

**Oracle® Communications  
Network Charging and Control**

NP Provisioning Interface Commands

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# About This Document

## Scope

The scope of this document includes all the information required to configure the NP Service Pack PI commands.

## Audience

The audience for this document includes system administrators responsible for the monitoring, maintenance, and configuration of the Oracle Communications Network Charging and Control IN applications.

## Prerequisites

A solid understanding of UNIX and a familiarity with IN concepts are an essential prerequisite for safely using the information contained in this technical guide.

Although it is not a prerequisite to using this guide, familiarity with the target platform would be an advantage.

This manual describes system tasks that should only be carried out by suitably trained operators.

## Related Documents

The following documents are related to this document:

- *Provisioning Interface User's and Technical Guide*
- *Virtual Private Network User's Guide*

# Document Conventions

## Typographical Conventions

The following terms and typographical conventions are used in the Oracle Communications Network Charging and Control (NCC) documentation.

Formatting Convention	Type of Information
<b>Special Bold</b>	Items you must select, such as names of tabs. Names of database tables and fields.
<i>Italics</i>	Name of a document, chapter, topic or other publication. Emphasis within text.
<b>Button</b>	The name of a button to click or a key to press. <b>Example:</b> To close the window, either click <b>Close</b> , or press <b>Esc</b> .
<b>Key+Key</b>	Key combinations for which the user must press and hold down one key and then press another. <b>Example:</b> <b>Ctrl+P</b> or <b>Alt+F4</b> .
Monospace	Examples of code or standard output.
<b>Monospace Bold</b>	Text that you must enter.
<i>variable</i>	Used to indicate variables or text that should be replaced with an actual value.
<b>menu option &gt; menu option &gt;</b>	Used to indicate the cascading menu option to be selected. <b>Example:</b> <b>Operator Functions &gt; Report Functions</b>
<a href="#">hypertext link</a>	Used to indicate a hypertext link.

Specialized terms and acronyms are defined in the glossary at the end of this guide.

# PI Commands Overview

## Overview

### Introduction

The provisioning interface (PI) uses TCP/IP-based UNIX sockets to receive provisioning commands and parameters. These are translated into SQL commands that update prepaid application tables of the SMF and E2BE Oracle databases. This chapter defines the rules and packages required to translate the provisioning commands into SQL commands.

### In this chapter

---

This chapter contains the following topics.

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## Command List

### Command list

The following table lists the Number Portability (NP) PI functions and their corresponding commands. To use the NP PI commands the npPISms package must be installed on your system in addition to the standard piSms package.

Function	npPISms
Add a ported number range.	NPDS1=ADD
Modify a ported number range.	NPDS1=CHG
Delete a ported number range.	NPDS1=DEL
Query an active ported number range.	NPDS1=QRY
Add a ported number prefix.	NPYZ1=ADD
Query a ported number prefix.	NPYZ1=QRY
Change a ported number prefix.	NPYZ1=CHG
Delete a ported number prefix.	NPYZ1=DEL
Add new LCR rule set.	NPLC1=ADD
Modify an LCR rule set.	NPLC1=CHG
Delete an LCR rule set.	NPLC1=DEL
Add a new LCR rule.	NPLC2=ADD
Modify an LCR rule.	NPLC2=CHG
Delete an LCR rule.	NPLC2=DEL
Add a new home routing entry.	NPHR1=ADD
Modify a home routing entry.	NPHR1=CHG

Function	npPISms
Delete a home routing entry.	NPHR1=DEL
Query a home routing entry.	NPHR1=QRY

## Parameter Formats

### Number Portability PI Parameter Formats

This table describes the format of each Number Portability PI parameter.

Parameter	Format
ACTIVATION_DATE	YYYYMMDDHHMMSS (24 hour clock)
ADDITIONAL_RN_ID	One to 8 digit hexadecimal number
CARRIER <sub>n</sub> ( <i>n=1 to 8</i> )	One to 30 character string
CASCADE	Y N
DESCRIPTION	String of up to 64 characters.
DN	Four to 18 digit number.
DN_END	Four to 18 digit number, must be the same length as the associated DN_START value.
DN_START	Four to 18 digit number.
DN_TYPE	H S
DONOR_ID	One to 8 digit hexadecimal number
ENTRY_TYPE	O S
NEW_NAME	String of up to 30 characters.
NUMBER_TYPE	F M Null
PORT_ID	One to 8 digit hexadecimal number
PQYZ	String of up to 18 characters.
ROUTING_DESTINATION	String of up to 64 characters.
ROUTING_NUMBER	String of up to eight characters.
RULE_SET	String of up to 30 characters.
URI	String of up to 50 characters.



# PI Number Portability Package

## Overview

### Introduction

This chapter describes the available PI commands for provisioning number portability information on the SMS.

These commands are added by the `npPISms` package that is installed when you install NCC. For more information about the PI, and the PI packages, see *PI User's and Technical Guide*. For more information about Number Portability, see the *NP Service Pack Technical Guide* and *NP Service Pack User's Guide*.

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## Add a Ported Number Range

### Description

Use the `NPDS1=ADD` PI command to add a new entry to the `NP_DN_RANGE` table.

### Required parameters

This command requires the following parameters.

`DN_START`

**Syntax:** `DN_START=integer`

**Description:** The start of the DN number range.

## Chapter 2

**Type:** Integer  
**Optionality:** Required  
**Allowed:** The specified number must have four to 18 digits.  
**Default:** None  
**Notes:**  
**Example:** DN\_START=1230

DN\_END

**Syntax:** DN\_END=*integer*  
**Description:** The end of the DN number range.  
**Type:** Integer  
**Optionality:** Required  
**Allowed:** The specified number must have four to 18 digits.  
**Default:** None  
**Notes:** DN\_END and DN\_START must be the same length.  
**Example:** DN\_END=1250

ACTIVATION\_DATE

**Syntax:** ACTIVATION\_DATE=*date*  
**Description:** The date the range will become active.  
**Type:** Date String  
**Optionality:** Required  
**Allowed:** A valid date using this format: YYYYMMDDHHMMSS  
**Default:** None  
**Notes:**  
**Example:** ACTIVATION\_DATE=20080714000000

ENTRY\_TYPE

**Syntax:** ENTRY\_TYPE=O|S  
**Description:** The entry type to use.  
**Type:** String  
**Optionality:** Required when adding a ported number range  
**Allowed:** Either:

- O – For an operator entry type
- S – For a subscriber entry type

**Default:** None  
**Notes:**  
**Example:** ENTRY\_TYPE=S

ROUTING\_NUMBER

**Syntax:** ROUTING\_NUMBER=*number*  
**Description:** The routing number.  
**Type:** Integer  
**Optionality:** Required

**Allowed:** A hexadecimal number between 1 and 8 digits long.  
**Default:** None  
**Notes:**  
**Example:** ROUTING\_NUMBER=ABC123

## Optional parameters

This command accepts the following optional parameters.

