



CHAPTER 1

Digit Translations

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Introduction

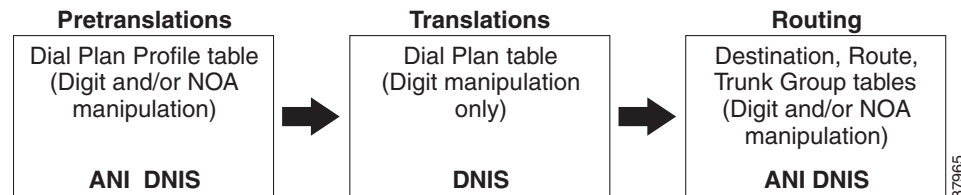


Note

The Auto Callback (AC)/Auto Redial (AR) feature will not function properly if the dialed digit string is changed or translated during the call routing, such as in the table route.

The Cisco BTS 10200 Softswitch digit manipulation or digit translation function enables manipulating or translating either the digit string, or the nature of address (NOA), or both. Digit manipulation or translation can take place at several points in call processing, as illustrated in [Figure 1-1](#).

Figure 1-1 Digit Manipulation Locations and Stages



The digit and/or NOA manipulation rules can be applied during the pre-translations, translations, or routing stages. Additionally, digit manipulations or digit translations can occur at either the originating basic call system manager (OBCSM) or the terminating basic call system manager (TBCSM). The following sections describe the tables and tokens required for digit and/or NOA manipulation at each of these three stages. For details on routing and call processing including actions at specific points in call processing, refer to [Chapter 2, “Routing”](#) and to [Chapter 3, “Dial Plans and Routing.”](#)

Pre-Translations—In the pre-translations stage, the dial-plan-profile table is used to specify if automatic number identification (ANI), dialed number identification service (DNIS) or both are to be manipulated. The purpose of pre-translation stage is to normalize the digits as required during the translations stage. For example: if a region supports 7-digit dialing, you can use DNIS manipulation in the dial-plan-profile to add an home numbering plan area (HNP) to make it a 10-digit directory number (DN).

Translations—The dial-plan table can be used to manipulate the called party number (DNIS). Simple delete/prefix functionality is supported.

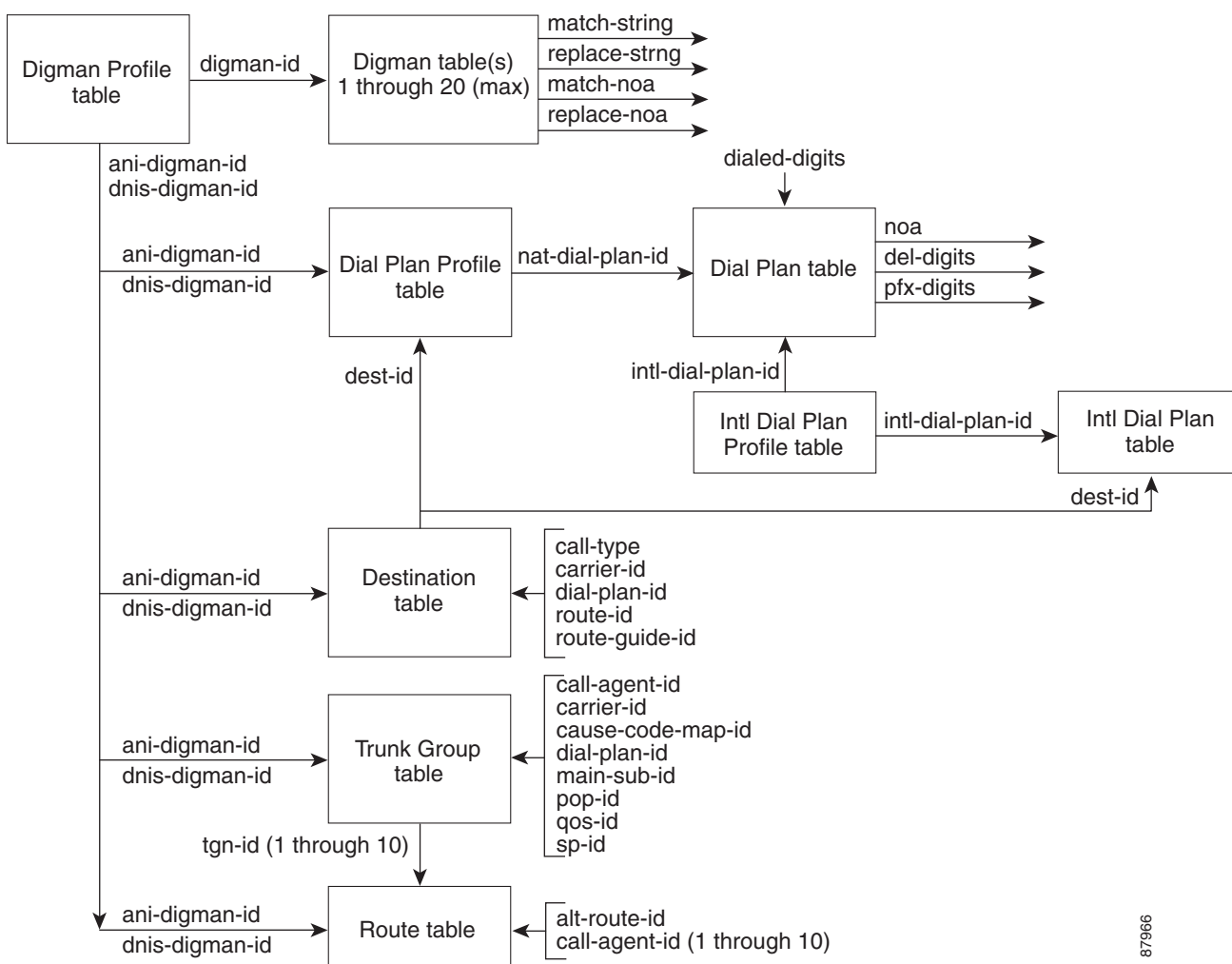
Routing—The Routing is performed in the analyzed info point in call (PIC). The Destination Table and/or Route Table can be used to specify digit manipulation of ANI, DNIS or both. The out-pulsing number can be normalized using the destination table. In addition, if special manipulation is required based on the route selected, then that can be specified with each Trunk Group within a route.

If the Called Party Number terminates within the Cisco BTS 10200 Softswitch, and the subscriber number points to a Trunk Group, then digit manipulation rules for ANI, DNIS, or both can be specified in the Trunk Group Table.

If the call is an interLATA call, or requires Carrier Routing, the ANI/DNIS digit manipulation identification (IDs) specified in the Destination table are ignored and carrier based routing is performed.

Figure 1-2 illustrates the provisioning relationships for Cisco BTS 10200 Softswitch dial plans, which includes the ANI/DNIS digital manipulation functions.

Figure 1-2 *Dial Plan Provisioning Relationships*



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Digit Manipulation

The following is an overview of what the digman tables provide for the Cisco BTS 10200 Softswitch.

Digit manipulation or digit translation is performed based on as many as twenty different digit manipulation (digman) tables as designated by the digman-id and rule number, each of which can have a unique set of match-string and replace-string tokens and/or match-NOA and replace-NOA tokens.

The match-string is compared to the input-string. If a match is found, based on the rules specified here, then the replace-string replaces the matched string in all further call processing actions.

The match-string and replace-string tokens are constructed using the characters specified in [Table 1-1](#).

Table 1-1 **Digit Manipulation Rules Specifications**

Character(s)	Action
digits 0 through 9, asterisk *, pound sign #	Digits found on a Key-pad. Valid for use at any position in the input-string token, match-string token, and replace-string token.
Caret (^)	Beginning of String Character—Indicates a match to the beginning of the string. The caret character can only be the first character of the match-string. If specified by itself, the input string is prefixed by the replace-string. For examples of the caret character usage, refer to the “Caret (^) Character” .
Dollar sign (\$)	End of String Character—The dollar sign character can be specified as only the last character of the match string. If specified by itself, the replace-string is appended to the input-string. Is used to specify the end of string. If digits at the end of the string are to be matched, the match-string is terminated by the \$ character. For examples of the dollar sign character usage, refer to “Dollar Sign (\$) Character” .
Dot (.)	If the dot character is specified as a leading character, beginning of the string is assumed. If the dot character is specified as the last character, end of string is assumed. Is used to identify the position of the match. The digits occupying the position specified by the dot character are skipped during the match operation. For examples of the dot character usage, refer to “Dot (.) Character” .
Question Mark (?)	The question mark character can appear anywhere but multiple question marks have to be with another question mark. The question mark character can not appear as a single character. If only one digit is to be manipulated, then the ? mark should be preceded by ^ (caret) or followed by a \$ (dollar) to signify the first digit or the last digit respectively. Used as a wildcard. Matches any one character. For examples of the question mark character usage, refer to “Question Mark (?) Character” . Note The "?" character by itself will be treated as a request for help.
Percent sign (%)	Replace Character—The percent sign character can only be specified as the first character of the string. If specified by itself, the input string is replaced by the replace-string. Also used as a wildcard and when specified is used to match 0 or more characters preceding the digits specified in the match-string. For examples of the percent sign character usage, refer to “Percent (%) Character (Match and Replace)” .

Table 1-1 *Digit Manipulation Rules Specifications (continued)*

Character(s)	Action
Ampersand (&)	Prefix Character—The ampersand character can only be specified as the last character of the string. If specified by itself, it is used to indicate that no replace function is required on the matched string, but is used to indicate if the input string matches with the match-string. If it is specified with digits preceding it, the specified digits are prefixed to the matched string. For examples of the ampersand character usage, refer to “Ampersand (&) Character” .
None (or none)	Can only be specified by itself. Phrase "none" is used to specify NULL string. Can be used for both match-string and replace-string. Example 1: match-string=none; replace-string=4692550000; indicates that when input string is NULL, replace it with 4692550000. Example 2: match-string=469255; replace-string=none; indicates that if a match is found, replace the matched string with NULL. If input string is 4692551234, after the digit manipulation, the resultant string will be 1234.

Match-string rules:

- Consist of digits - 0-9, *, #, ^, \$, dot(.), question mark (?), Percent (%) or Phrase "none".
- Caret (^) if specified, can only be 1st character of the string.
- Dollar Sign (\$) if specified, can only be the last character of the string.
- Percent (%) if specified, can only be 1st character of the string.
- Phrase "none" or "NONE" can only appear by itself.

The following rules are not enforced by the parser.

- Question Mark(s) (?) if specified, can not appear in between a digit string (example: match-string=12??56; is invalid, but match-string=12????; is valid.)
- Dots (.) if specified, can appear as leading dots; trailing dots; or both. (examples: match-string=...555; match-string=555....; match-string=...555....;)

Replace-string rules:

- Consist of digits - 0-9, *, #, ampersand (&) or Phrase "none".
- Ampersand (&) if specified, can appear by itself or be the last character of the string.
- Phrase "none" or "NONE" can only appear by itself.

Character Function

The following subsections provide information on the Cisco BTS 10200 Softswitch character function.

Caret (^) Character

The caret (^) character is used to specify beginning of a string. The caret character is used when specific leading digits are to be deleted or replaced. The caret character is also used when digits are to be prefixed to the input string.

The following examples specify the use of the caret character:

Examples:

Example 1: `input-string=0119127210112; match-string=^011; replace-string=none`. In this example, the digit string 011 at the beginning of input string will be replaced with NULL. The resultant output string = 9127210112.

