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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:

- Oracle Communications Network Charging and Control Provisioning Interface User's and Technical Guide
- Oracle Communications Network Charging and Control Virtual Private Network User's Guide
- Oracle Communications Network Charging and Control CCS Provisioning Interface Commands
## Document Conventions

### Typographical Conventions

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

<table>
<thead>
<tr>
<th>Formatting convention</th>
<th>Type of information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Special Bold</strong></td>
<td>Items you must select, such as names of tabs. Names of database tables and fields.</td>
</tr>
<tr>
<td><em>Italics</em></td>
<td>Name of a document, chapter, topic or other publication. Emphasis within text.</td>
</tr>
<tr>
<td><strong>Button</strong></td>
<td>The name of a button to click or a key to press. <strong>Example:</strong> To close the window, either click <strong>Close</strong>, or press <strong>Esc</strong>.</td>
</tr>
<tr>
<td><strong>Key+Key</strong></td>
<td>Key combinations for which the user must press and hold down one key and then press another. <strong>Example:</strong> <strong>Ctrl+P</strong>, or <strong>Alt+F4</strong>.</td>
</tr>
<tr>
<td><strong>Monospace</strong></td>
<td>Examples of code or standard output.</td>
</tr>
<tr>
<td><strong>Monospace Bold</strong></td>
<td>Text that you must enter.</td>
</tr>
<tr>
<td><strong>variable</strong></td>
<td>Used to indicate variables or text that should be replaced.</td>
</tr>
</tbody>
</table>
| **menu option > menu option >** | Used to indicate the cascading menu option to be selected, or the location path of a file. **Example:** **Operator Functions > Report Functions**
| **hypertext link**    | Used to indicate a hypertext link on an HTML page. |

Specialized terms and acronyms are defined in the *Glossary* at the end of this guide.
Chapter 1

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.

Command List 1
Parameter Formats 2

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.

<table>
<thead>
<tr>
<th>Function</th>
<th>npPISms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add a ported number range.</td>
<td>NPDS1=ADD</td>
</tr>
<tr>
<td>Modify a ported number range.</td>
<td>NPDS1=CHG</td>
</tr>
<tr>
<td>Delete a ported number range.</td>
<td>NPDS1=DEL</td>
</tr>
<tr>
<td>Query an active ported number range.</td>
<td>NPDS1=QRY</td>
</tr>
<tr>
<td>Add a ported number prefix.</td>
<td>NPYZ1=ADD</td>
</tr>
<tr>
<td>Query a ported number prefix.</td>
<td>NPYZ1=QRY</td>
</tr>
<tr>
<td>Change a ported number prefix.</td>
<td>NPYZ1=CHG</td>
</tr>
<tr>
<td>Delete a ported number prefix.</td>
<td>NPYZ1=DEL</td>
</tr>
<tr>
<td>Add new LCR rule set.</td>
<td>NPLC1=ADD</td>
</tr>
<tr>
<td>Modify an LCR rule set.</td>
<td>NPLC1=CHG</td>
</tr>
<tr>
<td>Delete an LCR rule set.</td>
<td>NPLC1=DEL</td>
</tr>
<tr>
<td>Add a new LCR rule.</td>
<td>NPLC2=ADD</td>
</tr>
<tr>
<td>Modify an LCR rule.</td>
<td>NPLC2=CHG</td>
</tr>
<tr>
<td>Delete an LCR rule.</td>
<td>NPLC2=DEL</td>
</tr>
<tr>
<td>Add a new home routing entry.</td>
<td>NPHR1=ADD</td>
</tr>
<tr>
<td>Modify a home routing entry.</td>
<td>NPHR1=CHG</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTIVATION_DATE</td>
<td>YYYYMMDDHHMMSS (24 hour clock)</td>
</tr>
<tr>
<td>ADDITIONAL_RN_ID</td>
<td>One to 8 digit hexadecimal number</td>
</tr>
<tr>
<td>CARRIER(n (n=1 \text{ to } 8))</td>
<td>One to 30 character string</td>
</tr>
<tr>
<td>CASCADE</td>
<td>Y</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>String of up to 64 characters.</td>
</tr>
<tr>
<td>DN</td>
<td>Four to 18 digit number.</td>
</tr>
<tr>
<td>DN_END</td>
<td>Four to 18 digit number, must be the same length as the associated DN_START value.</td>
</tr>
<tr>
<td>DN_START</td>
<td>Four to 18 digit number.</td>
</tr>
<tr>
<td>DN_TYPE</td>
<td>H</td>
</tr>
<tr>
<td>DONOR_ID</td>
<td>One to 8 digit hexadecimal number</td>
</tr>
<tr>
<td>ENTRY_TYPE</td>
<td>O</td>
</tr>
<tr>
<td>NEW_NAME</td>
<td>String of up to 30 characters.</td>
</tr>
<tr>
<td>NUMBER_TYPE</td>
<td>F</td>
</tr>
<tr>
<td>PORT_ID</td>
<td>One to 8 digit hexadecimal number</td>
</tr>
<tr>
<td>PQYZ</td>
<td>String of up to 18 characters.</td>
</tr>
<tr>
<td>ROUTING_DESTINATION</td>
<td>String of up to 64 characters.</td>
</tr>
<tr>
<td>ROUTING_NUMBER</td>
<td>String of up to eight characters.</td>
</tr>
<tr>
<td>RULE_SET</td>
<td>String of up to 30 characters.</td>
</tr>
<tr>
<td>URI</td>
<td>String of up to 50 characters.</td>
</tr>
</tbody>
</table>
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. For installation details, see the NP Service Pack Technical Guide.