### NUMBER\_TYPE

**Syntax:** NUMBER\_TYPE=F|M|D|Null value  
**Description:** The number type of the DN range.  
**Type:** String  
**Optionality:** Optional (default used if not set)  
**Allowed:** One of the following:

- Null value
- F - fixed
- M - mobile
- D - delete (see *Logic and constraints* (on page 9))

**Default:** Null  
**Notes:**  
**Example:** NUMBER\_TYPE=F

### ADDITIONAL\_RN\_ID

**Syntax:** ADDITIONAL\_RN\_ID=*integer*  
**Description:** The additional routing number for the DN range.  
**Type:** Integer  
**Optionality:** Optional  
**Allowed:** A hexadecimal number, 1 to 8 digits long.  
**Default:** None  
**Notes:**  
**Example:** ADDITIONAL\_RN\_ID=001

### DONOR\_ID

**Syntax:** DONOR\_ID=*integer*  
**Description:** The donor ID number for the DN range.  
**Type:** Integer  
**Optionality:** Optional  
**Allowed:** A hexadecimal number, 1 to 8 digits long. Must be a defined routing number.  
**Default:** None  
**Notes:**  
**Example:** DONOR\_ID=0011

## Chapter 2

### PORT\_ID

<b>Syntax:</b>	<code>PORT_ID=<i>integer</i></code>
<b>Description:</b>	The port ID number for the DN range.
<b>Type:</b>	Integer
<b>Optionality:</b>	Optional
<b>Allowed:</b>	A hexadecimal number, 1 to 8 digits long. Must be a defined routing number.
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	<code>PORT_ID=001</code>

### URI

<b>Syntax:</b>	<code>URI=<i>string</i></code>
<b>Description:</b>	The uri for the DN range.
<b>Type:</b>	String
<b>Optionality:</b>	Optional
<b>Allowed:</b>	Textual string, 1 to 50 characters long
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	<code>URI=Uri.com</code>

## Logic and constraints

The following rules apply when using the NPDS1=ADD command:

- The range defined by DN\_START and DN\_END must not overlap an existing entry of the same entry type in the NP\_DN\_RANGE table, except if DN\_START and DN\_END exactly match a defined range and ACTIVATION\_DATE is different.
- Overlapping ranges of different entry types but the same DN\_START and DN\_END must have a different ACTIVATION\_DATE.
- DN\_START and DN\_END must be the same length, with DN\_END being of equal or higher value.
- ROUTING\_NUMBER must be an existing routing number defined in the NP\_ROUTING\_NUMBER table.
- ADDITIONAL\_RN\_ID must be an existing routing number defined in the NP\_ROUTING\_NUMBER table. The ADDITIONAL\_RN\_ID routing number's associated RD\_ID value must equal the ROUTING\_NUMBER's associated RD\_ID value.
- DONOR\_ID must be a routing number defined in the NP\_ROUTING\_NUMBER table.
- If the maximum number of activation dates per number range is exceeded, then an error is returned: too many routing numbers for this range.
- If `eserv.config` contains the item `pi.NP.checkRN = "x"`, and the ROUTING\_NUMBER matches this value "x", then the ADDITIONAL\_RN\_ID field must have a non-NULL value.
- If `eserv.config` contains the item `pi.localTZ = "x"`, then the data specified for ACTIVATION\_DATE will be converted from the local time zone "x" to GMT before being stored in the database.

## Modify a Ported Number Range

Changes the entry in the NP\_DN\_RANGE table that matches the supplied DN\_START, DN\_END, ACTIVATION\_DATE and ROUTING NUMBER parameters.

## Description

Use the NPDS1=CHG PI command to modify the entry to the NP\_DN\_RANGE table for the specified DN\_START, DN\_END and ACTION\_DATE parameters.

## Required parameters

This command requires the following parameters.

### DN\_START

**Syntax:** DN\_START=*integer*  
**Description:** The start of the DN number range.  
**Type:** Integer  
**Optionality:** Required  
**Allowed:** The specified number must have four to 18 digits.  
**Default:** None  
**Notes:**  
**Example:** DN\_START=1230

### DN\_END

**Syntax:** DN\_END=*integer*  
**Description:** The end of the DN number range.  
**Type:** Integer  
**Optionality:** Required  
**Allowed:** The specified number must have four to 18 digits.  
**Default:** None  
**Notes:** DN\_END and DN\_START must be the same length.  
**Example:** DN\_END=1250

### ACTIVATION\_DATE

**Syntax:** ACTIVATION\_DATE=*date*  
**Description:** The date the range will become active.  
**Type:** Date String  
**Optionality:** Required  
**Allowed:** A valid date using this format: YYYYMMDDHHMMSS  
**Default:** None  
**Notes:**  
**Example:** ACTIVATION\_DATE=20080714000000

## Optional parameters

This command accepts the following optional parameters.

### ENTRY\_TYPE

**Syntax:** ENTRY\_TYPE=O|S  
**Description:** The entry type to use.

## Chapter 2

**Type:** String  
**Optionality:** Required when adding a ported number range  
**Allowed:** Either:

- O – For an operator entry type
- S – For a subscriber entry type

**Default:** None

**Notes:**

**Example:** ENTRY\_TYPE=S

NUMBER\_TYPE

**Syntax:** NUMBER\_TYPE=F|M|D|Null value

**Description:** The number type of the DN range.

**Type:** String

**Optionality:** Optional (default used if not set)

**Allowed:** One of the following:

- Null value
- F - fixed
- M - mobile
- D - delete (see *Logic and constraints* (on page 9))

**Default:** Null

**Notes:**

**Example:** NUMBER\_TYPE=F

ADDITIONAL\_RN\_ID

**Syntax:** ADDITIONAL\_RN\_ID=*integer*

**Description:** The additional routing number for the DN range.

**Type:** Integer

**Optionality:** Optional

**Allowed:** A hexadecimal number, 1 to 8 digits long.

**Default:** None

**Notes:**

**Example:** ADDITIONAL\_RN\_ID=001

DONOR\_ID

**Syntax:** DONOR\_ID=*integer*

**Description:** The donor ID number for the DN range.

**Type:** Integer

**Optionality:** Optional

**Allowed:** A hexadecimal number, 1 to 8 digits long. Must be a defined routing number.

**Default:** None

**Notes:**

**Example:** DONOR\_ID=0011

## PORT\_ID

<b>Syntax:</b>	<code>PORT_ID=<i>integer</i></code>
<b>Description:</b>	The port ID number for the DN range.
<b>Type:</b>	Integer
<b>Optionality:</b>	Optional
<b>Allowed:</b>	A hexadecimal number, 1 to 8 digits long. Must be a defined routing number.
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	<code>PORT_ID=001</code>

## ROUTING\_NUMBER

<b>Syntax:</b>	<code>ROUTING_NUMBER=<i>number</i></code>
<b>Description:</b>	The routing number.
<b>Type:</b>	Integer
<b>Optionality:</b>	Required
<b>Allowed:</b>	A hexadecimal number between 1 and 8 digits long.
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	<code>ROUTING_NUMBER=ABC123</code>

## URI

<b>Syntax:</b>	<code>URI=<i>string</i></code>
<b>Description:</b>	The uri for the DN range.
<b>Type:</b>	String
<b>Optionality:</b>	Optional
<b>Allowed:</b>	Textual string, 1 to 50 characters long
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	<code>URI=Uri.com</code>

## Logic and constraints

The following rules apply when using the NPDS1=CHG command:

- The range defined by DN\_START and DN\_END must be an existing entry in the NP\_DN\_RANGE table.
- The ROUTING\_NUMBER must be an existing routing number defined in the NP\_ROUTING\_NUMBER table.
- ADDITIONAL\_RN\_ID must be an existing routing number defined in the NP\_ROUTING\_NUMBER table. The ADDITIONAL\_RN\_ID routing number's associated RD\_ID value must equal the ROUTING\_NUMBER's associated RD\_ID value.
- DONOR\_ID must be a routing number defined in the NP\_ROUTING\_NUMBER table.
- If an optional parameter needs to be removed or blanked, set the value to "null" or "NULL". The exceptions are ROUTING\_NUMBER and ENTRY\_TYPE, which
- must have a value.
- If changing a DN range to ENTRY\_TYPE=O, set DONOR\_ID=null if a DONOR\_ID is already set.