Example 2: `input-string=9127210112; match-string=^; replace-string=011`. In this example, since the digit string 011 is prefixed to the input-string. The resultant `output-string=0119127210112`.

Additional examples:

Example 1:

```
Enter 1 to continue translations 1
Enter input string 14692551234
Match string ^1
Replace string none
MATCHED
```

Output string = 4692551234

Example 2:

```
Enter 1 to continue translations 1
Enter input string 4692551234
Match string ^469255
Replace string 5
MATCHED
```

Output string = 51234

Example 3:

```
Enter 1 to continue translations 1
Enter input string 222
Match string ^
Replace string 1
MATCHED
```

Output string = 1222

Dollar Sign (\$) Character

The dollar sign (\$) character is used to search from the end of string backwards instead of from the beginning string. The dollar sign character is also used when digits are to be appended to the end of the string, deleted or replaced from the end of the string.

If match-string=1234\$, it indicates to look for last 4 digits to be 1234.

If match-string=????\$, it indicates to replace last 4 digits with the replace-string.

The following examples show the use of dollar sign character.

Examples:

Example 1: input string=4692551234; match-string=????\$; replace-string=0000. In this example, digits 1234 will be replaced with 0000. The resultant output string=4692550000.

Example 2: input string=469255; match-string=\$; replace-string=0000. In this example, digits 0000 will be appended to the input-string. The resultant output string=4692550000.

Additional examples:

Example 1:

```
Enter 1 to continue translations 1
Enter input string 4692551234
Match string ?????$
Replace string none
MATCHED
```

Output string = 469255

Example 2:

```
Enter 1 to continue translations 1
Enter input string 4692551234
Match string ?????$
Replace string 0000
MATCHED
```

Output string = 4692550000

Example 3:

```
Enter 1 to continue translations 1
Enter input string 469255
Match string $
Replace string 0000
MATCHED
```

Output string = 4692550000

Dot (.) Character

The dot (.) character is used to indicate string position at which match operation is to be performed. If a dot character is specified as the first character of the match-string, the digits specified by each dot character are skipped until a question mark or any digit is encountered.

The dot character can also be used to check the length of the input string (see examples below).

Examples:

Example 1: match-string="...555" indicates that 555 appear in digit position 4-6. This will match on the following input string: 4695551234.

Example 2: "555..." Indicates that find a match on 555 where there are 4 more digits that follow 555. This will match any of the following input strings: 4695551234 or 5551234.

Additional examples:

Example 1:

```
Enter 1 to continue translations 1
Enter input string 4695551234
Match string ...555
Replace string &
MATCHED
```

Output string = 4695551234

Example 2:

```
Enter 1 to continue translations 1
Enter input string 4695551234
Match string .....#CHECK IF INPUT STRING LENGTH=10
Replace string &
MATCHED
```

Output string = 4695551234

Example 3:

```
Enter 1 to continue translations 1
Enter input string 14695551234
Match string .....
Replace string &
Not MATCHED
```

Output string = 14695551234

Example 4:

```
Enter 1 to continue translations 1
Enter input string 222333
Match string ...33
Replace string none
MATCHED
```

Output string = 2223

Example 5:

```

Enter 1 to continue translations 1
Enter input string 22233
Match string ^...
Replace string none
Not MATCHED

```

```

Output string = 22233

```

Question Mark (?) Character

The question mark (?) character is used to specify a wild card character based on its position in the match-string. Each question mark character represents one digit character.

If a question mark is specified as a leading character in a match-string, the beginning of input string is assumed. Match-string "???555" indicates to look for any three digits followed by digits 555. The question mark character can not be specified as the only character as it conflicts with the use of "?" as a help character. So, if the first digit is to be matched, use ^? to represent first digit and ?\$ to represent the last digit of a digit-string.

The following examples show the use of question mark (?) character.

Examples:

Example 1: "???555" indicates that 555 appear in digit position 4-6. This will match the following input string: 4695551234.

Example 2: "555?????" Indicates that find a match on 555 where there are 4 more digits that follow 555. This will match any of the following input strings: 4695551234 or 5551234. Digits 5551234 will be replaced with the replace string.

Example 3: "^?" indicates to match on the 1st digit

Example 4: "?\$" indicates to match on the last digit

Additional examples:**Example 1:**

```

Enter 1 to continue translations 1
Enter input string 14692551234
Match string ^1???
Replace string none
MATCHED

```

```

Output string = 2551234

```

Example 2:

```

Enter 1 to continue translations 1
Enter input string 4692551234
Match string ????$
Replace string none
MATCHED

```

```

Output string = 469255

```

Example 3:

```
Enter 1 to continue translations 1
Enter input string 4695551234
Match string ???555
Replace string 5
MATCHED
```

```
Output string = 51234
```

Example 4:

```
Enter 1 to continue translations 1
Enter input string 4692551234
Match string ???555
Replace string none
Not MATCHED
```

```
Output string = 4692551234
```

Percent (%) Character (Match and Replace)

The percent character (%) is used to specify the match and replace function i.e. if a match occurs, replace the matched string with the replace-string. The percent character is also used as a wild card character.

If match-string=%, the whole input-string is replaced by the replace-string.

If match-string=%nn, the input-string is searched from the beginning until it matches pattern nn, and the whole string from the beginning to the end of pattern is replaced with the replace-string.

If match-string=%...nnn, the input-string is searched for pattern nnn in digit positions 4,5 and 6. If a match occurs, the digit string from the beginning including the pattern nnn is replaced with the replace-string.

The following examples show the use of the percent (%) character.

Examples:

Example 1: %555 - indicates match on 555 and any number of digits preceding it. This will match on of the following input string: 4695551234. Digits 469555 will be replaced with the replace string.

Example 2: % - indicates match on any number of digits.

Additional examples:**Example 1:**

```
Enter 1 to continue translations 1
Enter input string 4692551234
Match string %
Replace string 55555
MATCHED
```

```
Output string = 55555
```

Example 2:

```
Enter 1 to continue translations 1
Enter input string 4692551234
Match string %255
Replace string 5
MATCHED
```

```
Output string = 51234
```

Example 3:

```
Enter 1 to continue translations 1
Enter input string 4692551234
Match string %...255MATCH DIGITS 255 IN DIGIT POSITIONS 4,5,6
Replace string 5
MATCHED
```

```
Output string = 51234
```

Example 4:

```
Enter 1 to continue translations 1
Enter input string 4692551234
Match string %...255?MATCH DIGITS 255 IN DIGIT POSITIONS 4,5,6 AND 1 MORE DIGIT
Replace string 55
MATCHED
```

```
Output string = 55234
```

Ampersand (&) Character

The ampersand character (&) is used in the replace-string to leave the matched string as is without replacing it with the replace string. If ampersand is specified by itself, the digit manipulation leaves the input string as is. If a digit string is specified followed by an ampersand, the digit string is prefixed to the matched string.

The following examples show the use of the ampersand (&) character.

Examples:

Example 1: input-string=4695551212; match-string=...555...; replace-string=&; will return an indication of match, but the output string will be unaffected.

Example 2: input string=4695551234; match-string=???555...; replace-string=1&; In this example, if the input string is 10 digits long, and digits(4-6) 555, prefix the input string with 1. The resultant output string=14695551234.

Additional examples:**Example 1:**

```
Enter 1 to continue translations 1
Enter input string 4692551234
Match string ???255
Replace string 1&
MATCHED
```

```
Output string = 14692551234
```

Example 2:

```
Enter 1 to continue translations 1
Enter input string 14692551234
Match string ^1.....
Replace string &
MATCHED
```

```
Output string = 14692551234
```

Example 3:

```
Enter input string 4695551212
Match string ^...555....
Replace string &
MATCHED
```

```
Output string = 4695551212
```

Example 4:

```
Enter 1 to continue translations 1
Enter input string *85#
Match string *
Replace string &
MATCHED
```

```
Output string = *85#
```

Example 5:

```
Enter 1 to continue translations 1
Enter input string *85#
Match string #
Replace string &
MATCHED
```

```
Output string = *85#
```

Delete Digits Function

The Cisco BTS 10200 Softswitch digit manipulation function supports the following delete capabilities:

- Deletion of leading digits
- Deletion of specific leading digits
- Deletion of trailing digits
- Deletion of specific trailing digits
- Deletion of leading digits only if the length matches
- Deletion of trailing digits only if the length matches

Leading Digits Deletion

The Cisco BTS 10200 Softswitch digit manipulation functions supports the deletion of leading digits per the following example:

```
Add digman id=del3; match-string=???; replace-string=none; OR
Add digman id=del3; match-string=^???; replace-string=none;
*****
Enter input string 4692551234
Match string ???
Replace string none
MATCHED
```

```
Output string = 2551234
*****
```

Specific Leading Digits Deletion

The Cisco BTS 10200 Softswitch digit manipulation function supports the deletion of specific leading digits per the following example:

```
Add digman id=del00; match-string=^00; replace-string=none;
*****
Enter input string 0012345
Match string ^00
Replace string none
MATCHED
```

```
Output string = 12345
*****
```

Trailing Digits Deletion

The Cisco BTS 10200 Softswitch digit manipulation function supports the deletion of trailing digits per the following example:

```
Add digman id=dellast4; match-string=????$; replace-string=none;
*****
Enter input string 4692551234
Match string ????$
Replace string none
MATCHED
```

```
Output string = 469255
*****
```

Specific Trailing Digits Deletion

The Cisco BTS 10200 Softswitch digit manipulation function supports deletion of specific trailing digits per the following example:

```
Add digman id=delx1212; match-string=1212$; replace-string=none;
*****
Enter input string 4695551212
Match string 1212$
Replace string none
MATCHED
```

```
Output string = 469555
*****
```

Leading Digits Deletion if the Length Matches

The Cisco BTS 10200 Softswitch digit manipulation function supports the deletion of leading digits only if the length of input-string matches the length implied by the match-string per the following example:

```
Add digman id=del310; match-string=^???.....; replace-string=none; OR
Add digman id=del310; match-string=???.....; replace-string=none;
*****
Enter input string 4692551234
Match string ???.....
Replace string none
MATCHED
```

```
Output string = 2551234
*****
```

Trailing Digits Deletion if the Length Matches

The Cisco BTS 10200 Softswitch digit manipulation function supports deletion of trailing digits only if the length of input-string matches the length implied by the match-string per the following example:

```
Add digman id=dellast4; match-string=.....????; replace-string=none; OR
Add digman id=del310; match-string=^.....????$; replace-string=none;
*****
Enter input string 4692551234
Match string .....????
Replace string none
MATCHED
```

```
Output string = 469255
*****
```

Prefix Digits Function

The Cisco BTS 10200 Softswitch digit manipulation function supports the prefix of digits. The following prefix functions shall be supported:

- Prefix leading digits
- Prefixing of digits only if length matches

Leading Digits Prefix

The Cisco BTS 10200 Softswitch digit manipulation function supports the prefixing of leading digits per the following example:

```
Add digman id=pfx469; match-string=^; replace-string=469;
*****
Enter input string 5551234
Match string ^
Replace string 469
MATCHED
```

```
Output string = 4695551234
*****
```

Digits Prefix if Length Matches

The Cisco BTS 10200 Softswitch digit manipulation function supports the prefixing of digits only if length matches per the following example:

```
Add digman id=pfx469if7; match-string=^.....; replace-string=469; OR
Add digman id=pfx469if7; match-string=.....; replace-string=469;
*****
Enter input string 5551234
Match string ^.....
Replace string 469
MATCHED
```

```
Output string = 4695551234
*****
```

Replace (Delete and Prefix) Digits Function

The Cisco BTS 10200 Softswitch digit manipulation function supports the digit replacement based on matched string i.e. the matched string will be replaced with the replace-string.