In this chapter

This chapter contains the following topics.

Add a Ported Number Range 3
Modify a Ported Number Range 6
Delete a Ported Number Range 10
Query an Active Ported Number Range 11
Add a Ported Number Prefix 12
Change a Ported Number Prefix 14
Query a Ported Number Prefix 15
Delete a Ported Number Prefix 16
Add New LCR Rule Set 16
Modify LCR Rule Set 17
Delete LCR Rule Set 18
Add New LCR Rule 19
Modify LCR Rule 22
Delete LCR Rule 25
Add Home Routing Entry 26
Modify Home Routing Entry 27
Delete Home Routing Entry 29
Query Home Routing Entry 30

Add a Ported Number Range

Description

Use the command NPDS1 and action ADD 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.

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.
Chapter 2

Default: None
Notes:
Example: ROUTING_NUMBER=ABC123

Constraint required parameters
There are no constraint required parameters for this command.

Optional parameters
This command accepts the following optional parameters.

NUMBER_TYPE

Syntax: NUMBER_TYPE=F|M|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
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**

**Syntax:** \( PORT\_ID=integer \)

**Description:** The port 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:** PORT\_ID=001

**URI**

**Syntax:** \( URI=string \)

**Description:** The uri for the DN range.

**Type:** String

**Optionality:** Optional

**Allowed:** Textual string, 1 to 50 characters long.

**Default:** None

**Notes:**

**Example:** URI=Uri.com

**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 in the NP\_DN\_RANGE table, except if DN\_START and DN\_END exactly match a defined range and ACTIVATION\_DATE is different.
- DN\_START and DN\_END must be the same length.
- 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 command NPDS1 and action CHG 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: \texttt{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: \texttt{DN\_START=1230}

DN_END

Syntax: \texttt{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: \texttt{DN\_END=1250}

ACTIVATION_DATE

Syntax: \texttt{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: \texttt{ACTIVATION\_DATE=20080714000000}

ROUTING_NUMBER

Syntax: \texttt{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

Constraint required parameters
There are no constraint required parameters for this command.

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

NUMBER_TYPE
Syntax: NUMBER_TYPE=F|M|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
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**

**Syntax:** 
PORT_ID=integer

**Description:** 
The port 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:** 
PORT_ID=001

**URI**

**Syntax:** 
URI=string

**Description:** 
The uri for the DN range.

**Type:** 
String

**Optionality:** 
Optional

**Allowed:** 
Textual string, 1 to 50 characters long.

**Default:** 
None

**Notes:**

**Example:** 
URI=Uri.com

**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.
- 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 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.
If an entry needs to be removed then 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 command NPDS1 and action DEL to delete the entry in the NP_DN_RANGE table for the specified parameters.

Required parameters

This command requires the following parameters.

**DN_START**

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

**DN_END**

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

Constraint required parameters

There are no constraint required parameters for this command.

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: |
Chapter 2

- 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: Mandatory.

Allowed: Number, 4 to 18 digits long.

