-NXX-X data to a file as network data
- import NPA-NXX-X data from the NPAC download file
- track contaminates within NPA-NXX-X blocks

# 5

# AUDITING DATA

## In This Chapter

## Auditing SCPs

The audit functions in NumberManager let you compare the records in one database to the same records in another database or file to ensure that the information is consistent and accurate.

Typically, you initiate an audit when you are researching problems in subscription processing and want to verify that the information is consistent across the different databases.

## SCP Audits

This function compares the provisioned SCP (network element) data against the data in your NumberManager database.

In order for this type of audit to function correctly, the provisioning interface for a network element management system (NEMS) must be set up by your system administrator to allow data to be retrieved.

## Audit Process

An audit consists of four steps:

1. Name the audit file and initiate the audit using the Initiate Audit window.
2. Find the audit file using the Find Audit window.
3. Review the results of the audit on the Audit Results window.
4. Resolve any discrepancies.

## Initiating an Audit

You initiate an audit from the Initiate Audit window. Only active subscription versions are included in an audit. Subscription versions in the selected TN range that are not active are ignored during the audit.

When you create a new audit, you must give it a unique name so that you can identify it later. Use the Find Audit window to view existing audits before you initiate a new audit. (See FINDING AND VERIFYING AUDITS, on page 5-5.) Be sure that the name you want to assign to the audit does not already exist.

An audit may take some time to complete. While an audit is processing, you can continue to enter data in NumberManager.

*To access the window*

1. Click **Audits** on the NumberManager main menu.

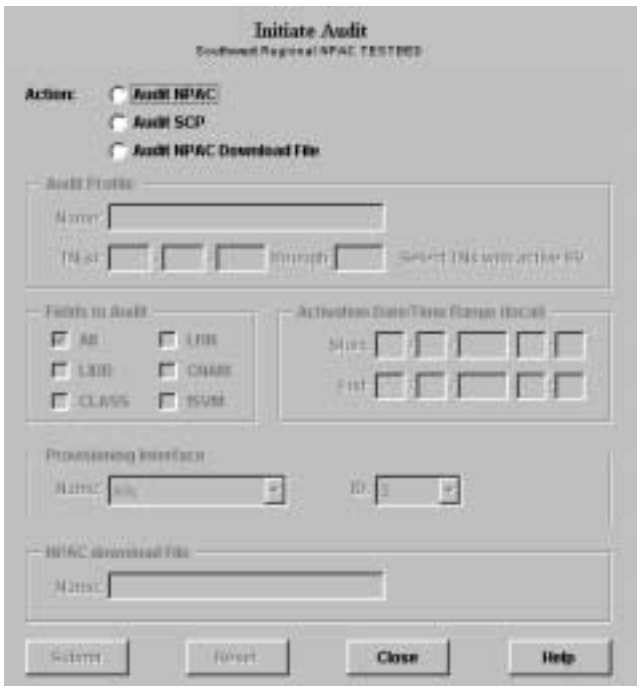
   The Audits menu opens.

2. Click **Initiate**.

The Initiate Audit window opens. (When you click an action, the appropriate fields are enabled.)

FIGURE 5-1 INITIATE AUDIT WINDOW

**Main Menu**
▼
**Audits**
▼
**Initiate**




## Items on the Window

The following table defines the items on the Initiate Audit window.

TABLE 5-1 ITEMS ON THE INITIATE AUDIT WINDOW

**Initiate Audit**

| ITEM | DESCRIPTION |
|---|---|
| **Action** | Indicator of which audit you want to initiate. See AUDITING SCPS, on page 5-1 for more information. |

**Audit Profile**

| ITEM | DESCRIPTION |
|---|---|

TABLE 5-1 ITEMS ON THE INITIATE AUDIT WINDOW

| | |
|---|---|
| **Name** | Name for the audit you are initiating. When you view the results of the audit, you will select the audit by the audit name. This field is required for all audits. |
| **TN(s)** | TN to audit. If you are auditing a range of TNs, this is the starting TN. A TN is required for all audits. |
| **through** | Ending TN's station if auditing a range of TNs. |