- Replacement of leading digits
- Replacement of trailing digits
- Replacement of specific digits
- Replacement of leading digits only if length matches
- Replacement of specific digits in a specific digit position
- Replacement of digits in a specific digit position
- Replace only if NULL
- Replace any input string

Leading Digits Replacement

The Cisco BTS 10200 Softswitch digit manipulation function supports the replacement (delete and prefix) of leading digits per the following examples:

```
Add digman id=del6pfx5; match-string=??????; replace-string=5; OR
Add digman id=del6pfx5; match-string=^??????; replace-string=5;
*****
Enter input string 4692551234
Match string ??????
Replace string 5
MATCHED
```

```
Output string = 51234
*****
Enter input string 4692551234
Match string ^??????
Replace string 5
MATCHED
```

```
Output string = 51234
*****
```

Trailing Digits Replacement

The Cisco BTS 10200 Softswitch digit manipulation function supports the replacing trailing digits per the following example:

```
Add digman id=del4rep0000; match-string=????$; replace-string=0000;
*****
Enter input string 4692551234
Match string ?????$
Replace string 0000
MATCHED

Output string = 4692550000
*****
```

Specific Digits Replacement

The Cisco BTS 10200 Softswitch digit manipulation function supports specific digits replacement only if the input string matches specific digits per the following example:

```
Add digman id=del469255pfx5; match-string=469255; replace-string=5;
*****
Enter input string 4692551234
Match string 469255
Replace string 5
MATCHED

Output string = 51234
*****
```

Leading Digits Replacement if Length Matches

The Cisco BTS 10200 Softswitch digit manipulation function supports leading digits replacement only if the length matches per the following examples:

```
Add digman id=del6pfx5; match-string=469255....; replace-string=5;
*****
Enter input string 4692551234
Match string 469255....
Replace string 5
MATCHED

Output string = 51234
*****
Enter input string 4692550
Match string 469255....
Replace string 5
Not MATCHED

Output string = 4692550
*****
```

Specific Digits Replacement in a Specific Digit Position

The Cisco BTS 10200 Softswitch digit manipulation function supports specific digits replacement specified by position per the following example:

```
Add digman id=rep555; match-string=...555...; replace-string=222;
*****
Enter input string 4695551234
Match string ...555...
Replace string 222
MATCHED

Output string = 4692221234
*****
```

Digits Replacement in a Specific Digit Position

The Cisco BTS 10200 Softswitch digit manipulation function supports the digits replacement in the specific digit position per the following examples:

```
Add digman id=rep456w222; match-string=...???...; replace-string=222;
Add digman id=replast4; match-string=.....????; replace-string=0000;
*****
Enter input string 4695551234
Match string ...???...
Replace string 222
MATCHED

Output string = 4692221234
*****
Enter input string 4695551234
Match string .....???
Replace string 0000
MATCHED

Output string = 4695550000
*****
```

Digits Replacement only if NULL

The Cisco BTS 10200 Softswitch digit manipulation function supports digit replacement if input digit string is NULL per the following examples:

```
Add digman id=repifnull; match-string=none; replace-string=4692550000;
*****
Enter input string none
Match string none
Replace string 4692550000
MATCHED

Output string = 4692550000
*****
Enter input string 4695551234
Match string none
Replace string 4692550000
Not MATCHED

Output string = 4695551234
*****
```

Any Input String Replacement

The Cisco BTS 10200 Softswitch digit manipulation function supports the replacement of any input string with the replace-string per the following examples:

```
Add digman id=replace; match-string=%; replace-string=4692550000;
*****
```

```
Enter input string none
Match string %
Replace string 4692550000
MATCHED
```

```
Output string = 4692550000
*****
```

```
Enter input string 4695551234
Match string %
Replace string 4692550000
MATCHED
```

```
Output string = 4692550000
*****
```

Nature of Address Manipulation

The Cisco BTS 10200 Softswitch Digit Manipulation table also supports NOA manipulation.

To perform NOA manipulation only, the match-string and the replace-string should be NULL.

```
Add digman id=dgl; rule=1; match-noa=any; replace-noa=subscriber;
```

If both digit and NOA manipulation rules are defined; the digit manipulation is only performed if the NOA value specified in the match-noa matches with the input noa AND the match-string matches with the input string.

```
Add digman id=dgl; rule=1; match-string=%255; replace-string=5; match-noa=national;
replace-noa=abbr;
```

Table 1-2 **Nature Of Address Table**

NOA	Description
950	NOA used to specify 950 Call.
ANY	When specified matches any of the other NOAs. This NOA can only be specified in the MATCH-NOA field.
ABBR	NOA used to specify Abbreviated Number.
CUT-THRU	NOA used to specify no number present, Cut-Thru call.
INTL	NOA used to specify International Number
INTL-OPR	NOA used to specify International Number, Operator Requested (Valid for Called Party Number only).
INTL	NOA used to specify Unique International Number.
NATIONAL	NOA used to specify National Number.
NAT-OPR	NOA used to specify National Number, Operator Requested (Valid for Called Party Number only).
NETWORK	NOA used to specify Network.

Table 1-2 **Nature Of Address Table (continued)**

NOA	Description
NON-UNIQUE-INTL	NOA used to specify non-unique international number (valid for Calling Party number).
NON-UNIQUE-NATIONAL	NOA used to specify non-unique national number (valid for Calling Party number).
NON-UNIQUE-SUBSCRIBER	NOA used to specify non-unique subscriber number (valid for Calling Party number).
NS0	NOA used to specify Network specific (111 1000) Number.
NS1	NOA used to specify Network specific (111 1001) Number.
NS2	NOA used to specify Network specific (111 1010) Number.
NS3	NOA used to specify Network specific (111 1011) Number.
NS4	NOA used to specify Network specific (111 1100) Number.
NS5	NOA used to specify Network specific (111 1101) Number.
NS6	NOA used to specify Network specific (111 1110) Number.
OPERATOR	NOA used to specify an Operator Call.
PORTED-NUMBER-WITHOUT-RN	Digits contain ported DN only (no RN prefix).
PORTED-NUMBER-WITH-RN	The Ported Number is prefixed with the Routing Number (RN + DN).
PRIVATE	NOA used to specify Private Numbering Plan
RESERVED	Reserved NOA.
SPARE0/SPARE2	Spare. Not Used.
SUB-OPR	NOA used to specify Subscriber Number, Operator Requested (Valid for Called Party Number only).
SUBSCRIBER	NOA used to specify Subscriber Number
TEST-LINE	NOA used to specify Test Line Number
UNKNOWN	Nature of Address is Unknown.
VSC	NOA used to specify Vertical Service Code.

Nature of Address Route Profile

The NOA Route Profile (noa-route-profile) table is used to support NOA-based routing on the Cisco BTS 10200 Softswitch. This profile defines the NOA route id. The id can be assigned to a single Dial Plan Profile table or multiple Dial Plan Profile tables.

Table Name: NOA_ROUTE_PROFILE

Table Containment Area: EMS, CA

Command Types

add, audit, change, delete, help, show, sync



Caution

Sync is a restricted command and is intended for repairing data only. Improper use may corrupt database and disrupt call processing. Use with caution.

Examples

```
show noa-route-profile;
add noa-route-profile id=NoaRt;
change noa-route-profile id=NoaRt; description=noa specific route profile ID
delete noa-route-profile id=NoaRt;
```

Usage Guidelines

Primary Key Token(s): ID

Syntax Description

AUTO_REFRESH	Description: Specifies whether to display cached data on the screen. Valid only for the show command. CHAR(1): Y/N (Default = Y). Y—Queries the database for the most current data. N—Queries the database for the most current data only if the cached data is unavailable. Valid for Command: show Default Value: Y Possible Value: Y, N Parser: BooleanParser
DESCRIPTION	Description: Service provider-defined description. VARCHAR(64): 1-64 ASCII characters. Valid for Command: add, change, delete, show Possible Value: [1_64] Parser: TextParser
DISPLAY	Description: Specifies what token information to display on the screen. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all tokens are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
ID	Description: Primary key. The NOA Route Profile id. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, delete, show, audit, sync Mandatory: add, change, delete Possible Value: [1_16] Parser: TextParser

LIMIT	Description: Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1-100000000 (Default = 100000000). Valid for Command: show Default Value: 100000000 Possible Value: [1_100000000] Parser: DecimalParser
MASTER	Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser
ORDER	Description: Specifies whether to display data on the screen in a sorted order. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all rows are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
PLATFORM_STATE	Description: State of an active or standby system shared memory database; use to audit an active or standby system shared memory database. Valid for the audit database and audit table name commands. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—System is active (currently running). STANDBY—System is in standby mode. EMS—Audits the active EMS to the standby EMS. Valid for Command: sync, audit Default Value: ACTIVE Possible Value: ACTIVE, STANDBY Parser: TextParser

START_ROW	Description: Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1-100000000 (Default = 1). Valid for Command: show Default Value: 1 Possible Value: [1_100000000] Parser: DecimalParser
TARGET	Description: Specifies the network element to receive the request. VARCHAR(5): 1-5 ASCII characters. Permitted values are: CA—Network identifier of a Call Agent. FSPTC (POTS/Tandem/Centrex Feature Server)—Network identifier of a specific Feature Server. FSAIN (AIN Feature Server)—Network identifier of AIN Feature Servers. Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

Nature of Address Route

The NOA Route (noa-route) table defines NOA-based routing on the Cisco BTS 10200 Softswitch. When the NOA-based routing is specified in the Dial Plan Profile table the Cisco BTS 10200 Softswitch uses the received NOA to index the NOA Route table and determine the destination id for further routing. The destination id can point to a specific route based on the NOA or it can point to a dial plan. When a destination id points to a dial plan, the received called party number is translated using the dial plan.

Table Name: NOA_ROUTE

Table Containment Area: EMS, CA

Command Types

add, audit, change, delete, help, show, sync



Caution

Sync is a restricted command and is intended for repairing data only. Improper use may corrupt database and disrupt call processing. Use with caution.