- If `eserv.config` contains the item `pi.NP.checkRN = "x"`, and the `ROUTING_NUMBER` matches this value "x", the `ADDITIONAL_RN_ID` field must have a non-NULL value.
- If `eserv.config` contains the item `pi.localTZ = "x"`, the data specified for `ACTIVATION_DATE` will be converted from the local time zone "x" to GMT before being stored in the database.
- If an entry needs to be removed, set the value for the `ROUTING_NUMBER` to "null" or "NULL" and the `NUMBER_TYPE` parameter value to D or d.

## Delete a Ported Number Range

### Description

Use the `NPDS1=DEL PI` command to delete the entry in the `NP_DN_RANGE` table for the specified parameters.

### Required parameters

This command requires the following parameters.

`DN_START`

**Syntax:** `DN_START=integer`  
**Description:** The start of the DN number range.  
**Type:** Integer  
**Optionality:** Required  
**Allowed:** The specified number must have four to 18 digits.  
**Default:** None  
**Notes:**  
**Example:** `DN_START=1230`

`DN_END`

**Syntax:** `DN_END=integer`  
**Description:** The end of the DN number range.  
**Type:** Integer  
**Optionality:** Required  
**Allowed:** The specified number must have four to 18 digits.  
**Default:** None  
**Notes:** `DN_END` and `DN_START` must be the same length.  
**Example:** `DN_END=1250`

### Optional parameters

This command accepts the following optional parameters.

`ENTRY_TYPE`

**Syntax:** `ENTRY_TYPE=O|S`  
**Description:** The entry type to use.  
**Type:** String  
**Optionality:** Required when adding a ported number range  
**Allowed:** Either:



- O – For an operator entry type
- S – For a subscriber entry type

**Default:** None  
**Notes:**  
**Example:** ENTRY\_TYPE=S

#### ACTIVATION\_DATE

**Syntax:** ACTIVATION\_DATE=*date*  
**Description:** The date the range will become active.  
**Type:** Date String  
**Optionality:** Required  
**Allowed:** A valid date using this format: YYYYMMDDHHMMSS  
**Default:** None  
**Notes:**  
**Example:** ACTIVATION\_DATE=20080714000000

### Logic and constraints

The following rules apply when using the NPDS1=ADD command:

- The range defined by DN\_START and DN\_END must be an existing entry in the NP\_DN\_RANGE table.
- If `eserv.config` contains the item `pi.localTZ = "x"`, then the data specified for ACTIVATION\_DATE will be converted from the local time zone "x" to GMT before being used to look up the row in the database.

## Query an Active Ported Number Range

### Description

Use the command NPDS1 and action QRY to query an entry in the NP\_DN\_RANGE table for the Active Ported Number Range (APNR) of a number.

### Required parameters

This command requires the following parameters.

DN

**Syntax:** DN=*integer*  
**Description:** The destination number to query. The DN must be within the required DN range.  
**Type:** Integer  
**Optionality:** Required  
**Allowed:** Number, 4 to 18 digits long  
**Default:** None  
**Notes:**  
**Example:** DN=4124

## Optional parameters

This command accepts the following optional parameters.

ENTRY\_TYPE

**Syntax:** ENTRY\_TYPE=O|S

**Description:** The entry type to use.

**Type:** String

**Optionality:** Optional (default used if not set)

**Allowed:** Either:

- O – For an operator entry type.
- S – For a subscriber entry type.

**Default:** S

**Notes:** If the DN is provisioned in both an Operator and Subscriber DN range that overlap each other, ENTRY\_TYPE=O must be used to show the Operator DN range.

**Example:** ENTRY\_TYPE=S

## Logic and constraints

The following rules apply to the NPDS1=QRY command:

- The subscriber or operator name as defined by NAME must not be blank, and must not match an existing subscriber or operator.
- The range defined by DN\_START and DN\_END must not overlap an already defined range which has the same ENTRY\_TYPE.
- DN\_END must be the same length as DN\_START.
- ENTRY\_TYPE must be either 'S' for subscriber, or 'O' for operator.

## Add a Ported Number Prefix

### About Adding Ported Number Prefixes by Using PI

Use the NPYZ1=ADD PI command to add a ported number prefix definition to the NP database. To successfully add a ported number prefix definition, you must specify either the ROUTING\_NUMBER or the ROUTING\_DESTINATION parameter in the command. If you specify:

- Only the ROUTING\_NUMBER parameter, then ROUTING\_DESTINATION is automatically set to the routing destination that matches the specific routing number.
- Only the ROUTING\_DESTINATION parameter, then a routing number is not associated with the prefix in the PQYZ parameter and a prefix is not added to the number if it is matched during porting.
- Both the ROUTING\_DESTINATION and the ROUTING\_NUMBER parameters, then the routing destination must correspond to the value configured for the specified routing number in the database.

For example, the following PI command adds the 441473 ported number prefix:

```
NPYZ1=ADD:PQYZ=441473,ROUTING_NUMBER=123,ROUTING_DESTINATION=Destination1,NUMBER_TYP  
E=F,URI=uri.com,DESCRIPTION=Any text
```

After successfully adding ported number prefixes to the NP database, the PI returns this message:

```
NPYZ1=ADD:ACK;
```

If unsuccessful, then the PI may return any of the following error codes: 68, 69, 1002, 1008 or 1020.

## Required Parameter

This command requires the following parameter.

PQYZ

<b>Syntax:</b>	<code>PQYZ=<i>string</i></code>
<b>Description:</b>	The prefix number to use to match ported numbers.
<b>Type:</b>	String
<b>Optionality:</b>	Required
<b>Allowed:</b>	A string of up to 18 characters.
<b>Example:</b>	<code>PQYZ=441473</code>

## Optional parameters

This command accepts the following optional parameters.

ROUTING\_NUMBER

<b>Syntax:</b>	<code>ROUTING_NUMBER=<i>string</i></code>
<b>Description:</b>	The routing number to prepend to numbers that match the prefix in PQYZ during a ported number check.
<b>Type:</b>	String
<b>Optionality:</b>	Optional
<b>Allowed:</b>	Specify a string of up to eight characters.
<b>Example:</b>	<code>ROUTING_NUMBER=123</code>

ROUTING\_DESTINATION

<b>Syntax:</b>	<code>ROUTING_DESTINATION=<i>string</i></code>
<b>Description:</b>	The routing destination.
<b>Type:</b>	String
<b>Optionality:</b>	Optional
<b>Allowed:</b>	A string of up to 64 characters.
<b>Example:</b>	<code>ROUTING_DESTINATION=Vodafone</code>

NUMBER\_TYPE

<b>Syntax:</b>	<code>NUMBER_TYPE=F M Blank or empty value</code>
<b>Description:</b>	Sets the type of ported number.

**Note:** You unset the ported number type for an existing prefix definition by using the `NPYZ1=CHG` command to specify a blank or empty value for `NUMBER_TYPE`.