### Fields to Audit

| ITEM | DESCRIPTION |
|---|---|
| **ALL** | Checkbox to audit all fields. This checkbox is selected as the default to include all fields in the audit. If you clear this checkbox, the **LIDB**, **CLASS**, **LRN**, **CNAM**, and **ISVM** checkboxes are available for selection. |

The following checkboxes are enabled when you clear the **ALL** checkbox.

| | |
|---|---|
| **LIDB** | Checkbox to audit *line information database* data. |
| **CLASS** | Checkbox to audit *custom local area signaling services* data. |
| **LRN** | Checkbox to audit *location routing number* data. |
| **CNAM** | Checkbox to audit *calling name* data. |

TABLE 5-1 ITEMS ON THE INITIATE AUDIT WINDOW

| | |
|---|---|
| **ISVM** | Checkbox to audit *interswitch voice mail* data. |

### Activation Date/Time Range (local)

| ITEM | DESCRIPTION |
|---|---|
| **Start** | Start date and time for the range of timestamps for subscription version activation dates to include in the audit. This field is optional. |
| **End** | End date and time for the range of timestamps for subscription version activation dates to include in the audit. This field is optional. |

### Provisioning Interface

| ITEM | DESCRIPTION |
|---|---|
| **Name** | Name of the provisioning interface for the SCP to audit. This required field is used only when auditing an SCP.<br><br>The provisioning interface **Name** and **ID** fields are synchronous; if you select a name, the ID is automatically selected. |
| **ID** | ID of the provisioning interface for the SCP to audit. |

### Buttons

| ITEM | DESCRIPTION |
|---|---|
| **Submit** | Initiates the audit. |

TABLE 5-1 ITEMS ON THE INITIATE AUDIT WINDOW

| | |
|---|---|
| **Reset** | Clears all entry fields and selects **ALL** in the **Fields to Audit** group box. |
| **Close** | Closes the current window and returns to the main menu. |
| **Help** | Opens online help for the current window. |

*To audit SCPs*

1. On the Initiate Audit window, click **Audit SCP**.
2. Enter a name for the audit in the **Audit Profile Name** field.

   **You must give the audit a unique name. If you use an audit name that already exists, you will get an error message when you initiate the audit.**

3. Enter a TN (or range of TNs) in the **TN(s)** fields.

   You must enter at least one TN to initiate the audit.
4. If you do not want to audit all network data fields, clear the **ALL** checkbox and select one or more of the other **Fields to Audit** checkboxes.
5. Select the name or ID of the **Provisioning Interface** to audit. To audit all SCPs set up for data retrieval, select **ALL**.
6. Click **Submit** to initiate the audit.

## Finding and Verifying Audits

After you initiate an audit, you can use the Find Audit window to check on the progress of the audit. The Find Audit window lists all audits currently in process or complete.

The data in the Results tab of the Find Audit window is a snapshot of audit information as of the time you clicked **Find**. The status or percentage complete is not updated as you view information on the Results tab. For example, if an audit is currently processing, the status will show **In Progress**. If the audit completes processing as you are viewing audits, the Results tab will not display a status of **Complete** until you query again to find audits.

*To access the window*

1. Click **Audits** on the NumberManager Main menu.

The Audits menu opens.

2. Click **Find.**

   The Find Audit window opens.

FIGURE 5-2 FIND AUDIT WINDOW, CRITERIA TAB

**Main Menu**
▼
**Audits**
▼
**Find**


## Items on the Criteria Tab

The following table defines the items on the Find Audit window, Criteria tab.