Examples

```
show noa-route;
add noa-route id=NoaRt; noa=ported-number; dest-id=lnpDP
change noa-route id=NoaRt; noa=ported-number; dest-id=RnDp
delete noa-route id=NoaRt; noa=ported-number;
```

Usage Guidelines

Primary Key Token(s): ID, NOA

Foreign Key Token(s): id, dest-id

Syntax Description

AUTO_REFRESH	Description: Specifies whether to display cached data on the screen. Valid only for the show command. CHAR(1): Y/N (Default = Y). Y—Queries the database for the most current data. N—Queries the database for the most current data only if the cached data is unavailable. Valid for Command: show Default Value: Y Possible Value: Y, N Parser: BooleanParser
DEST_ID	Description: Foreign key: Destination table. The destination id associated with the received NOA. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, show, audit, sync Mandatory: add Possible Value: [1_16] Parser: TextParser
DISPLAY	Description: Specifies what token information to display on the screen. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all tokens are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
ID	Description: Primary key. The NOA Route Profile id. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, delete, show, audit, sync Mandatory: add, change, delete Possible Value: [1_16] Parser: TextParser

LIMIT	Description: Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1-100000000 (Default = 100000000). Valid for Command: show Default Value: 100000000 Possible Value: [1_100000000] Parser: DecimalParser
MASTER	Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser
NOA	Description: Primary key. The Nature of Address. VARCHAR(32): 1-32 ASCII characters. Permitted values are: PORTED-NUMBER-WITH-RN—The ported number is prefixed with Network ID and Switch ID (RN+DN). PORTED-NUMBER-WITHOUT-RN—The ported number may be prefixed with a Network ID, or may not be prefixed with anything (DN or NTKW-ID plus the DN), but does not include the switch id. Valid for Command: add, change, delete, show, audit, sync Mandatory: add, change, delete Possible Value: PORTED_NUMBER_WITH_RN, PORTED_NUMBER_WITHOUT_RN Parser: TextNoCaseParser
ORDER	Description: Specifies whether to display data on the screen in a sorted order. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all rows are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser

PLATFORM_STATE	Description: State of an active or standby system shared memory database; use to audit an active or standby system shared memory database. Valid for the audit database and audit table name commands. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—System is active (currently running). STANDBY—System is in standby mode. EMS—Audits the active EMS to the standby EMS. Valid for Command: sync, audit Default Value: ACTIVE Possible Value: ACTIVE, STANDBY Parser: TextParser
START_ROW	Description: Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1-100000000 (Default = 1). Valid for Command: show Default Value: 1 Possible Value: [1_100000000] Parser: DecimalParser
TARGET	Description: Specifies the network element to receive the request. VARCHAR(5): 1-5 ASCII characters. Permitted values are: CA—Network identifier of a Call Agent. FSPTC (POTS/Tandem/Centrex Feature Server)—Network identifier of a specific Feature Server. FSAIN (AIN Feature Server)—Network identifier of AIN Feature Servers. Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

Automatic Number Identification/Dialed Number Identification Service Manipulation

The Cisco BTS 10200 Softswitch supports DNIS or ANI digit manipulation, it includes digit manipulation or nature of address manipulation or both. When ANI manipulation is defined, it usually refers to the calling party number (CPN) which is normally displayed when a call is terminated to a device with calling number delivery (CND) feature.

In countries like China, there are additional requirements regarding ANI display. The requirements are to display ANI in the "dialable" format. The term dialable means the user can simply call up the display and hit the dial button to place the call based on the received ANI. This requires ANI to contain an area code or national destination code (NDC) for a long distance call while only displaying subscriber number for a local call. The rules defined above can be used to manipulate ANI digits to the desired format.

When call forwarding has occurred, the ANI manipulation is performed as follows:

- If redirecting party number is available, the redirecting party number is manipulated.
- If redirecting party number is not available, but original called number (OCN) is available, the OCN is manipulated.
- If neither redirecting party number nor OCN are available, then the calling party number is manipulated.

The following sections describe the provisioning and actions in each of the three stages in greater detail.

Pre-Translation Stage

In the pre-translations stage, the dial-plan-profile table is used to specify if ANI, DNIS, or both are to be manipulated. The purpose of the pre-translation stage is to normalize the digits, as required, during the translations stage.

In addition to manipulating the ANI/DNIS digits, the pre-translation stage can also be used to determine the NOA of the incoming digits (either ANI or DNIS or both).

The Dial Plan Profile table has been modified to allow provisioning of the ANI and DNIS digit manipulation rules.

Example 1:

In the first example, since the first character of the input string matches the specified match-string (^*), the NOA is changed to a vertical service code (VSC).

```
Add digman id=pretrans; rule=1; match-string=^*; replace-string=&; match-noa=any;
replace-noa=vsc;
```

```
Enter input string *55#
Match string ^*
Replace string &
MATCHED
```

```
Output string = *55#
```

Example 2:

In the second example, since the last character of the input string matches the specified match-string (#), the NOA is changed to a VSC.

```
Add digman id=pretrans; rule=2; match-string=#; replace-string=&; match-noa=any;
replace-noa=vsc;
```

```
Enter input string *55#
Match string #
Replace string &
MATCHED
```

```
Output string = *55#
```

Example 3:

In the third example there is no match, so the NOA is not changed and the output-string is the same as the input-string.

```
Add digman id=pretrans; rule=3; match-string=*; replace-string=&; match-noa=any;
replace-noa=vsc;
```

```
Enter input string 5555
Match string *
Replace string &
Not MATCHED
```

```
Output string = 5555
```

Determining Nature of Address for China

The following table can be used to determine the NOA of incoming calls for China.

Table 1-3 *Nature of Address Determination for China*

Rule #	Match-String	Replace String	Match-NOA	Replace NOA	Remarks
1	*	&	Any	VSC	If first digit is a *, treat it as a VSC code.
2	#	&	Any	VSC	If first digit is a #, treat it as a VSC code.

Digit Manipulation Profile

The Digit Manipulation Profile (digman-profile) table is used to create unique IDs for digit manipulation. This identification (ID) must be created before provisioning the Digit Manipulation table.

Table Name: DIGMAN_PROFILE

Table Containment Area: EMS, CA

Command Types

add, audit, change, delete, help, show, sync



Caution

Sync is a restricted command and is intended for repairing data only. Improper use may corrupt database and disrupt call processing. Use with caution.

Examples

```
show digman-profile id=ndc10;
add digman-profile id=ndc10; description=Subscriber ANI manipulation digman id;
change digman-profile id=ndc10; description=Subscriber ANI manipulation digman id for
ndc10;
delete digman-profile id=ndc10;
```

Usage Guidelines

Primary Key Token(s): ID

Usage Guidelines and Check Rules:

Add Rules: digman-profile id cannot exist.

Change Rules: digman-profile id must exist.

Delete Rules: digman-profile id must exist.

Syntax Description

AUTO_REFRESH	Description: Specifies whether to display cached data on the screen. Valid only for the show command. CHAR(1): Y/N (Default = Y). Y—Queries the database for the most current data. N—Queries the database for the most current data only if the cached data is unavailable. Valid for Command: show Default Value: Y Possible Value: Y, N Parser: BooleanParser
DESCRIPTION	Description: Service provider-defined description. VARCHAR(64): 1-64 ASCII characters. Valid for Command: add, change, delete, show Possible Value: [1_64] Parser: TextParser
DISPLAY	Description: Specifies what token information to display on the screen. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all tokens are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser

ID	Description: Primary key. The NOA Route Profile id. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, delete, show, audit, sync Mandatory: add, change, delete Possible Value: [1_16] Parser: TextParser
LIMIT	Description: Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1-100000000 (Default = 100000000). Valid for Command: show Default Value: 100000000 Possible Value: [1_100000000] Parser: DecimalParser
MASTER	Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser
ORDER	Description: Specifies whether to display data on the screen in a sorted order. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all rows are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
PLATFORM_STATE	Description: State of an active or standby system shared memory database; use to audit an active or standby system shared memory database. Valid for the audit database and audit table name commands. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—System is active (currently running). STANDBY—System is in standby mode. EMS—Audits the active EMS to the standby EMS. Valid for Command: sync, audit Default Value: ACTIVE Possible Value: ACTIVE, STANDBY Parser: TextParser

START_ROW	Description: Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1-100000000 (Default = 1). Valid for Command: show Default Value: 1 Possible Value: [1_100000000] Parser: DecimalParser
TARGET	Description: Specifies the network element to receive the request. VARCHAR(5): 1-5 ASCII characters. Permitted values are: CA—Network identifier of a Call Agent. FSPTC (POTS/Tandem/Centrex Feature Server)—Network identifier of a specific Feature Server. FSAIN (AIN Feature Server)—Network identifier of AIN Feature Servers. Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

Digit Manipulation

The DIGMAN table is used to perform digit and NOA manipulation.

Table Name: DIGMAN

Table Containment Area: EMS, CA

Command Types

add, audit, change, delete, help, show, sync



Caution

Sync is a restricted command and is intended for repairing data only. Improper use may corrupt database and disrupt call processing. Use with caution.

Examples

```
show digman id=ndc10;
add digman id=ndc10; rule=1; match-string=010; replace-string=none;
change digman id=ndc10; rule=1; match-noa=any; replace-noa=subscriber;
delete digman id=ndc10; rule=1;
```

Usage Guidelines

Primary Key Token(s): ID, RULE

Foreign Key Token(s): id

Add Rules:

- digman profile id must exist.
- if match-string is not equal to NULL; then replace-string is not equal to NULL.
- if match-noa is not equal to NULL; then replace-noa is not equal to NULL.

Change Rules:

- id must exist.
- if match-string is not equal to NULL; then replace-string is not equal to NULL.
- if match-noa is not equal to NULL; then replace-noa is not equal to NULL.

Syntax Description

AUTO_REFRESH	Description: Specifies whether to display cached data on the screen. Valid only for the show command. CHAR(1): Y/N (Default = Y). Y—Queries the database for the most current data. N—Queries the database for the most current data only if the cached data is unavailable. Valid for Command: show Default Value: Y Possible Value: Y, N Parser: BooleanParser
DESCRIPTION	Description: Service provider-defined description. VARCHAR(64): 1-64 ASCII characters. Valid for Command: add, change, delete, show Possible Value: [1_64] Parser: TextParser
DISPLAY	Description: Specifies what token information to display on the screen. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all tokens are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser

ID	Description: Primary key. The NOA Route Profile id. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, delete, show, audit, sync Mandatory: add, change, delete Possible Value: [1_16] Parser: TextParser
LIMIT	Description: Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1-100000000 (Default = 100000000). Valid for Command: show Default Value: 100000000 Possible Value: [1_100000000] Parser: DecimalParser
MASTER	Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

MATCH_NOA

Description: Used to match against an input NOA.
 VARCHAR(40): 1-40 ASCII characters. Permitted values are:
 950—950 Call
 ABBR—Abbreviated number
 ANY—Any NOA
 CUT-THRU—No number present, cut-thru call
 INTL—International number
 INTL-OPR—International Number, Operator Requested (Valid for Called Party Number only)
 INTL—Unique International Number
 NATIONAL—Unique National Number
 NAT-OPR—National Number, Operator Requested (Valid for Called Party Number only)
 NETWORK—Network
 NON-UNIQUE-INTL—Non-unique international number (valid for Calling Party number).
 NON-UNIQUE-NATIONAL—Non-unique national number (valid for Calling Party number).
 NON-UNIQUE-SUBSCRIBER—Non-unique subscriber number (valid for Calling Party number).
 NS0—Network specific (111 1000)
 NS0—Network specific (111 1000)
 NS1—Network specific (111 1001)
 NS1—Network specific (111 1001)
 NS2—Network specific (111 1010)
 NS2—Network specific (111 1010)
 NS3—Network specific (111 1011)
 NS3—Network specific (111 1011)
 NS4—Network specific (111 1100)
 NS4—Network specific (111 1100)
 NS5—Network specific (111 1101)
 NS5—Network specific (111 1101)
 NS6—Network specific (111 1110)
 NS6—Network specific (111 1110)
 OPERATOR—No Number, Operator Call (Valid for Called Party Number only)
 PORTED-NUMBER-WITHOUT-RN—The Ported Number maybe prefixed with the network id, or may not be prefixed with anything (DN or NTKW-ID+DN), but does not include the Switch ID.
 PORTED-NUMBER-WITH-RN—The Ported Number is prefixed with the network id and switch id (RN+DN).
 PRIVATE—Private Numbering Plan
 RESERVED—Reserved NOA
 SPARE0/SPARE2—Spare. Not Used.
 SUB-OPR—Subscriber Number, Operator Requested (Valid for Called Party Number only)
 SUBSCRIBER—Unique Subscriber Number
 TEST-LINE—Test Line
 UNKNOWN—Nature of Address is Unknown.
 VSC—Vertical Service Code
 Valid for Command: add, audit, change, show
 Possible Value: 950, ABBR, ANY, CUT_THRU, INTL, INTL_OPR, NATIONAL, NS0, NS1, NS2, NS3, NS4, NS5, NS6, OPERATOR, PRIVATE, RESERVED, SPARE0, SPARE2, SUBSCRIBER, TEST_LINE, UNKNOWN, VSC, NAT_OPR, NON_UNIQUE_INTL, NON_UNIQUE_NATIONAL, NON_UNIQUE_SUBSCRIBER, SUB_OPR, PORTED_NUMBER_WITH_RN, PORTED_NUMBER_WITHOUT_RN
 Parser: TextParser