<b>Type:</b>	String
<b>Optionality:</b>	Optional (default used if not set)
<b>Allowed:</b>	One of the following: <ul style="list-style-type: none"> <li>• F – For fixed number</li> <li>• M –For mobile number</li> <li>• Blank or empty value. The ported number type is not set.</li> </ul>
<b>Default:</b>	Blank or empty value

## Chapter 2

**Example:** NUMBER\_TYPE=F

URI

**Syntax:** URI=*string*

**Description:** Defines the associated URI.

**Type:** String

**Optionality:** Optional

**Allowed:** A string of up to 50 characters.

**Example:** URI=uri.com

DESCRIPTION

**Syntax:** DESCRIPTION=*string*

**Description:** The description for the ported number.

**Type:** String

**Optionality:** Optional

**Allowed:** A string of up to 50 characters.

**Example:** DESCRIPTION=Any text

## Change a Ported Number Prefix

### About Changing Ported Number Prefixes by Using PI

Use the NPYZ1=CHG PI command to change a ported number prefix definition in the NP database. For example, the following PI command changes the definition for the 441473 ported number prefix:

```
NPYZ1=CHG:PQYZ=441473,ROUTING_NUMBER=321,ROUTING_DESTINATION=Destination2,NUMBER_TYP  
E=F,URI=uri.com,DESCRIPTION=Any text
```

If unsuccessful, then the PI may return any of the following error codes: 68, 69, 1002, 1008, 1021.

### Required Parameter

This command requires the following parameter.

PQYZ

**Syntax:** PQYZ=*string*

**Description:** The prefix number, on which ported numbers are matched, that you want to change.

**Type:** String

**Optionality:** Required

**Allowed:** An existing PQYZ prefix string of up to 18 characters.

**Example:** PQYZ=441473

### Optional parameters

This command accepts the following optional parameters.

ROUTING\_NUMBER

**Syntax:** ROUTING\_NUMBER=*string*

**Description:** The routing number to prepend to numbers that match the prefix in PQYZ during

a ported number check.

**Type:** String

**Optionality:** Optional

**Allowed:** Specify a string of up to eight characters.

**Example:** ROUTING\_NUMBER=123

## ROUTING\_DESTINATION

**Syntax:** ROUTING\_DESTINATION=*string*

**Description:** The routing destination.

**Type:** String

**Optionality:** Optional

**Allowed:** A string of up to 64 characters.

**Example:** ROUTING\_DESTINATION=Vodafone

## NUMBER\_TYPE

**Syntax:** NUMBER\_TYPE=F|M|Blank or empty value

**Description:** Sets the type of ported number.

**Note:** You unset the ported number type for an existing prefix definition by using the NPYZ1=CHG command to specify a blank or empty value for NUMBER\_TYPE.

**Type:** String

**Optionality:** Optional (default used if not set)

**Allowed:** One of the following:

- F – For fixed number
- M –For mobile number
- Blank or empty value. The ported number type is not set.

**Default:** Blank or empty value

**Example:** NUMBER\_TYPE=F

## URI

**Syntax:** URI=*string*

**Description:** Defines the associated URI.

**Type:** String

**Optionality:** Optional

**Allowed:** A string of up to 50 characters.

**Example:** URI=uri.com

## DESCRIPTION

**Syntax:** DESCRIPTION=*string*

**Description:** The description for the ported number.

**Type:** String

**Optionality:** Optional

**Allowed:** A string of up to 50 characters.

**Example:**           DESCRIPTION=Any text

## Query a Ported Number Prefix

### About Querying Ported Number Prefixes by Using PI

Use the NPYZ1=QRY PI command to query the NP database for PQYZ entries. A PQYZ entry maps a ported number prefix to a routing destination. You can query the NP database for multiple PQYZ entries by appending the % wild card character to the DN string parameter. The query returns all the PQYZ entries that match the specified network address. For example, the following PI command returns all the number prefixes for destination addresses that start with 44147328990:

```
NPYZ1=QRY:DN=44147328990%;
```

If you do not append the % character to the PQYZ string in the query, then the query returns the longest matching PQYZ entry.

By default, the maximum number of records returned when you query the NP database is 1500. You can specify a different maximum by configuring the `pqyzMaxRecords` parameter in the `pi, NP` section of the `eserv.config` configuration file. The PI outputs an error if the query finds more records than the configured maximum. For more information about configuring the PI, see *PI User's and Technical Guide*.

After successfully performing a prefix query, the PI returns this message:

```
NPYZ1=QRY:ACK:
  PQYZ=prefix,ROUTING_NUMBER=r_number,NUMBER_TYPE=F|M,URI=uri,[DESCRIPTION=description]
  [PQYZ=...]
```

Where:

- *prefix* is a matching PQYZ prefix.
- *r\_number* is the routing number for the prefix.
- *uri* is the URI associated with the prefix.
- *description* is the optional description for the prefix.

If no matching prefix is found, then the PI may return the following error codes: 69, 1004, or 1022.

### Required Parameter

This command requires the following parameter.

DN

**Syntax:**           DN=*string*

**Description:**     A network address that is checked against PQYZ entries in the NP database. The longest matching entry is returned by default. To query the NP database for multiple PQYZ entries, enter % as the last character in the DN query string.

**Type:**            String

**Optionality:**     Required.

**Allowed:**         A string of up to 18 characters.

**Example:**         DN=44147328990%

## Delete a Ported Number Prefix

### About Deleting Ported Number Prefixes by Using PI

Use the NPYZ1=DEL PI command to delete ported number prefixes from the NP database. You can delete multiple ported number prefixes by appending the % wild card character to the end of the PQYZ prefix string parameter. For example, the following PI command deletes all the prefix numbers that start with the digits 4414:

```
NPYZ1=DEL:PQYZ=4414%
```

If unsuccessful, then the PI may return the following the error codes: 69, 1021, or 1022.

### Required Parameter

This command requires the following parameter.

PQYZ

<b>Syntax:</b>	PQYZ= <i>string</i>
<b>Description:</b>	The prefix number, on which ported numbers are matched, that you want to delete. To delete multiple PQYZ prefix strings, specify the initial characters of the group of prefixes that you want to delete and then append it with the % wild card character.
<b>Type:</b>	String
<b>Optionality:</b>	Required
<b>Allowed:</b>	An existing PQYZ prefix string of up to 18 characters.
<b>Example:</b>	PQYZ=441473

## Add New LCR Rule Set

### Description

Use the NPLC1=ADD Pi command to add a new rule set to the NP\_RULE\_SET table.

### Required parameters

This command requires the following parameters.

RULE\_SET

<b>Syntax:</b>	RULE_SET= <i>string</i>
<b>Description:</b>	The name of a the rule set you want to add, change, or delete.
<b>Type:</b>	String
<b>Optionality:</b>	Required.
<b>Allowed:</b>	Textual string, 1 to 30 characters long.
<b>Default:</b>	None.
<b>Notes:</b>	
<b>Example:</b>	RULE_SET=Rule Set 1

### Constraint required parameters

There are no constraint required parameters for this command.

## Optional parameters

There are no optional parameters for this command.

## Logic and constraints

The following rule applies to the NPLC1=ADD command:

- The rule set name must not exist already.

## Modify LCR Rule Set

### Description

Use the NPLC1=CHG PI command to change the name of a rule set in the NP\_RULE\_SET table.

### Required parameters

This command requires the following parameters.