TABLE 5-2 ITEMS ON THE FIND AUDIT WINDOW, CRITERIA TAB

**Find Audit**

| ITEM | DESCRIPTION |
|---|---|
| **Audit Name** | Name of the audit to search for. To find all audits, leave this field blank. |

TABLE 5-2 ITEMS ON THE FIND AUDIT WINDOW, CRITERIA TAB

**Buttons**

| ITEM | DESCRIPTION |
|---|---|
| **Find** | Initiates the search to find the audit. |
| **Close** | Closes the current window and returns to the main menu. |
| **Help** | Opens online help for the current window. |

*To find an audit*

1. On the Find Audit window, enter the name of the audit or, to find all audits, leave the **`Audit Name`** field blank.
2. Click **`Find`**.

   The audit information appears on the Results tab. The results show the audit name, the current status and percentage of completion.

FIGURE 5-3 FIND AUDIT WINDOW, RESULTS TAB

**Main Menu**
▼
**Audits**
▼
**Find**

## Items on the Results Tab

The following table defines the items on the Find Audit window, Results tab.

TABLE 5-3 ITEMS ON THE FIND AUDIT WINDOW, RESULTS TAB

### Find Audit

| ITEM | DESCRIPTION |
|---|---|
| **Name** | Name assigned to the audit when it is initiated. |
| **Status** | Current status of the audit: **In Progress**, **Complete**, **Canceled**, or **Failed**. |
| **% Complete** | Percentage of the audit process that is complete. |

### Buttons

| ITEM | DESCRIPTION |
|---|---|
| **View** | Opens the Audits Results window of the audit you select in the results list. |
| **Cancel** | Not applicable. Audits initiated from NumberManager cannot be canceled. |
| **Find** | Refreshes the displayed audit information by searching again for the specified audits (as defined on the Criteria tab). |
| **Close** | Closes the current window and returns to the main menu. |
| **Help** | Opens online help for the current window. |

## Viewing the Results of an Audit

The Audit Results window lets you view the results of the audit you selected in the Results tab of the Find Audit window. The results of an audit tell you what data

was audited (TNs, network information) and lists only the discrepancies found on the data specified for the audit.

*To access the window*

1. Click **Audits** on the NumberManager Main menu.

   The Audits menu opens.

2. Click **Find.**

   The Find Audit window opens.

3. Find the audit you want to view.

   See TO FIND AN AUDIT, on page 5-7.

4. On the Results tab, select the audit you want to view.

5. Click **View**.

   If the audit revealed no discrepancies, a message appears and the Audit Results window is empty.

   If the audit revealed discrepancies, the Audits Results window opens with data showing the discrepancies. The data in this window is view-only.

FIGURE 5-4 AUDITS RESULTS WINDOW

**Main Menu**
▼
**Audits**
▼
**Find**
▼
**Criteria**
▼
**Results**
▼
**View**


## Items on the Window

The following table defines the items on the Audit Results window.

TABLE 5-4 ITEMS ON THE AUDIT RESULTS WINDOW

| Audit Profile | |
|---|---|
| ITEM | DESCRIPTION |
| **Name** | Name of the audit (view only). |
| **Status** | Current status of the audit (view only). |
| **TN(s)** | TN (or range of TNs) included in the audit (view only). |

TABLE 5-4 ITEMS ON THE AUDIT RESULTS WINDOW

### Fields in Audit

Fields selected for the audit (view only): **ALL**, **LIDB**, **CLASS**, **LRN**, **CNAM**, **ISVM**.

### Activation Date/Time Range

| ITEM | DESCRIPTION |
|---|---|
| **Start** | Start date of the TN activation date range included in the audit (view only). |
| **End** | End date of the TN activation date range included in the audit (view only). |

### Results

Information appears in the Results portion of the Audit Results window only if data discrepancies were found during the audit. The items defined below appear blank if no discrepancies were found.

| ITEM | DESCRIPTION |
|---|---|
| **TN** | Specifies the TN with a discrepancy. |
| **Service Provider** | Not applicable for NumberManager audits. |
| **Error Type** | Specifies the data attribute (for example, LRN, SSN, DPC, or timestamp) where a discrepancy was found and indicates whether the discrepancy is a mismatch of data or the data is missing. |

### Buttons

TABLE 5-4 ITEMS ON THE AUDIT RESULTS WINDOW

| ITEM | DESCRIPTION |
|---|---|
| **Close** | Closes the current window and returns to the Find Audit window. |
| **Help** | Opens online help for the current window. |

## Deleting Old Audits

NumberManager removes audits from the database after a period of time defined by your system administrator. When you search for audits using the Find Audit window, the results of the search might be different each time you audit even though your search criteria is the same.