Default: None

Notes:

Example: 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 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 NUM_START and NUM_END must not overlap an already defined range which has the same ENTRY_TYPE.
- NUM_END must be the same length as NUM_START.
- ENTRY_TYPE must be either ‘S’ for subscriber, or ‘O’ for operator.

Add a Ported Number Prefix

About Adding Ported Number Prefixes
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.

Require Parameter
This command requires the following parameter.

PQYZ

Syntax: PQYZ=string
Description: The prefix number to use to match ported numbers.
Type: String
Optionality: Required.
Allowed: A string of up to 18 characters.
Example: PQYZ=441473
Optional parameters

This command accepts the following optional parameters.

ROUTING_NUMBER

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

ROUTINGDESTINATION

<table>
<thead>
<tr>
<th>Syntax:</th>
<th>ROUTING_DESTINATION=string</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td>The routing destination.</td>
</tr>
<tr>
<td>Type:</td>
<td>String</td>
</tr>
<tr>
<td>Optionality:</td>
<td>Optional.</td>
</tr>
<tr>
<td>Allowed:</td>
<td>A string of up to 64 characters.</td>
</tr>
<tr>
<td>Example:</td>
<td>ROUTING_DESTINATION=Vodafone</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Syntax:</th>
<th>URI=string</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td>Defines the associated URI.</td>
</tr>
<tr>
<td>Type:</td>
<td>String</td>
</tr>
<tr>
<td>Optionality:</td>
<td>Optional.</td>
</tr>
<tr>
<td>Allowed:</td>
<td>A string of up to 50 characters.</td>
</tr>
<tr>
<td>Example:</td>
<td>URI=uri.com</td>
</tr>
</tbody>
</table>
Change a Ported Number Prefix

About Changing Ported Number Prefixes

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_TYPE=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.

Require Parameter

This command requires the following parameter.