MATCH_STRING	Description: Used to match against the input-string. VARCHAR(40): 1-40 ASCII characters. The characters can be one of the following: Digits (0-9, *, #)—Digits found on a keypad. Dot (.)—Used to indicate the string position at which to perform the match operation. If a dot is specified as the 1st character of the match-string, the digits specified by each dot are skipped until a question mark or a digit is encountered. Can also be used to check the length of the input string. Question mark (?)—Used to specify a wild card character based on its position in the match-string. Each question mark (?) represents 1 digit character. Multiple question marks must be used with another question mark. Percent (%)—Used to specify the Match and Replace function. That is, if a match occurs, replace the matched string with the replace-string. Also used as a wild card character. Caret (^)—Used to specify beginning of a string when specific leading digits are to be deleted or replaced. Also used when prefixing digits to the input string. Dollar sign (\$)—Used to search from the end of a string backwards instead of from the beginning. Also used when digits are to be appended to the end of the string; deleted or replaced from the end of the string. NONE—the actual word. Valid for Command: add, audit, change, show Possible Value: [1_40] Parser: MatchStringParser
ORDER	Description: Specifies whether to display data on the screen in a sorted order. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all rows are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser

PLATFORM_STATE	Description: State of an active or standby system shared memory database; use to audit an active or standby system shared memory database. Valid for the audit database and audit table name commands. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—System is active (currently running). STANDBY—System is in standby mode. EMS—Audits the active EMS to the standby EMS. Valid for Command: sync, audit Default Value: ACTIVE Possible Value: ACTIVE, STANDBY Parser: TextParser
----------------	---

REPLACE_NOA

Description: If a match on NOA is found, the input NOA is replaced with the NOA specified in this token.

VARCHAR(32): 1-32 ASCII characters.

Permitted values are:

950—950 Call

ABBR—Abbreviated number

CUT-THRU—No number present, cut-thru call

INTL—International number

INTL-OPR—International Number, Operator Requested (Valid for Called Party Number only)

INTL—Unique International Number

NATIONAL—Unique National Number

NAT-OPR—National Number, Operator Requested (Valid for Called Party Number only)

NETWORK—Network

NON-UNIQUE-INTL—Non-unique international number (valid for Calling Party number).

NON-UNIQUE-NATIONAL—Non-unique national number (valid for Calling Party number).

NON-UNIQUE-SUBSCRIBER—Non-unique subscriber number (valid for Calling Party number).

NS0—Network specific (111 1000)

NS0—Network specific (111 1000)

NS1—Network specific (111 1001)

NS1—Network specific (111 1001)

NS2—Network specific (111 1010)

NS2—Network specific (111 1010)

NS3—Network specific (111 1011)

NS3—Network specific (111 1011)

NS4—Network specific (111 1100)

NS4—Network specific (111 1100)

NS5—Network specific (111 1101)

NS5—Network specific (111 1101)

NS6—Network specific (111 1110)

NS6—Network specific (111 1110)

OPERATOR—No Number, Operator Call (Valid for Called Party Number only)

PORTED-NUMBER-WITHOUT-RN—The Ported Number maybe prefixed with the network id, or may not be prefixed with anything (DN or NTWK-ID+DN), but does not include the Switch ID.

PORTED-NUMBER-WITH-RN—The Ported Number is prefixed with the network id and switch id (RN+DN).

PRIVATE—Private Numbering Plan

RESERVED—Reserved NOA

SPARE0/SPARE2—Spare. Not Used.

SUB-OPR—Subscriber Number, Operator Requested (Valid for Called Party Number only)

SUBSCRIBER—Unique Subscriber Number

TEST-LINE—Test Line

UNKNOWN—Nature of Address is Unknown.

VSC—Vertical Service Code

Valid for Command: add, audit, change, show

Possible Value: 950, ABBR, CUT_THRU, INTL, INTL_OPR, NATIONAL, NS0, NS1, NS2, NS3, NS4, NS5, NS6, OPERATOR, PRIVATE, RESERVED, SPARE0, SPARE2, SUBSCRIBER, TEST_LINE, UNKNOWN, VSC, NAT_OPR, NON_UNIQUE_INTL, NON_UNIQUE_NATIONAL, NON_UNIQUE_SUBSCRIBER, SUB_OPR, PORTED_NUMBER_WITH_RN, PORTED_NUMBER_WITHOUT_RN

Parser: TextParser

REPLACE_STRING	Description: If a match is found, the matched string is replaced with the replace-string. VARCHAR(40): 1-40 ASCII characters. The characters can be one of the following: Digits (A-F, 0-9, *, #) Ampersand (&) NONE (the actual word) Valid for Command: add, audit, change, show Possible Value: [1_40] Parser: ReplaceStringParser
RULE	Description: Valid for Command: add, audit, change, delete, show Mandatory: add, change, delete Possible Value: [1_20] Parser: DecimalParser
START_ROW	Description: Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1-100000000 (Default = 1). Valid for Command: show Default Value: 1 Possible Value: [1_100000000] Parser: DecimalParser
TARGET	Description: Specifies the network element to receive the request. VARCHAR(5): 1-5 ASCII characters. Permitted values are: CA—Network identifier of a Call Agent. FSPTC (POTS/Tandem/Centrex Feature Server)—Network identifier of a specific Feature Server. FSAIN (AIN Feature Server)—Network identifier of AIN Feature Servers. Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

Dial Plan Profile

The Dial Plan Profile (dial-plan-profile) table creates dial-plan-profile ids before they are assigned to subscribers or trunk groups. The dial-plan-profile id links digit-string entries in the Dial Plan table within a dial plan. Different dial-plan-profile ids are assigned to subscribers and trunk groups. A dial-plan-id must be created in this table before entries can be added to the Dial Plan table.

**Note**

It is critical to specify the correct NANP-DIAL-PLAN value. If the default Y value (North America) is used on an international switch (e.g., in Europe), then digman and dial-plan NOA matching and replacing will not work correctly.

Table Name: DIAL_PLAN_PROFILE

Table Containment Area: EMS, CA

Command Types

add, audit, change, delete, help, show, sync

**Caution**

Sync is a restricted command and is intended for repairing data only. Improper use may corrupt database and disrupt call processing. Use with caution.

Examples

```
show dial-plan-profile id=business;  
add dial-plan-profile id=business; description=dialing plan for new business users in  
dallas;  
change dial-plan-profile id=business; description=dialing plan for new business users in  
northdallas;  
delete dial-plan-profile id=business;
```

Usage Guidelines

Primary Key Token(s): ID

Foreign Key Token(s): intl-dial-plan-id, dnis-digman-id, ani-digman-id, nat-dial-plan-id, noa-route-profile-id

Change Rules: dial-plan-profile id must exist.

Delete Rules:

- ID does not exist in any dial-plan::id.
- ID does not exist in any sub-profile::dial-plan-id.
- ID does not exist in any pop::lnp-dp-id.
- ID does not exist in any trunk-grp::dial-plan-id.
- ID does not exist in any carrier::dial-plan-id.

Syntax Description

ANI_DIGMAN_ID	Description: Foreign key: Digman Profile table. ANI (calling party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
AUTO_REFRESH	Description: Specifies whether to display cached data on the screen. Valid only for the show command. CHAR(1): Y/N (Default = Y). Y—Queries the database for the most current data. N—Queries the database for the most current data only if the cached data is unavailable. Valid for Command: show Default Value: Y Possible Value: Y, N Parser: BooleanParser
DESCRIPTION	Description: Service provider-defined description. VARCHAR(64): 1-64 ASCII characters. Valid for Command: add, change, delete, show Possible Value: [1_64] Parser: TextParser
DISPLAY	Description: Specifies what token information to display on the screen. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all tokens are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
DNIS_DIGMAN_ID	Description: Foreign key: Digman Profile table. DNIS (called party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser

ID	Description: Primary key. The NOA Route Profile id. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, delete, show, audit, sync Mandatory: add, change, delete Possible Value: [1_16] Parser: TextParser
INTL_DIAL_PLAN_ID	Description: Foreign key: International Dial Plan Profile table. Specifies which international dial plan ID to use with the dial plan ID. If this field is null, the Call Agent uses the default intl-dial-plan-id values from Appendix A, “Call Agent and Feature Server Configurable Parameters” in the Call Agent Configuration table. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
LIMIT	Description: Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1-100000000 (Default = 100000000). Valid for Command: show Default Value: 100000000 Possible Value: [1_100000000] Parser: DecimalParser
MASTER	Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser
NANP_DIAL_PLAN	Description: Specifies whether the dial plan is in North American Number Plan (NANP) format. If it is an NANP dial plan, the EMS enforces NANP rules—the digit string must be in the format NXX-NXX-XXXX. CHAR(1): Y/N (Default = Y). Valid for Command: add, audit, change, show Default Value: Y Possible Value: Y, N Parser: BooleanParser

NAT_DIAL_PLAN_ID	Description: Foreign key: Dial Plan table. National dial plan ID to use to retranslate dialed digits. This token is used only if the dial plan ID is different from the dial plan profile ID. VARCHAR(16): 1-16 ASCII characters (Default = dial-plan-profile-id). Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
NOA_BASED_ROUTING	Description: Specifies whether Nature of Address based routing is required. CHAR(1): Y/N (Default = N) Valid for Command: add, audit, change, show, sync Default Value: N Possible Value: Y, N Parser: BooleanParser
NOA_ROUTE_PROFILE_ID	Description: Mandatory if noa-based-routing=Y. Foreign key: NOA Route Profile table. Specifies the NOA-specific route id to use for routing. When NOA-based-routing is specified, the NOA is used to index the NOA Route table. If a NOA-specified record is found, processing continues based on the Destination ID specified in the NOA Route table. If no record is found, then the Called Number is translated in the current Dial Plan. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show, sync Possible Value: [1_16] Parser: TextParser
ORDER	Description: Specifies whether to display data on the screen in a sorted order. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all rows are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
OVERDECADIC_DIGITS_SUPP	Description: Controls provisioning of overdecadic digits in a dial plan. This token can only be set to Y if the nanp-dial-plan token is set to N. CHAR(1): Y/N (Default = N). Valid for Command: add, audit, change, show Default Value: N Possible Value: Y, N Parser: BooleanParser

PLATFORM_STATE	Description: State of an active or standby system shared memory database; use to audit an active or standby system shared memory database. Valid for the audit database and audit table name commands. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—System is active (currently running). STANDBY—System is in standby mode. EMS—Audits the active EMS to the standby EMS. Valid for Command: sync, audit Default Value: ACTIVE Possible Value: ACTIVE, STANDBY Parser: TextParser
START_ROW	Description: Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1-100000000 (Default = 1). Valid for Command: show Default Value: 1 Possible Value: [1_100000000] Parser: DecimalParser
TARGET	Description: Specifies the network element to receive the request. VARCHAR(5): 1-5 ASCII characters. Permitted values are: CA—Network identifier of a Call Agent. FSPTC (POTS/Tandem/Centrex Feature Server)—Network identifier of a specific Feature Server. FSAIN (AIN Feature Server)—Network identifier of AIN Feature Servers. Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

International Dial Plan Profile

The International Dial Plan Profile (intl-dial-plan-profile) table is used to create unique IDs for international dial plans. This ID must be created before provisioning the International Dial Plan table.