Audits are removed from the database every seven days.

# A

# INDUSTRY TERMS AND ACRONYMS

The following terms are references to LNP and the NumberManager Application Terminology.

**NOTE**

**THERE ARE TERMS INCLUDED IN THIS GLOSSARY THAT DO NOT APPEAR IN THIS GUIDE. THESE SELECTED TERMS ARE RELEVANT TO YOUR NPDD SERVICE AND ARE INCLUDED IN THIS GUIDE FOR YOUR CONVENIENCE.**

AUDIT Refers to the process whereby data in two related databases is compared and, if necessary, updated. If a service provider believes that an LSMS's database is not consistent with the regional NPAC, the SOA can initiate an audit request to the NPAC via the SOA to NPAC interface. The NPAC SMS audits the LSMS(s) and returns a discrepancy report to the originating SOA. The NPAC SMS also updates the LSMSs that have discrepancies with the correct NPAC data.

CLASS **Custom Local Area Signaling Services**. Premium local service features, such as automatic recall and automatic callback.

CMIP **Common Management Information Protocol**. A network management protocol designed to facilitate information transfer between connected networks.

CMISE **Common Management Information Service Element**. The application level of the seven layer network management model, responsible for transferring network information from one system to another, and for providing users a means of communicating with the CMIP layer.

CNAM **Calling Name**. Feature that displays the name and phone number of an incoming caller.

CORBA **Common Object Request Brokerage Architecture**. Standard architecture and protocol for communications between software applications.

DATA EXPORT Transfer of NumberManager data to files in order to keep historical records of the data or send it to other organizations. The files allow you to output data as needed without giving anyone outside your organization access to your database. The files are created and named by NumberManager and are stored in a directory defined by your system administrator. You can export subscription version data, network data, and service provider data.

DATA IMPORT Transfer of a data file from the NPAC SMS to the NumberManager system, when the system has been off-line for a long period of time, or during initial set-up. The purpose of the data import from the NPAC is to synchronize the application database with the NPAC. The data file is processed to update the application database. Import data files are usually retrieved from the NPAC using FTP.

DPC **Destination Point Code**. One of several pieces of data needed to route calls placed to a ported TN. The DPC is an SS7 address porting to a network element.

| | |
|---|---|
| FOC | **Firm Order Confirmation** form. Required information sent by the old service provider to the new service provider in response to the LSR. This form, along with the LSR, creates a paper record of the customer's request to port service. |
| GMT | **Greenwich Mean Time**. |
| GTT | **Global Title Translation**. Data used for provisioning network elements for call processing of a ported number. GTT helps route queries in the signaling network. |
| INTERSERVICE PORT | The porting of a telephone number to a new service provider. |
| INTRASERVICE PORT | The porting of a telephone number to a new location within the current service provider network. |
| ISVM | **Inter-Switch Voice Mail**. One of several pieces of data needed to route calls placed to a ported TN. ISVM is used for features such as Message Waiting Indicator. |
| LERG | **Local Exchange Routing Guide**. A resource that provides information to service providers. The LERG identifies the LRNs and NPA-NXXs that are open for porting or scheduled to be open for porting. Also contains all information about NPA splits, such as permissive dialing period and the NXXs affected by a split. |
| LIDB | **Line Information Database**. One of several pieces of data needed to route calls placed to a ported TN. LIDB is a database that contains billing information used in services such as calling cards. |
| LISP | **Local Intra-Service Provider Portability**. Movement of a TN from one switch to another, but within the same network for a service provider. |

LNP **Local Number Portability**. The ability of a consumer to keep his or her current telephone number when changing local phone service providers.