#### RULE\_SET

<b>Syntax:</b>	<code>RULE_SET=<i>string</i></code>
<b>Description:</b>	The name of a the rule set you want to add, change, or delete.
<b>Type:</b>	String
<b>Optionality:</b>	Required.
<b>Allowed:</b>	Textual string, 1 to 30 characters long.
<b>Default:</b>	None.
<b>Notes:</b>	
<b>Example:</b>	<code>RULE_SET=Rule Set 1</code>

#### NEW\_NAME

<b>Syntax:</b>	<code>NEW_NAME=<i>string</i></code>
<b>Description:</b>	The new name for the rule set specified in RULE_SET.
<b>Type:</b>	String
<b>Optionality:</b>	Required.
<b>Allowed:</b>	Textual string of up to 30 characters.
<b>Default:</b>	None.
<b>Notes:</b>	
<b>Example:</b>	<code>NEW_NAME=Rule Set 2</code>

### Constraint required parameters

There are no constraint required parameters for this command.

### Optional parameters

There are no optional parameters for this command.



## Logic and constraints

The following rules apply to the NPLC1=CHG command:

- This rule set name must exist already.
- The new name for the rule set must be unique.

## Delete LCR Rule Set

### Description

Use the NPLC1=DEL PI command to delete a rule set from the NP\_RULE\_SET table. You can also delete any associated rules defined for the rule set.

### Required parameters

This command requires the following parameters.

RULE\_SET

<b>Syntax:</b>	RULE_SET= <i>string</i>
<b>Description:</b>	The name of a the rule set you want to add, change, or delete.
<b>Type:</b>	String
<b>Optionality:</b>	Required.
<b>Allowed:</b>	Textual string, 1 to 30 characters long.
<b>Default:</b>	None.
<b>Notes:</b>	
<b>Example:</b>	RULE_SET=Rule Set 1

### Constraint required parameters

There are no constraint required parameters for this command.

### Optional parameters

This command accepts the following optional parameters.

CASCADE

<b>Syntax:</b>	CASCADE=Y   N
<b>Description:</b>	Flag to determine whether or not rules based on this rule set should also be deleted.
<b>Type:</b>	Boolean
<b>Optionality:</b>	Optional (default used if not set).
<b>Allowed:</b>	Either: Y – Cascade deletion into the NP_RULE table. N – Do not delete rules from the NP_RULE table.
<b>Default:</b>	N
<b>Notes:</b>	
<b>Example:</b>	CASCADE=Y

## Logic and constraints

The following rules apply to the NPLC1=DEL command:

- This rule set must exist in the NP\_RULE\_SET table.
- If CASCADE is 'N' or not specified, the rule set must not have any associated rules in the NP\_RULE table.
- If CASCADE is 'Y', all rules from this set will be deleted from the NP\_RULE table.

## Add New LCR Rule

### Description

Use the command NPLC2 and action ADD to add a new rule to the NP\_RULE table for the specified rule set.

### Required parameters

This command requires the following parameters.

#### RULE\_SET

<b>Syntax:</b>	<code>RULE_SET=<i>string</i></code>
<b>Description:</b>	The name of a the rule set you want to add, change, or delete.
<b>Type:</b>	String
<b>Optionality:</b>	Required.
<b>Allowed:</b>	Textual string, 1 to 30 characters long.
<b>Default:</b>	None.
<b>Notes:</b>	
<b>Example:</b>	<code>RULE_SET=Rule Set 1</code>

#### ROUTING\_DESTINATION

<b>Syntax:</b>	<code>ROUTING_DESTINATION=<i>string</i></code>
<b>Description:</b>	The routing destination operator name.
<b>Type:</b>	String
<b>Optionality:</b>	Required when adding, modifying or deleting LCR rules.
<b>Allowed:</b>	A text string, up to 64 characters long.
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	<code>ROUTING_DESTINATION=Vodafone</code>

#### CARRIER1

<b>Syntax:</b>	<code>CARRIER1=<i>string</i></code>
<b>Description:</b>	The name of the carrier.
<b>Type:</b>	String
<b>Optionality:</b>	Required.
<b>Allowed:</b>	A text string of up to 30 characters.
<b>Default:</b>	None
<b>Notes:</b>	

**Example:**            `CARRIER1=Carrier 1`

## Constraint required parameters

This command accepts the following constraint required parameters.

### CARRIER2

**Syntax:**            `CARRIER2=string`  
**Description:**      The name of the second carrier.  
**Type:**                String  
**Optionality:**        Must be specified if subsequent carriers are to be specified.  
**Allowed:**            A text string of up to 30 characters.  
**Default:**            None  
**Notes:**  
**Example:**            `CARRIER2=Carrier 2`

### CARRIER3

**Syntax:**            `CARRIER3=string`  
**Description:**      The name of the third carrier.  
**Type:**                String  
**Optionality:**        Must be specified if subsequent carriers are to be specified.  
**Allowed:**            A text string of up to 30 characters.  
**Default:**            None  
**Notes:**  
**Example:**            `CARRIER3=Carrier 3`

### CARRIER4

**Syntax:**            `CARRIER4=string`  
**Description:**      The name of the fourth carrier.  
**Type:**                String  
**Optionality:**        Must be specified if subsequent carriers are to be specified.  
**Allowed:**            A text string of up to 30 characters.  
**Default:**            None  
**Notes:**  
**Example:**            `CARRIER4=Carrier 4`

### CARRIER5

**Syntax:**            `CARRIER5=string`  
**Description:**      The name of the fifth carrier.  
**Type:**                String  
**Optionality:**        Must be specified if subsequent carriers are to be specified.  
**Allowed:**            A text string of up to 30 characters.  
**Default:**            None  
**Notes:**  
**Example:**            `CARRIER5=Carrier 5`

## Chapter 2

### CARRIER6

<b>Syntax:</b>	<code>CARRIER6=string</code>
<b>Description:</b>	The name of the sixth carrier.
<b>Type:</b>	String
<b>Optionality:</b>	Must be specified if subsequent carriers are to be specified.
<b>Allowed:</b>	A text string of up to 30 characters.
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	<code>CARRIER6=Carrier 6</code>

### CARRIER7

<b>Syntax:</b>	<code>CARRIER7=string</code>
<b>Description:</b>	The name of the 7th carrier.
<b>Type:</b>	String
<b>Optionality:</b>	Must be specified if subsequent carriers are to be specified.
<b>Allowed:</b>	A text string of up to 30 characters.
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	<code>CARRIER7=Carrier 7</code>

## Optional parameters

This command accepts the following optional parameters.

### CARRIER8

<b>Syntax:</b>	<code>CARRIER8=string</code>
<b>Description:</b>	The name of the 8th carrier.
<b>Type:</b>	String
<b>Optionality:</b>	Optional. May only be specified if carriers 1 to 7 are specified.
<b>Allowed:</b>	A text string of up to 30 characters.
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	<code>CARRIER8=Carrier 8</code>

## Logic and constraints

The following rules apply to the NPLC2=ADD command:

- This rule set must exist in the NP\_RULE\_SET table.
- The routing destination must be defined in the NP\_ROUTING\_DESTINATION table.
- The combined rule set and routing destination must not already be defined in the NP\_RULE table.
- The carrier names must exist in the NP\_CARRIER table.
- Carriers must be specified sequentially.

## Modify LCR Rule

### Description

Use the command NPLC2 and action CHG to change a rule in the NP\_RULE table for the specified rule set.

### Required parameters

This command requires the following parameters.