PQYZ

```
Syntax: PQYZ=string
Description: The prefix number of the prefix definition that you want to change or delete.
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=
Description: Defines the associated URI.
Type: String
Optionality: Optional.
Allowed: A string of up to 50 characters.
Example: URI=uri.com

**DESCRIPTION**

Syntax: DESCRIPTION=
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**

Use the NPYZ1=QRY PI command to query the NP database for a ported number prefix that matches the specified network address. The query returns the longest matching PQYZ entry. For example, the following PI command queries the database for number prefixes that match 441473289900:

NPYZ1=QRY:DN=441473289900

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]

Where:
- `prefix` is the longest 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 either of the following error codes: 69 or 1004.

Require 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.
Type:    String
Optionality:    Required.
Allowed:    A string of up to 18 characters.
Example:    DN=441473289900

Delete a Ported Number Prefix

About Deleting Ported Number Prefixes

Use the NPYZ1=DEL PI command to delete a ported number prefix definition from the NP database. For example, the following PI command deletes the 441473 prefix definition:

NPYZ1=DEL:PQYZ=441473

If unsuccessful, then the PI may return either of the following the error codes: 69, 1021.

Require Parameter

This command requires the following parameter.

PQYZ

Syntax:    PQYZ=string
Description:    The prefix number of the prefix definition that you want to change or delete.
Type:    String
Optionality:    Required.
Allowed:    An existing PQYZ prefix string of up to 18 characters.
Example:    PQYZ=441473

Add New LCR Rule Set

Description

Use the command NPLC1 and action ADD to add a new rule set to the NP_RULE_SET table.
Required parameters

This command requires the following parameters.

**RULE_SET**

Syntax: \texttt{RULE\_SET=string}

Description: The name of a the rule set you want to add, change, or delete.

Type: String

Optionality: Required.

Allowed: Textual string, 1 to 30 characters long.

Default: None.

Notes:

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

Required parameters

This command requires the following parameters.

**RULE_SET**

Syntax: \texttt{RULE\_SET=string}

Description: The name of a the rule set you want to add, change, or delete.

Type: String

Optionality: Required.

Allowed: Textual string, 1 to 30 characters long.

Default: None.

Notes:

Example: \texttt{RULE\_SET=Rule Set 1}
NEW_NAME

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

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 command NPLC1 and action DEL 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

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

**Syntax:** \( \text{CASCADE}=\text{Y|N} \)

**Description:** Flag to determine whether or not rules based on this rule set should also be deleted.

**Type:** Boolean

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

**Allowed:** Either:
- \( \text{Y} \) – Cascade deletion into the NP_RULE table.
- \( \text{N} \) – Do not delete rules from the NP_RULE table.

**Default:** \( \text{N} \)

**Notes:**

**Example:** \( \text{CASCADE=\text{Y}} \)

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

**Syntax:** \( \text{RULE_SET}=\text{string} \)

**Description:** The name of a the rule set you want to add, change, or delete.

**Type:** String

**Optionality:** Required.

**Allowed:** Textual string, 1 to 30 characters long.

**Default:** None.

**Notes:**

**Example:** \( \text{RULE_SET=Rule Set 1} \)
ROUTEING_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=Vodaphone

CARRIER1

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

---

**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.
Chapter 2

CARRIER8

Syntax: \[\text{CARRIER8}=\text{string}\]

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: None.

Example: CARRIER8=Carrier 8

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

Syntax: \[\text{RULE_SET}=\text{string}\]

Description: The name of a the rule set you want to add, change, or delete.

Type: String

Optionality: Required.

Allowed: Textual string, 1 to 30 characters long.

Default: None.

Notes: None.

Example: RULE_SET=Rule Set 1

ROUTING_DESTINATION

Syntax: \[\text{ROUTING_DESTINATION}=\text{string}\]

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=Vodaphone

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

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 command NPLC2 and action DEL 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

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

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=Vodaphone

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 command NPHR1 and action ADD to add a new home routing entry in the NP_HOME_ROUTING table.

Required parameters

This command requires the following parameters.

**DN_START**

Syntax: \( \text{DN\_START}=\text{integer} \)

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: \( \text{DN\_START}=1230 \)

**DN_END**

Syntax: \( \text{DN\_END}=\text{integer} \)

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: \( \text{DN\_END}=1250 \)