Table Name: INTL_DIAL_PLAN_PROFILE

Table Containment Area: EMS, CA

Command Types

add, audit, change, delete, help, show, sync



Caution

Sync is a restricted command and is intended for repairing data only. Improper use may corrupt database and disrupt call processing. Use with caution.

Examples

```
show intl-dial-plan-profile id=pop1;
add intl-dial-plan-profile id=pop1; description=default International Dialing plan for
Call Agent;
change intl-dial-plan-profile id=pop1; description=International Dialing plan for POP1;
delete intl-dial-plan-profile id=pop1;
```

Usage Guidelines

Primary Key Token(s): ID

Delete Rules: Id does not exist in any: dial-plan::id; sub-profile::dial-plan-id; pop::lnp-dp-id; trunk-grp::dial-plan-id; or carrier::dial-plan-id.

Syntax Description

AUTO_REFRESH	Description: Specifies whether to display cached data on the screen. Valid only for the show command. CHAR(1): Y/N (Default = Y). Y—Queries the database for the most current data. N—Queries the database for the most current data only if the cached data is unavailable. Valid for Command: show Default Value: Y Possible Value: Y, N Parser: BooleanParser
DESCRIPTION	Description: Service provider-defined description. VARCHAR(64): 1-64 ASCII characters. Valid for Command: add, change, delete, show Possible Value: [1_64] Parser: TextParser

DISPLAY	Description: Specifies what token information to display on the screen. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all tokens are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
ID	Description: Primary key. The NOA Route Profile id. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, delete, show, audit, sync Mandatory: add, change, delete Possible Value: [1_16] Parser: TextParser
LIMIT	Description: Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1-100000000 (Default = 100000000). Valid for Command: show Default Value: 100000000 Possible Value: [1_100000000] Parser: DecimalParser
MASTER	Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser
ORDER	Description: Specifies whether to display data on the screen in a sorted order. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all rows are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser

PLATFORM_STATE	Description: State of an active or standby system shared memory database; use to audit an active or standby system shared memory database. Valid for the audit database and audit table name commands. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—System is active (currently running). STANDBY—System is in standby mode. EMS—Audits the active EMS to the standby EMS. Valid for Command: sync, audit Default Value: ACTIVE Possible Value: ACTIVE, STANDBY Parser: TextParser
START_ROW	Description: Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1-100000000 (Default = 1). Valid for Command: show Default Value: 1 Possible Value: [1_100000000] Parser: DecimalParser
TARGET	Description: Specifies the network element to receive the request. VARCHAR(5): 1-5 ASCII characters. Permitted values are: CA—Network identifier of a Call Agent. FSPTC (POTS/Tandem/Centrex Feature Server)—Network identifier of a specific Feature Server. FSAIN (AIN Feature Server)—Network identifier of AIN Feature Servers. Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

Translations Stage

The Dial-Plan table or International Dial-Plan table is used during the Translations stage to manipulate only the called party number. The previously existing capability of a simple delete and/or prefix digit manipulation function is supported.



Note

While the simple delete and/or prefix digit manipulation function is still supported, it is no longer necessary as the same function(s) can now be accomplished in the other two stages.

Dial Plan

Dial plans analyze, screen, and route calls based on dialed digits. The Dial Plan (dial-plan) table holds dial plan information for a specific type of call. It defines valid dialing patterns and determines call routing. All records that share a common dial-plan-profile id are considered a dial plan.

Table Name: DIAL_PLAN

Table Containment Area: EMS, CA

Command Types

add, audit, change, delete, help, show, sync



Caution

Sync is a restricted command and is intended for repairing data only. Improper use may corrupt database and disrupt call processing. Use with caution.

Examples

```
show dial-plan id=sub; digit-string=972-671;
add dial-plan id=sub; digit-string=972-671; noa=national; dest-id=richardson;
change dial-plan id=sub; digit-string=972-671; noa=national; dest-id=plano;
delete dial-plan id=sub; digit-string=972-671; noa=national; dest-id=plano;
```

Usage Guidelines

Primary Key Token(s): ID, DIGIT_STRING, NOA

Foreign Key Token(s): id, dest-id

Add Rules: dial-plan id cannot exist.

Change Rules: dial-plan id must exist.

Delete Rules: dial-plan id must exist; NOA defaults to unknown. If NOA is other than unknown, NOA is required.

Syntax Description	AUTO_REFRESH	Description: Specifies whether to display cached data on the screen. Valid only for the show command. CHAR(1): Y/N (Default = Y). Y—Queries the database for the most current data. N—Queries the database for the most current data only if the cached data is unavailable. Valid for Command: show Default Value: Y Possible Value: Y, N Parser: BooleanParser
	DEL_DIGITS	Description: Specifies the number of digits to delete from the received digit string. SMALLINT: 0-16 (Default = 0). Valid for Command: add, audit, change, show, sync Default Value: 0 Possible Value: [0_16] Parser: DecimalParser
	DEST_ID	Description: Foreign key: Destination table. Provides the routing information for the dialed number. ID from Destination table. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show, sync Mandatory: add Possible Value: [1_16] Parser: TextParser
	DIGIT_STRING	Description: Primary key. Dialed digits (what was dialed). VARCHAR(16): 1-16 numeric characters entered as NDC-ED-DN. Valid for Command: add, audit, change, delete, show, sync Mandatory: add, change, delete Possible Value: [1_14] Parser: TextParser
	DISPLAY	Description: Specifies what token information to display on the screen. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all tokens are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser

FORCED	Description: Specifies whether the system bypasses the parser rules and allows a user to enter a dial plan record as a free format record (ASCII). CHAR(1): Y/N (Default = N). Y—Allows a user to enter a dial plan record as a free format record (ASCII). N—Does not allow a user to enter a dial plan record as a free format record (ASCII). Valid for Command: add Possible Value: Y Parser: TextParser
ID	Description: Primary key. Foreign key: Dial Plan Profile table. Dial plan ID of a subscriber, trunk group, etc. Assigned by service provider. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, delete, show, sync Mandatory: add, change, delete Possible Value: [1_16] Parser: TextParser
LIMIT	Description: Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1-100000000 (Default = 100000000). Valid for Command: show Default Value: 100000000 Possible Value: [1_100000000] Parser: DecimalParser
MASTER	Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser
MAX_DIGITS	Description: Maximum number of digits allowed. SMALLINT: 1-64 (Default = 10). Valid for Command: add, audit, change, show, sync Mandatory: add Default Value: 10 Possible Value: [1_64] Parser: DecimalParser

MIN_DIGITS	Description: Minimum number of digits required for a call. SMALLINT: 1-64 (Default = 10). Valid for Command: add, audit, change, show, sync Mandatory: add Default Value: 10 Possible Value: [1_64] Parser: DecimalParser
NOA	Description: Primary key. Nature of address. Use the Variable Default table to change the default value if required. Use noa=unknown for ESRN numbers. VARCHAR(16): 1-16 ASCII characters. Permitted values are: NATIONAL (Default)—National Number. SUBSCRIBER—Subscriber Number. UNKNOWN—Nature of address is unknown. Valid for Command: add, audit, change, delete, show, sync Mandatory: add, change, delete Default Value: NATIONAL Possible Value: NATIONAL, SUBSCRIBER, UNKNOWN Parser: TextParser
ORDER	Description: Specifies whether to display data on the screen in a sorted order. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all rows are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
PFX_DIGITS	Description: Specifies the digits to prefix. VARCHAR(16): 1-16 numeric characters. Valid for Command: add, audit, change, show, sync Possible Value: [1_16] Parser: DigitParser

PLATFORM_STATE	Description: State of an active or standby system shared memory database; use to audit an active or standby system shared memory database. Valid for the audit database and audit table name commands. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—System is active (currently running). STANDBY—System is in standby mode. EMS—Audits the active EMS to the standby EMS. Valid for Command: sync, audit Default Value: ACTIVE Possible Value: ACTIVE, STANDBY Parser: TextParser
SPLIT_NPA	Description: Automatically provisioned when a record is added to the split-NPA table. Applies only to NANP. VARCHAR(7): 1-7 ASCII characters. Permitted values are: OLD-NPA—Dialed number is associated with the old NPA. NEW-NPA—Dialed number is associated with the new NPA. NONE (Default)—Not associated with split NPA. Valid for Command: add, audit, change, show, sync Mandatory: add Default Value: NONE Possible Value: NEW_NPA, NONE, OLD_NPA Parser: TextParser
START_ROW	Description: Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1-100000000 (Default = 1). Valid for Command: show Default Value: 1 Possible Value: [1_100000000] Parser: DecimalParser
TARGET	Description: Specifies the network element to receive the request. VARCHAR(5): 1-5 ASCII characters. Permitted values are: CA—Network identifier of a Call Agent. FSPTC (POTS/Tandem/Centrex Feature Server)—Network identifier of a specific Feature Server. FSAIN (AIN Feature Server)—Network identifier of AIN Feature Servers. Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

International Dial Plan

The International Dial Plan (intl-dial-plan) table holds international dial plan information for calls to regions outside the NANP. It contains the country code, minimum and maximum digits, the country name, and the route-grp-id.

Table Name: INTL_DIAL_PLAN

Table Containment Area: EMS, CA

Command Types

add, audit, change, delete, help, show, sync



Caution

Sync is a restricted command and is intended for repairing data only. Improper use may corrupt database and disrupt call processing. Use with caution.

Examples

```
show intl-dial-plan id=intldp1; cc=122;
add intl-dial-plan id=intldp1; cc=122; min-digits=7; max-digits=10;
change intl-dial-planid=intldp1; cc=122; description=France;
delete intl-dial-plan id=intldp1;cc=122;
```

Usage Guidelines

Primary Key Token(s): ID, CC

Foreign Key Token(s): id, dest-id

Add Rules: intl-dial-plan-profile id must exist.

Change Rules: id must exist.