#### RULE\_SET

<b>Syntax:</b>	RULE_SET= <i>string</i>
<b>Description:</b>	The name of a the rule set you want to add, change, or delete.
<b>Type:</b>	String
<b>Optionality:</b>	Required.
<b>Allowed:</b>	Textual string, 1 to 30 characters long.
<b>Default:</b>	None.
<b>Notes:</b>	
<b>Example:</b>	RULE_SET=Rule Set 1

#### ROUTING\_DESTINATION

<b>Syntax:</b>	ROUTING_DESTINATION= <i>string</i>
<b>Description:</b>	The routing destination operator name.
<b>Type:</b>	String
<b>Optionality:</b>	Required when adding, modifying or deleting LCR rules.
<b>Allowed:</b>	A text string, up to 64 characters long.
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	ROUTING_DESTINATION=Vodafone

#### CARRIER1

<b>Syntax:</b>	CARRIER1= <i>string</i>
<b>Description:</b>	The name of the carrier.
<b>Type:</b>	String
<b>Optionality:</b>	Required.
<b>Allowed:</b>	A text string of up to 30 characters.
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	CARRIER1=Carrier 1

### Constraint required parameters

This command accepts the following constraint required parameters.

## Chapter 2

### CARRIER2

**Syntax:** CARRIER2=*string*  
**Description:** The name of the second carrier.  
**Type:** String  
**Optionality:** Must be specified if subsequent carriers are to be specified.  
**Allowed:** A text string of up to 30 characters.  
**Default:** None  
**Notes:**  
**Example:** CARRIER2=Carrier 2

### CARRIER3

**Syntax:** CARRIER3=*string*  
**Description:** The name of the third carrier.  
**Type:** String  
**Optionality:** Must be specified if subsequent carriers are to be specified.  
**Allowed:** A text string of up to 30 characters.  
**Default:** None  
**Notes:**  
**Example:** CARRIER3=Carrier 3

### CARRIER4

**Syntax:** CARRIER4=*string*  
**Description:** The name of the fourth carrier.  
**Type:** String  
**Optionality:** Must be specified if subsequent carriers are to be specified.  
**Allowed:** A text string of up to 30 characters.  
**Default:** None  
**Notes:**  
**Example:** CARRIER4=Carrier 4

### CARRIER5

**Syntax:** CARRIER5=*string*  
**Description:** The name of the fifth carrier.  
**Type:** String  
**Optionality:** Must be specified if subsequent carriers are to be specified.  
**Allowed:** A text string of up to 30 characters.  
**Default:** None  
**Notes:**  
**Example:** CARRIER5=Carrier 5

### CARRIER6

**Syntax:** CARRIER6=*string*  
**Description:** The name of the sixth carrier.  
**Type:** String  
**Optionality:** Must be specified if subsequent carriers are to be specified.

**Allowed:** A text string of up to 30 characters.

**Default:** None

**Notes:**

**Example:** CARRIER6=Carrier 6

CARRIER7

**Syntax:** CARRIER7=*string*

**Description:** The name of the 7th carrier.

**Type:** String

**Optionality:** Must be specified if subsequent carriers are to be specified.

**Allowed:** A text string of up to 30 characters.

**Default:** None

**Notes:**

**Example:** CARRIER7=Carrier 7

## Optional parameters

This command accepts the following optional parameters.

CARRIER8

**Syntax:** CARRIER8=*string*

**Description:** The name of the 8th carrier.

**Type:** String

**Optionality:** Optional. May only be specified if carriers 1 to 7 are specified.

**Allowed:** A text string of up to 30 characters.

**Default:** None

**Notes:**

**Example:** CARRIER8=Carrier 8

## Logic and constraints

The following rules apply to the NPLC2=CHG command:

- This rule set must exist in the NP\_RULE\_SET table.
- The routing destination must be defined in the NP\_ROUTING\_DESTINATION table.
- The combined rule set and routing destination must exist in the NP\_RULE table.
- The carrier names must exist in the NP\_CARRIER table.
- Carriers must be specified sequentially.
- All carriers (carriers 1 to 8) will be updated, therefore you must specify a value for each of the required carriers. Carriers for which you do not specify a value will be set to null.

## Delete LCR Rule

### Description

Use the NPLC2=DEL PI command to delete a rule from the NP\_RULE table for the specified rule set and routing destination.

## Required parameters

This command requires the following parameters.

### RULE\_SET

<b>Syntax:</b>	<code>RULE_SET=<i>string</i></code>
<b>Description:</b>	The name of a the rule set you want to add, change, or delete.
<b>Type:</b>	String
<b>Optionality:</b>	Required.
<b>Allowed:</b>	Textual string, 1 to 30 characters long.
<b>Default:</b>	None.
<b>Notes:</b>	
<b>Example:</b>	<code>RULE_SET=Rule Set 1</code>

### ROUTING\_DESTINATION

<b>Syntax:</b>	<code>ROUTING_DESTINATION=<i>string</i></code>
<b>Description:</b>	The routing destination operator name.
<b>Type:</b>	String
<b>Optionality:</b>	Required when adding, modifying or deleting LCR rules.
<b>Allowed:</b>	A text string, up to 64 characters long.
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	<code>ROUTING_DESTINATION=Vodafone</code>

## Constraint required parameters

There are no constraint required parameters for this command.

## Optional parameters

There are no optional parameters for this command.

## Logic and constraints

The following rules apply to the NPLC2=DEL command:

- This rule set must exist in the NP\_RULE\_SET table.
- The routing destination must be defined in the NP\_ROUTING\_DESTINATION table.
- The combination of rule set and routing destination must exist in the NP\_RULE table.

## Add Home Routing Entry

### Description

Use the NPHR1=ADD PI command to add a new home routing entry in the NP\_HOME\_ROUTING table.

### Required parameters

This command requires the following parameters.



## DN\_START

**Syntax:** DN\_START=*integer*  
**Description:** The start of the DN number range.  
**Type:** Integer  
**Optionality:** Required  
**Allowed:** The specified number must have four to 18 digits.  
**Default:** None  
**Notes:**  
**Example:** DN\_START=1230

## DN\_END

**Syntax:** DN\_END=*integer*  
**Description:** The end of the DN number range.  
**Type:** Integer  
**Optionality:** Required  
**Allowed:** The specified number must have four to 18 digits.  
**Default:** None  
**Notes:** DN\_END and DN\_START must be the same length.  
**Example:** DN\_END=1250

## Constraint required parameters

This command accepts the following constraint required parameters.

## DN\_TYPE

**Syntax:** DN\_TYPE=H|S  
**Description:** The type of DN.  
**Type:** String  
**Optionality:** Optional (default used if not set).  
**Allowed:** Either:

- H - home
- S - special

**Default:** S  
**Notes:** If the ROUTING\_DESTINATION field is not specified, DN\_TYPE must be set to S.  
**Example:** DN\_TYPE=H

## Optional parameters

This command accepts the following optional parameters.

## ROUTING\_DESTINATION

**Syntax:** ROUTING\_DESTINATION=*string*  
**Description:** The routing destination operator name.  
**Type:** String

<b>Optionality:</b>	Required when adding, modifying or deleting LCR rules.
<b>Allowed:</b>	A text string, up to 64 characters long.
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	ROUTING_DESTINATION=Vodafone

### Logic and constraints

The following rules apply to the NPHR1=ADD command:

- The range defined by DN\_START and DN\_END must not overlap an already defined range.
- DN\_END must be the same length as DN\_START.
- If specified, ROUTING\_DESTINATION must be a routing destination defined in the np\_routing\_destination table.
- The DN\_LENGTH field in the NP\_HOME\_ROUTING table is populated by a database trigger.
- If ROUTING\_DESTINATION is specified, DN\_TYPE must be 'H' or 'S'.
- If ROUTING\_DESTINATION is not specified, DN\_TYPE must be 'S'.
- DN\_TYPE will default to 'S' if the ROUTING\_DESTINATION is not specified and DN\_TYPE is not specified.