LRN **Location Routing Number**. A proposed implementation solution for providing LNP which uses AIN triggers, SS7 signaling, and unique 10-digit code for switch identification. An LRN is a local routing number in the same form as a TN used to identify the TN's serving switch when the TN is a ported number.

LSMS **Local Service Management System**. Software that receives updates from the NPAC SMS to activate or disconnect a ported TN. The LSMS is responsible for capturing the NPAC SMS updates and updating the NEMLs with the new porting information so that call processing continues for a ported telephone number. Each service provider has an LSMS. The NPAC updates all attached LSMSs with ported TN information at the same time.

LSPP **Local Service Provider Portability**. Movement of a TN from one service provider to another service provider.

LSR **Local Service Response** form. Information sent by the new service provider to the old service provider when a customer requests local service. This form, along with the FOC, creates a paper record of the customer's request to port service.

MASS UPDATE Data sent to each of the Local Service Management Systems connected to the NPAC SMS to update the network view of the subscriptions for network routing when a large number of NPAC subscription records change version status.

MD5 **Message Digest (Version 5)**. A means of representing encryption key data between a service provider and the NPAC.

| | |
|---|---|
| NEML | **Network Element Management Layer**. |
| NETWORK DATA | Information used by the respective network elements to route ported numbers to the new termination points. GTT, DPC, and LIDB are all types of network data. |
| NPA | **Numbering Plan Area**. The first three digits of the 10-digit destination number within the North America Numbering Plan Area. |
| NPAC CONFIGURATION DATA | Information about each NPAC to which NumberManager is connected. |
| NPAC CUSTOMER | Any customer of the NPAC SMS. |
| NPAC SMS | **Number Portability Administration Center Service Management System**. The system that manages LNP for the service providers in a defined geographical region. The NPAC SMS interfaces with the service providers through their SOAs and LSMSs. |
| NSAP | **Network Layer Service Access Point**. |
| NXX | **Number Exchange**. A code normally used as a central office code. |
| PERMISSIVE DIALING PERIOD | Period of time after the initiation of an NPA split during which dialing to both the old and new number is permitted. |
| PORTED TN | A TN ported to a switch that is not the NANP-assigned switch. |
| "PORTING TO ORIGINAL" PORT | The porting of a telephone number back to the original "donor." |

| | |
|---|---|
| PSAP | **Presentation Layer Service Access Point**. |
| QUERY | A request for information sent to the NPAC SMS. |
| SCP | **Service Control Point**. A network element responsible for providing the network switching systems with the ported call routing information during call processing. The LSMS is responsible for downloading the ported TN routing information to the SCP. |
| SERVICE PROVIDER DATA | Information about service providers participating in the LNP service, including name, address, phone and contact information. Individual service providers keep records of their own data in the NumberManager database. NumberManager also contains the name and ID of all service providers. |
| SMS | **Service Management System**. Software that allows a service provider to communicate with the NPAC and port TNs. |
| SOA | **Service Order Administration**. The generic industry term for the functions associated with order management for ported telephone numbers. |
| SP | **Service Provider**. A facilities-based user of the NPAC SMS. |
| SSAP | **Session Layer Service Access Point**. |
| SSN | **Subsystem Number**. One of several pieces of data needed to route calls placed to a ported TN. The SSN usually refers to an application in the signaling network. |
| SUBSCRIPTION DATA | Information about the ported TNs including LRN and GTT data. |

| | |
|---|---|
| SUBSCRIPTION VERSION | Time-sensitive or status-sensitive instance of a subscription. |
| TN | **Telephone Number.** |
| TSAP | **Transport Layer Service Access Point.** |
| UTC | **Universal Coordinated Time.** Same as Greenwich Mean Time (GMT). |