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:**
- 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=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 command NPHR1 and action CHG to modify an existing entry in the NP_HOME_ROUTING table.
Required parameters

This command requires the following parameters.

DN_START

Syntax: \texttt{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: \texttt{DN\_START=1230}

DN_END

Syntax: \texttt{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: \texttt{DN\_END=1250}

Constraint required parameters

This command accepts the following constraint required parameters.

DN_TYPE

Syntax: \texttt{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: \texttt{DN\_TYPE=H}

Optional parameters

This command accepts the following optional parameters.

ROUTING_DESTINATION

Syntax: \texttt{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=Vodaphone

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 command NPHR1 and action DEL to delete an existing entry from 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
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 NP PI command NPHR1=QRY to query an entry in the NP_HOME_ROUTING table. These details are returned:
- DN range
- Routing destination
- DN type

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: Mandatory.
Allowed: Number, 4 to 18 digits long.
Default: None
Notes:
Example: 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.
Chapter 3

Error Code Lists

Overview

Introduction
This chapter explains the error codes for NP PI commands.

In this chapter

This chapter contains the following topics.

PI Chassis Errors
PI Command Errors

PI Chassis Errors

Error list
This table describes the PI Chassis error codes.

<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>TOO MANY SESSIONS</td>
<td>All PI sessions are in use.</td>
</tr>
<tr>
<td>71</td>
<td>LOGON SYNTAX ERROR</td>
<td>The login string was incorrectly formatted.</td>
</tr>
<tr>
<td>72</td>
<td>INVALID LOGON - username, password</td>
<td>Invalid username and/or password</td>
</tr>
<tr>
<td>73</td>
<td>INVALID LOGON - user not allowed on this port</td>
<td>The user attempted to log in to the wrong PI port.</td>
</tr>
<tr>
<td>74</td>
<td>INVALID LOGON - host</td>
<td>The PI client is unknown.</td>
</tr>
<tr>
<td>75</td>
<td>UNKNOWN COMMAND</td>
<td>Client sent an unknown command.</td>
</tr>
<tr>
<td>76</td>
<td>USER DOES NOT HAVE SUFFICIENT SECURITY</td>
<td>The user's security level is less than the command's security level.</td>
</tr>
<tr>
<td>77</td>
<td>SYNSTAMP NOT FOUND</td>
<td>Synstamps are turned on, but the client did not send one.</td>
</tr>
<tr>
<td>78</td>
<td>SYNSTAMP NOT VALID</td>
<td>Synstamps are turned on, but the synstamp sent by the client is invalid.</td>
</tr>
<tr>
<td>79</td>
<td>INVALID OR MISSING CHECKSUM</td>
<td>Checksums are turned on, but the client is one of the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Did not send one</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• It was invalid</td>
</tr>
<tr>
<td>80</td>
<td>UNKNOWN PARAMETER FOR COMMAND</td>
<td>A parameter was sent that was not valid for this command.</td>
</tr>
<tr>
<td>81</td>
<td>MISSING PARAMETERS FROM COMMAND</td>
<td>A required parameter is missing.</td>
</tr>
<tr>
<td>82</td>
<td></td>
<td>Undefined</td>
</tr>
</tbody>
</table>
### Code | Message | Description
--- | --- | ---
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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Error Message</th>
<th>Commands</th>
</tr>
</thead>
<tbody>
<tr>
<td>68</td>
<td>Badly formatted parameter name. Where name is an invalid parameter name.</td>
<td>All commands.</td>
</tr>
<tr>
<td>69</td>
<td>This error indicates that an error without a specific error code has occurred. Details about the error are included in the error text.</td>
<td>All commands.</td>
</tr>
<tr>
<td>1000</td>
<td>The specified range start to end [with activation date date] overlaps an already defined range Where:  - start is the start of the DN range  - end is the end of the DN range  - date is DN range activation date</td>
<td>NPDS1=ADD (includes text in square brackets) NPHR1=ADD</td>
</tr>
<tr>
<td>1001</td>
<td>The end of range end is a different length to the start of range start Where:  - end is the end of the DN range  - start is the start of the DN range</td>
<td>NPDS1=ADD NPDHR1=ADD</td>
</tr>
<tr>
<td>1002</td>
<td>This error displays one of the following error messages:  - The routing number number is not defined in the routing number table.</td>
<td>NPDS1=ADD NPD1=CHG NPYZ1=ADD</td>
</tr>
<tr>
<td>Code</td>
<td>Error Message</td>
<td>Commands</td>
</tr>
<tr>
<td>------</td>
<td>--------------</td>
<td>----------</td>
</tr>
<tr>
<td>1003</td>
<td>The specified range start to end [with activation date date] is not defined</td>
<td>NPDS1=CHG (includes text in square brackets) NPDS1=DEL (includes text in square brackets) NPHR1=CHG NPHR1=DEL</td>
</tr>
<tr>
<td>1004</td>
<td>The DN number was not matched. Where number is the value specified for DN in the PI command.</td>
<td>NPDS1=QRY NPHR1=QRY NPYZ1=QRY</td>
</tr>
<tr>
<td>1005</td>
<td>A rule set with name name is already defined Where name is the rule set name specified in RULE_SET in the PI command.</td>