## Modify Home Routing Entry

### Description

Use the NPHR1=CHG PI command to modify an existing entry in the NP\_HOME\_ROUTING table.

### Required parameters

This command requires the following parameters.

DN\_START

<b>Syntax:</b>	DN_START= <i>integer</i>
<b>Description:</b>	The start of the DN number range.
<b>Type:</b>	Integer
<b>Optionality:</b>	Required
<b>Allowed:</b>	The specified number must have four to 18 digits.
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	DN_START=1230

DN\_END

<b>Syntax:</b>	DN_END= <i>integer</i>
<b>Description:</b>	The end of the DN number range.
<b>Type:</b>	Integer
<b>Optionality:</b>	Required
<b>Allowed:</b>	The specified number must have four to 18 digits.
<b>Default:</b>	None
<b>Notes:</b>	DN_END and DN_START must be the same length.

**Example:** DN\_END=1250

### Constraint required parameters

This command accepts the following constraint required parameters.

DN\_TYPE

**Syntax:** DN\_TYPE=H|S

**Description:** The type of DN.

**Type:** String

**Optionality:** Optional (default used if not set).

**Allowed:** Either:

- H - home
- S - special

**Default:** S

**Notes:** If the ROUTING\_DESTINATION field is not specified, DN\_TYPE must be set to S.

**Example:** DN\_TYPE=H

### Optional parameters

This command accepts the following optional parameters.

ROUTING\_DESTINATION

**Syntax:** ROUTING\_DESTINATION=*string*

**Description:** The routing destination operator name.

**Type:** String

**Optionality:** Required when adding, modifying or deleting LCR rules.

**Allowed:** A text string, up to 64 characters long.

**Default:** None

**Notes:**

**Example:** ROUTING\_DESTINATION=Vodafone

### Logic and constraints

The following rules apply to the NPHR1=CHG command:

- The range defined by DN\_START and DN\_END must exist already in the NP\_HOME\_ROUTING table.
- If specified, ROUTING\_DESTINATION must be a routing destination defined in the NP\_ROUTING\_DESTINATION table.
- If ROUTING\_DESTINATION is specified, DN\_TYPE must be 'H' or 'S'.
- If ROUTING\_DESTINATION is not specified, DN\_TYPE must be 'S'. An existing set ROUTING\_DESTINATION will be made null.
- DN\_TYPE will default to 'S' if the ROUTING\_DESTINATION is not specified and DN\_TYPE is not specified.

## Delete Home Routing Entry

### Description

Use the NPHR1=DEL PI command to delete an existing entry from the NP\_HOME\_ROUTING table.

### Required parameters

This command requires the following parameters.

DN\_START

<b>Syntax:</b>	DN_START= <i>integer</i>
<b>Description:</b>	The start of the DN number range.
<b>Type:</b>	Integer
<b>Optionality:</b>	Required
<b>Allowed:</b>	The specified number must have four to 18 digits.
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	DN_START=1230

DN\_END

<b>Syntax:</b>	DN_END= <i>integer</i>
<b>Description:</b>	The end of the DN number range.
<b>Type:</b>	Integer
<b>Optionality:</b>	Required
<b>Allowed:</b>	The specified number must have four to 18 digits.
<b>Default:</b>	None
<b>Notes:</b>	DN_END and DN_START must be the same length.
<b>Example:</b>	DN_END=1250

### Constraint required parameters

There are no constraint required parameters for this command.

### Optional parameters

There are no optional parameters for this command.

### Logic and constraints

The following rule applies to the NPHR1=DEL command:

- The range defined by DN\_START and DN\_END must exist already in the NP\_HOME\_ROUTING table.

## Query Home Routing Entry

### Description

Use the NPHR1=QRY PI command to query an entry in the NP\_HOME\_ROUTING table for the following information:

- DN range
- Routing destination
- DN type

### Required parameters

This command requires the following parameters.

DN

<b>Syntax:</b>	DN= <i>integer</i>
<b>Description:</b>	The destination number to query. The DN must be within the required DN range.
<b>Type:</b>	Integer
<b>Optionality:</b>	Required
<b>Allowed:</b>	Number, 4 to 18 digits long
<b>Default:</b>	None
<b>Notes:</b>	
<b>Example:</b>	DN=4124

### Constraint required parameters

There are no constraint required parameters for this command.

### Optional parameters

There are no optional parameters for this command.

### Logic and constraints

The following rules apply to the NPHR1=QRY command:

- The DN must be within the DN range you want to query, that is, the DN must be  $\geq$  DN\_START and  $\leq$  DN\_END.
- The DN must be formatted correctly. It must be a number between 4 and 18 digits long.



# Error Code Lists

## Overview

### Introduction

This chapter explains the error codes for NP PI commands.

### In this chapter

This chapter contains the following topics.

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## PI Chassis Errors

### Error List

This table describes the PI Chassis error codes.

Code	Message	Description
70	TOO MANY SESSIONS	All PI sessions are in use.
71	LOGON SYNTAX ERROR	The login string was incorrectly formatted.
72	INVALID LOGON - username, password	Invalid username and/or password
73	INVALID LOGON - user not allowed on this port	The user attempted to log in to the wrong PI port.
74	INVALID LOGON - host	The PI client is unknown.
75	UNKNOWN COMMAND	Client sent an unknown command.
76	USER DOES NOT HAVE SUFFICIENT SECURITY	The user's security level is less than the command's security level.
77	SYNSTAMP NOT FOUND	Synstamps are turned on, but the client did not send one.
78	SYNSTAMP NOT VALID	Synstamps are turned on, but the synstamp sent by the client is invalid.
79	INVALID OR MISSING CHECKSUM	Checksums are turned on, but the client is one of the following: <ul style="list-style-type: none"> <li>• Did not send one</li> <li>• It was invalid</li> </ul>
80	UNKNOWN PARAMETER FOR COMMAND	A parameter was sent that was not valid for this command.
81	MISSING PARAMETERS FROM COMMAND	A required parameter is missing.

Code	Message	Description
82		Undefined
83	DUPLICATE PARAMETER	The client sent two identically named parameters.
84	ERROR RUNNING PROCEDURE	An internal error occurred running the command.
85	USER SESSION TERMINATED	The user's session has been terminated by an administrator.
86	COMMAND TOO BIG	The command sent is too long. Indicates an incorrectly formatted command.
87	COMMAND SYNTAX ERROR	The command sent is incorrectly formatted.
88	PARAMETER NAME TOO BIG	A parameter name is too long. Indicates the command was incorrectly formatted.
89	PARAMETER VALUE TOO BIG	A parameter value is too long. Indicates the command was incorrectly formatted.
90	SYNSTAMP OUT OF PLACE	The synstamp is not at the end of the command, but before the checksum.
91	TIMEOUT	The command took too long to run.

## PI Command Errors

### Number Portability PI Error Codes

This table lists the error codes and error messages for the Number Portability PI commands.

Code	Error Message	Commands
68	Badly formatted parameter <i>name</i> . Where <i>name</i> is an invalid parameter name.	All commands.
69	This error indicates that an error without a specific error code has occurred for a NP PI command. Details about the error are included in the error text.	All commands.
1000	The specified range <i>start</i> to <i>end</i> [with activation date <i>date</i> ] overlaps an already defined range of the same entry type Where: <ul style="list-style-type: none"> <li><i>start</i> is the start of the DN range</li> <li><i>end</i> is the end of the DN range</li> <li><i>date</i> is DN range activation date</li> </ul>	NPDS1=ADD (includes text in square brackets) NPHR1=ADD NPDS1=CHG (includes text in square brackets)
1001	The end of range <i>end</i> is a different length to the start of range <i>start</i> Where: <ul style="list-style-type: none"> <li><i>end</i> is the end of the DN range</li> <li><i>start</i> is the start of the DN range</li> </ul>	NPDS1=ADD NPDHR1=ADD
1002	This error displays one of the following error messages: <ul style="list-style-type: none"> <li>The routing number <i>number</i> is not defined in the routing number table.</li> <li>The number type <i>string</i> is not defined</li> </ul>	NPDS1=ADD NPDS1=CHG NPYZ1=ADD NPYZ1=CHG



Code	Error Message	Commands
	<p>in the number type.</p> <ul style="list-style-type: none"> <li>The given URI is too long.</li> </ul> <p>Where:</p> <ul style="list-style-type: none"> <li><i>number</i> is the undefined routing number.</li> <li><i>string</i> is the undefined number type.</li> </ul>	
1003	<p>The specified range <i>start</i> to <i>end</i> [with activation date <i>date</i>] is not defined</p> <p>Where:</p> <ul style="list-style-type: none"> <li><i>start</i> is the start of the DN range specified in the PI command.</li> <li><i>end</i> is the end of the DN range specified in the PI command.</li> <li><i>date</i> is DN range activation date specified in the PI command.</li> </ul>	NPDS1=CHG (includes text in square brackets) NPDS1=DEL (includes text in square brackets) NPHR1=CHG NPHR1=DEL
1004	<p>The DN <i>number</i> was not matched.</p> <p>Where <i>number</i> is the value specified for DN in the PI command.</p>	NPDS1=QRY NPHR1=QRY NPYZ1=QRY
1005	<p>A rule set with name <i>name</i> is already defined</p> <p>Where <i>name</i> is the rule set name specified in RULE_SET in the PI command.</p>	NPLC1=ADD NPLC1=CHG
1006	<p>A rule set with name <i>name</i> is not defined</p> <p>Where <i>name</i> is the rule set name specified in RULE_SET in the PI command.</p>	NPLC1=CHG NPLC1=DEL NPLC2=ADD NPLC2=CHG NPLC2=DEL
1007	<p>The rule set <i>name</i> has associated rules</p> <p>Where <i>name</i> is the rule set name specified in RULE_SET in the PI command.</p>	NPLC1=DEL
1008	<p>The routing destination <i>string</i> is not defined in the routing destination table.</p> <p>Where <i>string</i> is the value specified for ROUTING_DESTINATION in the PI command.</p>	NPLC2=ADD NPLC2=CHG NPLC2=DEL NPHR1=ADD NPHR1=CHG NPYZ1=ADD NPYZ1=CHG
1009	<p>The rule set <i>name</i> and routing destination <i>string</i> are already defined in the rules table</p> <p>Where:</p> <ul style="list-style-type: none"> <li><i>name</i> is the rule set name specified in RULE_SET in the PI command.</li> <li><i>string</i> is the value specified for ROUTING_DESTINATION in the PI command..</li> </ul>	NPLC2=ADD

Code	Error Message	Commands
1010	<p>CARRIER<math>n</math> must be defined if CARRIER<math>m</math>, where <math>m</math> is greater than <math>n</math>, is defined</p> <p>Where:</p> <ul style="list-style-type: none"> <li><math>n</math> is the carrier number before CARRIER<math>m</math>.</li> <li><math>m</math> is the carrier number after CARRIER<math>n</math>.</li> </ul> <p><b>Note:</b> Carriers must be defined in order.</p>	NPLC2=ADD NPLC2=CHG
1011	<p>The rule set <math>name</math> and routing destination <math>string</math> are not defined in the rules table</p> <p>Where:</p> <ul style="list-style-type: none"> <li><math>name</math> is the rule set name specified in RULE_SET in the PI command.</li> <li><math>string</math> is the value specified for ROUTING_DESTINATION in the PI command.</li> </ul>	NPLC2=CHG NPLC2=DEL
1012	<p>The DN_TYPE <math>type</math> is not a known type</p> <p>Where <math>type</math> is the DN type specified in DN_TYPE in the PI command.</p>	NPHR1=ADD NPHR1=CHG
1013	<p>The CARRIER<math>n</math> <math>name</math> is not a known carrier</p> <p>Where:</p> <ul style="list-style-type: none"> <li><math>n</math> is the carrier number specified in the PI command.</li> <li>The <math>name</math> specified in CARRIER<math>n</math> is not an existing carrier name for that carrier number.</li> </ul>	NPLC2=ADD NPLC2=CHG
1014	<p>The start of range <math>start</math> is after the end of range <math>end</math></p> <p>Where:</p> <ul style="list-style-type: none"> <li><math>start</math> is the value specified for the start of the DN range in the PI command.</li> <li><math>end</math> is the value specified for the end of the DN range in the PI command.</li> </ul>	NPDS1=ADD NPDS1=CHG NPDS1=DEL NPHR1=ADD NPHR1=CHG NPHR1=DEL
1015	<p>DN_TYPE not specified when ROUTING_DESTINATION is specified</p>	NPHR1=ADD NPHR1=CHG
1020	<p>The specified PQYZ <math>number</math> is already defined.</p> <p>Where <math>number</math> is the PQYZ number specified in the PI command.</p>	NPYZ1=ADD
1021	<p>The specified PQYZ <math>number</math> is not present.</p> <p>Where <math>number</math> is the PQYZ number specified in the PI command.</p>	NPYZ1=CHG NPYZ1=DEL
1022	<p>Max query results exceeded. Try a smaller range.</p> <p>To reduce the number of records found when you use the NPYZ1=QRY PI command, enter an additional character in the query string before you append the % wild card character.</p>	NPYZ1=QRY

# Glossary of Terms

## **DTMF**

Dual Tone Multi-Frequency - system used by touch tone telephones where one high and one low frequency, or tone, is assigned to each touch tone button on the phone.

## **GUI**

Graphical User Interface

## **IN**

Intelligent Network

## **IP**

1) Internet Protocol

2) Intelligent Peripheral - This is a node in an Intelligent Network containing a Specialized Resource Function (SRF).

## **NP**

Number Portability

## **PI**

Provisioning Interface - used for bulk database updates/configuration instead of GUI based configuration.

## **SLC**

Service Logic Controller (formerly UAS).

## **SMS**

Depending on context, can be:

- Service Management System hardware platform
- Short Message Service
- Service Management System platform
- NCC Service Management System application

## **SQL**

Structured Query Language is a database query language.

## **SRF**

Specialized Resource Function – This is a node on an IN which can connect to both the SSP and the SLC and delivers additional special resources into the call, mostly related to voice data, for example play voice announcements or collect DTMF tones from the user. Can be present on an SSP or an Intelligent Peripheral (IP).

## **SSP**

Service Switching Point

## **TCP**

Transmission Control Protocol. This is a reliable octet streaming protocol used by the majority of applications on the Internet. It provides a connection-oriented, full-duplex, point to point service between hosts.

## **URI**

Uniform Resource Identifier.

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