<td>NPLC1=ADD NPLC1=CHG</td>
</tr>
<tr>
<td>1006</td>
<td>A rule set with name name is not defined Where name is the rule set name specified in RULE_SET in the PI command.</td>
<td>NPLC1=CHG NPLC1=DEL NPLC2=ADD NPLC2=CHG NPLC2=DEL</td>
</tr>
<tr>
<td>1007</td>
<td>The rule set name has associated rules Where name is the rule set name specified in RULE_SET in the PI command.</td>
<td>NPLC1=DEL</td>
</tr>
<tr>
<td>1008</td>
<td>The routing destination string is not defined in the routing destination table. Where string is the value specified for ROUTING_DESTINATION in the PI command.</td>
<td>NPLC2=ADD NPLC2=CHG NPLC2=DEL NPHR1=ADD NPHR1=CHG NPYZ1=ADD NPYZ1=CHG</td>
</tr>
<tr>
<td>1009</td>
<td>The rule set name and routing destination string are already defined in the rules table Where: - name is the rule set name specified in RULE_SET in the PI command. - string is the value specified for ROUTING_DESTINATION in the PI command.</td>
<td>NPLC2=ADD</td>
</tr>
<tr>
<td>Code</td>
<td>Error Message</td>
<td>Commands</td>
</tr>
<tr>
<td>-------</td>
<td>-------------------------------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>1010</td>
<td>CARRIERn must be defined if CARRIERm, where m is greater than n, is defined</td>
<td>NPLC2=ADD</td>
</tr>
<tr>
<td></td>
<td>Where:</td>
<td>NPLC2=CHG</td>
</tr>
<tr>
<td></td>
<td>- n is the carrier number before CARRIERm.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- m is the carrier number after CARRIERn.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> Carriers must be defined in order.</td>
<td></td>
</tr>
<tr>
<td>1011</td>
<td>The rule set <code>name</code> and routing destination <code>string</code> are not defined in the</td>
<td>NPLC2=CHG</td>
</tr>
<tr>
<td></td>
<td>rules table</td>
<td>NPLC2=DEL</td>
</tr>
<tr>
<td></td>
<td>Where:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- <code>name</code> is the rule set name specified in RULE_SET in the PI command.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- <code>string</code> is the value specified for ROUTING_DESTINATION in the PI command.</td>
<td></td>
</tr>
<tr>
<td>1012</td>
<td>The DN_TYPE <code>type</code> is not a known type</td>
<td>NPHR1=ADD</td>
</tr>
<tr>
<td></td>
<td>Where <code>type</code> is the DN type specified in DN_TYPE in the PI command.</td>
<td>NPHR1=CHG</td>
</tr>
<tr>
<td>1013</td>
<td>The CARRIERn <code>name</code> is not a known carrier</td>
<td>NPLC2=ADD</td>
</tr>
<tr>
<td></td>
<td>Where:</td>
<td>NPLC2=CHG</td>
</tr>
<tr>
<td></td>
<td>- <code>n</code> is the carrier number specified in the PI command.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- The <code>name</code> specified in CARRIERn is not an existing carrier name for that</td>
<td></td>
</tr>
<tr>
<td></td>
<td>carrier number.</td>
<td></td>
</tr>
<tr>
<td>1014</td>
<td>The start of range <code>start</code> is after the end of range <code>end</code></td>
<td>NPDS1=ADD</td>
</tr>
<tr>
<td></td>
<td>Where:</td>
<td>NPDS1=CHG</td>
</tr>
<tr>
<td></td>
<td>- <code>start</code> is the value specified for the start of the DN range in the PI</td>
<td>NPDS1=DEL</td>
</tr>
<tr>
<td></td>
<td>command.</td>
<td>NPHR1=ADD</td>
</tr>
<tr>
<td></td>
<td>- <code>end</code> is the value specified for the end of the DN range in the PI</td>
<td>NPHR1=CHG</td>
</tr>
<tr>
<td></td>
<td>command.</td>
<td>NPHR1=DEL</td>
</tr>
<tr>
<td>1015</td>
<td>DN_TYPE not specified when ROUTING_DESTINATION is specified</td>
<td>NPHR1=ADD</td>
</tr>
<tr>
<td>1020</td>
<td>The specified PQYZ <code>number</code> is already defined.</td>
<td>NPYZ1=ADD</td>
</tr>
<tr>
<td></td>
<td>Where <code>number</code> is the PQYZ number specified in the PI command.</td>
<td></td>
</tr>
<tr>
<td>1021</td>
<td>The specified PQYZ <code>number</code> is not present.</td>
<td>NPYZ1=CHG</td>
</tr>
<tr>
<td></td>
<td>Where <code>number</code> is the PQYZ number specified in the PI command.</td>
<td>NPYZ1=DEL</td>
</tr>
</tbody>
</table>
NCC Glossary of Terms

CCS
1) Charging Control Services (or Prepaid Charging) component.
2) Common Channel Signalling. A signalling system used in telephone networks that separates signalling information from user data.

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.

E2BE
Code used to designate some components and path locations used by the UBE.

GUI
Graphical User Interface

HTML
HyperText Markup Language, a small application of SGML used on the World Wide Web. It defines a very simple class of report-style documents, with section headings, paragraphs, lists, tables, and illustrations, with a few informational and presentational items, and some hypertext and multimedia.

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

Oracle
Oracle Corporation

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

SGML
SLC
Service Logic Controller (formerly UAS).

SMS
Depending on context, can be:
- Short Message Service
- Service Management System platform
- NCC Service Management System application

SQL
Structured Query Language - 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.
Required parameters • 3, 7, 10, 11, 17, 18, 19, 22, 25, 26, 28, 29, 30
ROUTING_DESTINATION • 13, 15, 20, 23, 25, 27, 29
ROUTING_NUMBER • 4, 7, 13, 14
RULE_SET • 17, 18, 20, 22, 25

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