Syntax Description

AUTO_REFRESH	Description: Specifies whether to display cached data on the screen. Valid only for the show command. CHAR(1): Y/N (Default = Y). Y—Queries the database for the most current data. N—Queries the database for the most current data only if the cached data is unavailable. Valid for Command: show Default Value: Y Possible Value: Y, N Parser: BooleanParser
CC	Description: Primary key. Country code digits. Country code as defined in ITU-T Recommendation E.164. Service provider must determine and enter accordingly. This information is often found in the front of some telephone directories. See Recommendation E.164. VARCHAR(5): 1-5 numeric characters. Valid for Command: add, change, delete, show Mandatory: add, change, delete Possible Value: [1_7] Parser: GenericDNParser
DESCRIPTION	Description: Service provider-defined description. VARCHAR(64): 1-64 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_64] Parser: TextParser
DEST_ID	Description: Foreign key: Destination table. Used only if the service provider is also a carrier and wants to route the international call to the appropriate gateway. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_16] Parser: TextParser
DISPLAY	Description: Specifies what token information to display on the screen. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all tokens are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser

ID	Description: Primary key. Foreign key: International Dial Plan Profile table. International dial plan profile ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, delete, show, sync Mandatory: add, change, delete Possible Value: [1_16] Parser: TextParser
LIMIT	Description: Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1-100000000 (Default = 100000000). Valid for Command: show Default Value: 100000000 Possible Value: [1_100000000] Parser: DecimalParser
MASTER	Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser
MAX_DIGITS	Description: Maximum number of digits allowed. Maximum number of digits for any phone number in the country being added. SMALLINT: 3-64 (Default = 16). Valid for Command: add, change, audit, sync, show Default Value: 16 Possible Value: [3_64] Parser: DecimalParser
MIN_DIGITS	Description: Minimum number of digits required for a call to this country. Minimum number of digits for any phone number in the country being added. SMALLINT: 3-64 (Default = 6). Valid for Command: add, change, audit, sync, show Default Value: 6 Possible Value: [3_64] Parser: DecimalParser

ORDER	Description: Specifies whether to display data on the screen in a sorted order. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all rows are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
PADDED_CC	Valid for Command: add, change, delete, show, audit, sync Possible Value: [1_3] Parser: TextParser
PLATFORM_STATE	Description: State of an active or standby system shared memory database; use to audit an active or standby system shared memory database. Valid for the audit database and audit table name commands. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—System is active (currently running). STANDBY—System is in standby mode. EMS—Audits the active EMS to the standby EMS. Valid for Command: sync, audit Default Value: ACTIVE Possible Value: ACTIVE, STANDBY Parser: TextParser
START_ROW	Description: Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1-100000000 (Default = 1). Valid for Command: show Default Value: 1 Possible Value: [1_100000000] Parser: DecimalParser
TARGET	Description: Specifies the network element to receive the request. VARCHAR(5): 1-5 ASCII characters. Permitted values are: CA—Network identifier of a Call Agent. FSPTC (POTS/Tandem/Centrex Feature Server)—Network identifier of a specific Feature Server. FSAIN (AIN Feature Server)—Network identifier of AIN Feature Servers. Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

Variable Digit Dialing

Variable digit dialing is used in the Europe where the length of the dialed number can vary from seven digits to ten digits, mainly in Germany. For a given NDC or EC the DN can vary from the minimum to the maximum specified in the Exchange Code table.

Example:

ndc=349, ec=234; min-digits=7; max-digits=10; (from the Exchange Code table)

DN=3492340 could be a DN

DN=3492341234 could also be a DN belonging to ndc=349, ec=234

DN=349234222 could also be a 9 digit DN

Variable Digit Dialing Provisioning

To provision variable digit dialing according to the example given in the [Variable Digit Dialing](#) section, take the following steps:

-
- | | |
|---------------|---|
| Step 1 | add exchange-code ndc=349, ec=234; min-digits=7; max-digits=10; |
| Step 2 | add office-code ndc=349; ec=234; dn-group=0; (For the DN=3492340) |
| Step 3 | add office-code ndc=349; ec=234; dn-group=1xxx; dn-length= 10; (For the 10 digit DNs) |
| Step 4 | add office-code ndc=349; ec=234; dn-group=2xx; (For the 9 digit DNs in the dn group) |
| Step 5 | add office-code ndc=349; ec=234; dn-group=12x; (For the 9 digit DNs) |
-

Routing Stage

The digit manipulations for an outgoing call can be performed using one of the following methods:

- Destination Table
- Route Table
- Trunk Group Table for subscriber termination

The ANI/DNIS digit manipulation specified in the Destination table is applied during the outgoing call setup. The out-pulsing number can also be normalized using the destination table. In addition, if special digit manipulation is required based on the route selected, it can be specified for each Trunk Group within a route.

If the called number terminates within the Cisco BTS 10200 Softswitch, and the subscriber number points to a Trunk Group, then digit manipulation rules for ANI, DNIS, or both can be specified in the Trunk Group table.

If the call is an interLATA call or requires Carrier routing (ROUTE-TYPE=CARRIER), the ANI/DNIS digit manipulation IDs specified in the destination table are ignored and carrier based routing is performed.

**Note**

Although both **pfx_digits** and **del_digits** still work in the Cisco BTS 10200 Softswitch dial plan table, if the subscriber dials a 7-digit number, but local number portability (LNP) queries require a 10-digit DN, then the digman tables should be set up to add an NPA, making the called number a 10-digit DN before performing an LNP query.

Destination

The Destination (destination) table defines the call type and the routing information for the dialed digits. Multiple digit strings in the Dial Plan table can use the same destination ID.

Table Name: DESTINATION

Table Containment Area: EMS, CA

Command Types

add, audit, change, delete, help, show, sync

**Caution**

Sync is a restricted command and is intended for repairing data only. Improper use may corrupt database and disrupt call processing. Use with caution.

Examples

```
show destination dest-id=dallasaustin;
add destination dest-id=dallasaustin; call-type=toll; route-type=route;
route-guide-id=rg10;
change destination dest-id=dallasaustin; route-guide-id=rg11;
delete destination dest-id=dallasaustin;
```

Usage Guidelines

Primary Key Token(s): DEST_ID

Foreign Key Token(s): dnis-digman-id, ani-digman-id, route-guide-id, route-id, dial-plan-id, carrier-id, script-id, call-type, call-subtype

Add Rules: If call-type=nas, then route-type=none.

Delete Rules: ID does not exist in any dial-plan::dest-id.

Delete Rules: ID does not exist in any intl-dial-plan::dest-id.

Upgrade Impact:

- Pre-check on 4.5 before upgrade, if ANNC_ID is not valid, add ANNOUNCEMENT for that ANNC_ID before upgrade.
- CHARGE_TYPE and CHARGE_BAND_UNIT are added in 4.5.x. CHARGE_BAND_UNIT has no default in 4.5.x, set the value to '00' if this field is NULL in 4.5.x.

Syntax Description

ACQ_LNP_QUERY	Description: Specifies whether an LNP Query is required. Applies only if the all-call-query token is set to Y and lnp-db-type=RN in the LNP Profile table. VARCHAR(32): 1-32 ASCII characters. Permitted values are: NA (Default)—Not applicable. ACQ-BASED-ON-CALL-TYPE—Applies only if lnp-db-type in the LNP Profile table is ACQ. Perform an LNP Query based on definition in the Call Type Profile table. If the call type is not found in the Call Type Profile table, then an LNP Query is not performed. PERFORM-LNP-QUERY—Used when a call type-specific query is not required but LNP criteria is defined based on the destination ID. An LNP query is performed if the all-call-query flag in the LNP Profile table is set to Y. NO-LNP-QUERY—Do not perform an LNP query on this destination. Valid for Command: add, change, audit, sync, show Default Value: NA Possible Value: NA, ACQ_BASED_ON_CALL_TYPE, PERFORM_LNP_QUERY, NO_LNP_QUERY Parser: TextNoCaseParser
ANI_DIGMAN_ID	Description: Foreign key: Digman Profile table. ANI (calling party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
ANNC_ID	Description: Mandatory only if route-type=annc or pre-completion-annc=y. Foreign key: Announcement table. Announcement ID. SMALLINT: 1-1000. Valid for Command: add, change, audit, sync, show Possible Value: [1_1000] Parser: DecimalParser
AUTO_REFRESH	Description: Specifies whether to display cached data on the screen. Valid only for the show command. CHAR(1): Y/N (Default = Y). Y—Queries the database for the most current data. N—Queries the database for the most current data only if the cached data is unavailable. Valid for Command: show Default Value: Y Possible Value: Y, N Parser: BooleanParser

CALL_SUBTYPE	Description: Foreign key: Call Type table. Specifies the subcategory of a call type for dialed digits: call-type plus call-subtype. Only one call-type/call-subtype pair is permitted per destination. VARCHAR(16): 1-16 ASCII characters. Permitted values are: NONE (Default)—No associated subtype, not applicable. If call-type=test-call the following values are permitted: Valid for Command: add, change, audit, sync, show Mandatory: add Default Value: NONE Possible Value: [1_16] Parser: TextNotNullCaseParser
CALL_TYPE	Description: Foreign key: Call Subtype table. Type of dialed call. VARCHAR(16): 1-16 ASCII characters (Default = VACANT). Valid for Command: add, change, audit, sync, show Default Value: VACANT Possible Value: TEST_CALL, INTL, LOCAL, TOLL, INTERLATA, TANDEM, EMG, NON_EMG, DA, DA_TOLL, REPAIR, RELAY, BUSINESS, TOLL_FREE, 900, 500, 700, 976, VACANT, NATIONAL, TW, INFO, PREMIUM, PCS, NAS, POLICE, FIRE, AMBULANCE, TIME, WEATHER, TRAFFIC, LB_TEST, OPERATOR, CUT_THRU, INTL_OPR, NAT_OPR, AIRLINES, RAILWAYS, SVC_CODE, INTL_WZ1, LRN, UAN Parser: TextNoCaseParser
CARRIER_ID	Description: Mandatory only if route-type=carrier. Foreign key: Carrier table. The call is routed to the specified carrier. Used for 900, 500 type calls. Also used to route 800 calls to Access Tandem Server if the Call Agent does not support 800 Service Control Point (SCP) queries. CHAR(4): 4 numeric characters: 0000-9999. Valid for Command: add, change, audit, sync, show Possible Value: [4_4] Parser: DigitParser
CHARGE_BAND_UNIT	Valid for Command: add, audit, sync, change, show Mandatory: add Default Value: 00 Possible Value: [2_2] Parser: HexParser
CHARGE_TYPE	Valid for Command: add, change, audit, sync, show Mandatory: add Default Value: NONE Possible Value: NONE, CHARGE_BAND, CHARGE_UNIT Parser: TextNoCaseParser

CLDPTY_CTRL_ REL_ALWD	Description: Called party release control allowed indication. Indicates to the Cisco BTS 10200 Softswitch that this call requires called party control. CHAR(1): Y/N (Default = N). Valid for Command: add, change, audit, sync, show Default Value: N Possible Value: Y, N Parser: BooleanParser
DESCRIPTION	Description: Service provider-defined description. VARCHAR(64): 1-64 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_64] Parser: TextParser
DEST_ID	Description: Primary key. Destination identification. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, show, delete, audit, sync Mandatory: add, change, delete Possible Value: [1_16] Parser: TextParser
DIAL_PLAN_ID	Description: Mandatory if route-type=dp. Foreign key: Dial Plan table. Valid dial plan ID from the Dial Plan table. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_16] Parser: TextParser
DISPLAY	Description: Specifies what token information to display on the screen. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all tokens are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
DNIS_DIGMAN_ID	Description: Foreign key: Digman Profile table. DNIS (called party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser

GAP_ROUTING	Description: If set, and a generic address parameter is present, check if the called number in the GAP parameter is a Call Agent PBX subscriber, based on the Office Code table. CHAR(1): Y/N (Default = N). Y—Check called number in the GAP. N—Do not check called number in the GAP. Valid for Command: add, change, audit, sync, show Default Value: N Possible Value: Y, N Parser: BooleanParser
INTRA_STATE	Description: Specifies if dialed digits are for an intrastate (toll) destination. CHAR(1): Y/N (Default = Y). Y—Intrastate N—Interstate Valid for Command: add, change, audit, sync, show Default Value: Y Possible Value: Y, N Parser: BooleanParser
LIMIT	Description: Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1-100000000 (Default = 100000000). Valid for Command: show Default Value: 100000000 Possible Value: [1_100000000] Parser: DecimalParser
MASTER	Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser
ORDER	Description: Specifies whether to display data on the screen in a sorted order. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all rows are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser

PLATFORM_STATE	Description: State of an active or standby system shared memory database; use to audit an active or standby system shared memory database. Valid for the audit database and audit table name commands. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—System is active (currently running). STANDBY—System is in standby mode. EMS—Audits the active EMS to the standby EMS. Valid for Command: sync, audit Default Value: ACTIVE Possible Value: ACTIVE, STANDBY Parser: TextParser
ROUTE_GUIDE_ID	Description: Mandatory only if route-type=route. Foreign key: Route Guide table. Valid route guide ID from the Route Guide table. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_16] Parser: TextParser
ROUTE_ID	Description: Mandatory only if route-type=route. Foreign key: Route table. Valid Route ID from the Route table. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_16] Parser: TextParser
ROUTE_TYPE	Description: Routing type. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ANNC—Use annc-id to terminate call. CARRIER—For SAC calls. The call is routed based on the routing specified in the Carrier table. DP—Use dial-plan-id to retranslate based on the new dial plan ID. NONE—No route required. Use for NAS application. RID—Use route-id for routing. ROUTE—Use route-guide-id for routing. SCRIPT—(Not supported) Use a scripting package to terminate a call. SUB—Subscriber termination. Use office code index and last four digits of the DN to find the subscriber. Valid for Command: add, change, audit, sync, show Mandatory: add Possible Value: SUB, CARRIER, ROUTE, ANNC, RID, DP, NONE, SCRIPT Parser: TextNoCaseParser

SCRIPT_ID	Description: Foreign key: Script table. Specifies a script identifier. A script id is required if route-type=script. The specified script is executed on the end point to perform IVR functions. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_16] Parser: TextParser
START_ROW	Description: Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1-100000000 (Default = 1). Valid for Command: show Default Value: 1 Possible Value: [1_100000000] Parser: DecimalParser
TARGET	Description: Specifies the network element to receive the request. VARCHAR(5): 1-5 ASCII characters. Permitted values are: CA—Network identifier of a Call Agent. FSPTC (POTS/Tandem/Centrex Feature Server)—Network identifier of a specific Feature Server. FSAIN (AIN Feature Server)—Network identifier of AIN Feature Servers. Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser
ZERO_PLUS	Description: Specifies if 0+ calls are allowed. CHAR(1): Y/N (Default = N). Y—0+ calls are allowed to this destination. N—0+ calls are not allowed to this destination. Valid for Command: add, change, audit, sync, show Default Value: N Possible Value: Y, N Parser: BooleanParser

Route

The Route (route) table contains a list of up to ten trunk groups to route a call. If all the trunk groups are busy or not available, call processing uses the alt-route-id (if specified) to route the call. The Element Management System (EMS) provisions the Call Agent ID field based on the Trunk Group table.



Note

This table allows the service provider to provision a list of up to 10 trunk groups (TG1 to TG10), and a parameter for selecting the priority of the TGs for routing (TG-SELECTION). The system attempts to route the call on the highest priority trunk group (TG). If the call cannot be completed on the highest priority TG, the system attempts to use the next (lower priority) TG, a process known as route advance. The system attempts route advance to lower priority TGs up to five times. (Any TG in the list that is administratively out of service is not counted as an attempt.) If all five attempts fail, the call is released, and the system provides a release announcement.

Table Name: ROUTE

Table Containment Area: EMS, CA

Command Types

add, audit, change, delete, help, show, sync



Caution

Sync is a restricted command and is intended for repairing data only. Improper use may corrupt database and disrupt call processing. Use with caution.

Examples

```
show route id=dallas1;
add route id=dallas1; tgn1-id=dallas-tg; pfx-digits1=972; del-digits1=0;
change route id=dallas1; del-digits1=3;
delete route id=dallas1;
```

Usage Guidelines

Primary Key Token(s): ID

Foreign Key Token(s): alt-route-id, call-agent-id1, tgn1-id, dnis-digman-id1, ani-digman-id1, call-agent-id2, tgn2-id, dnis-digman-id2, ani-digman-id2, call-agent-id3, tgn3-id, dnis-digman-id3, ani-digman-id3, call-agent-id4, tgn4-id, dnis-digman-id4, ani-digman-id4, call-agent-id5, tgn5-id, dnis-digman-id5, ani-digman-id5, call-agent-id6, tgn6-id, dnis-digman-id6, ani-digman-id6, call-agent-id7, tgn7-id, dnis-digman-id7, ani-digman-id7, call-agent-id8, tgn8-id, dnis-digman-id8, ani-digman-id8, call-agent-id9, tgn9-id, dnis-digman-id9, ani-digman-id9, call-agent-id10, tgn10-id, dnis-digman-id10, ani-digman-id10

Delete Rules: id does not exist in any <route-guide, policy-odr, policy-region, policy-percent, policy-tod, policy-prefix, policy-oli, or policy-pop>::policy-id where policy-type = route.

Upgrade Impact:

- Set TYPE to ROUTE.
- For each entry in ROUTE, add an entry into POLICY_PROFILE table.
- If NEXT_ACTION = ENUM_REROUTE, set the value to NONE.
- If NEXT_ACTION IS ALT_ROUTE, then set ANNC_ID AND OVERFLOW_DN to NULL
- If NEXT_ACTION IS ANNC, then set ALT_ROUTE_ID AND OVERFLOW_DN to NULL
- If NEXT_ACTION IS OVERFLOW_DN, then set ANNC_ID AND ALT_ROUTE_ID to NULL

Syntax Description

ALT_ROUTE_ID	Description: Foreign key: Route table. An alternate route to be used if all the trunk groups in this route are busy. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
ANI_DIGMAN_ID1	Description: Foreign key: Digman Profile table. ANI (calling party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
ANI_DIGMAN_ID10	Description: Foreign key: Digman Profile table. ANI (calling party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
ANI_DIGMAN_ID2	Description: Foreign key: Digman Profile table. ANI (calling party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
ANI_DIGMAN_ID3	Description: Foreign key: Digman Profile table. ANI (calling party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser

ANI_DIGMAN_ID4	Description: Foreign key: Digman Profile table. ANI (calling party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
ANI_DIGMAN_ID5	Description: Foreign key: Digman Profile table. ANI (calling party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
ANI_DIGMAN_ID6	Description: Foreign key: Digman Profile table. ANI (calling party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
ANI_DIGMAN_ID7	Description: Foreign key: Digman Profile table. ANI (calling party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
ANI_DIGMAN_ID8	Description: Foreign key: Digman Profile table. ANI (calling party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
ANI_DIGMAN_ID9	Description: Foreign key: Digman Profile table. ANI (calling party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser

ANNC_ID	Description: Mandatory if next-action=annc. Foreign key: Announcement table. Announcement id. INTEGER: 1-1000 numeric digits. Valid for Command: add, audit, change, show, sync Possible Value: [1_1000] Parser: DecimalParser
AUTO_REFRESH	Description: Specifies whether to display cached data on the screen. Valid only for the show command. CHAR(1): Y/N (Default = Y). Y—Queries the database for the most current data. N—Queries the database for the most current data only if the cached data is unavailable. Valid for Command: show Default Value: Y Possible Value: Y, N Parser: BooleanParser
CALL_AGENT_ID1	Description: Foreign key: Call Agent table. Valid home Call Agent ID for the dialed NPA or NPA-NXX. VARCHAR(8): 1-8 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_8] Parser: TextParser
CALL_AGENT_ID10	Description: Foreign key: Call Agent table. Valid home Call Agent ID for the dialed NPA or NPA-NXX. VARCHAR(8): 1-8 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_8] Parser: TextParser
CALL_AGENT_ID2	Description: Foreign key: Call Agent table. Valid home Call Agent ID for the dialed NPA or NPA-NXX. VARCHAR(8): 1-8 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_8] Parser: TextParser
CALL_AGENT_ID3	Description: Foreign key: Call Agent table. Valid home Call Agent ID for the dialed NPA or NPA-NXX. VARCHAR(8): 1-8 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_8] Parser: TextParser

CALL_AGENT_ID4	Description: Foreign key: Call Agent table. Valid home Call Agent ID for the dialed NPA or NPA-NXX. VARCHAR(8): 1-8 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_8] Parser: TextParser
CALL_AGENT_ID5	Description: Foreign key: Call Agent table. Valid home Call Agent ID for the dialed NPA or NPA-NXX. VARCHAR(8): 1-8 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_8] Parser: TextParser
CALL_AGENT_ID6	Description: Foreign key: Call Agent table. Valid home Call Agent ID for the dialed NPA or NPA-NXX. VARCHAR(8): 1-8 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_8] Parser: TextParser
CALL_AGENT_ID7	Description: Foreign key: Call Agent table. Valid home Call Agent ID for the dialed NPA or NPA-NXX. VARCHAR(8): 1-8 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_8] Parser: TextParser
CALL_AGENT_ID8	Description: Foreign key: Call Agent table. Valid home Call Agent ID for the dialed NPA or NPA-NXX. VARCHAR(8): 1-8 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_8] Parser: TextParser
CALL_AGENT_ID9	Description: Foreign key: Call Agent table. Valid home Call Agent ID for the dialed NPA or NPA-NXX. VARCHAR(8): 1-8 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_8] Parser: TextParser

DEL_DIGITS1	Description: Number of digits to delete. SMALLINT: 0-16 (Default = 0). Valid for Command: add, audit, change, show Default Value: 0 Possible Value: [0_10] Parser: DecimalParser
DEL_DIGITS10	Description: Number of digits to delete. SMALLINT: 0-16 (Default = 0). Valid for Command: add, audit, change, show Default Value: 0 Possible Value: [0_10] Parser: DecimalParser
DEL_DIGITS2	Description: Number of digits to delete. SMALLINT: 0-16 (Default = 0). Valid for Command: add, audit, change, show Default Value: 0 Possible Value: [0_10] Parser: DecimalParser
DEL_DIGITS3	Description: Number of digits to delete. SMALLINT: 0-16 (Default = 0). Valid for Command: add, audit, change, show Default Value: 0 Possible Value: [0_10] Parser: DecimalParser
DEL_DIGITS4	Description: Number of digits to delete. SMALLINT: 0-16 (Default = 0). Valid for Command: add, audit, change, show Default Value: 0 Possible Value: [0_10] Parser: DecimalParser
DEL_DIGITS5	Description: Number of digits to delete. SMALLINT: 0-16 (Default = 0). Valid for Command: add, audit, change, show Default Value: 0 Possible Value: [0_10] Parser: DecimalParser

DEL_DIGITS6	Description: Number of digits to delete. SMALLINT: 0-16 (Default = 0). Valid for Command: add, audit, change, show Default Value: 0 Possible Value: [0_10] Parser: DecimalParser
DEL_DIGITS7	Description: Number of digits to delete. SMALLINT: 0-16 (Default = 0). Valid for Command: add, audit, change, show Default Value: 0 Possible Value: [0_10] Parser: DecimalParser
DEL_DIGITS8	Description: Number of digits to delete. SMALLINT: 0-16 (Default = 0). Valid for Command: add, audit, change, show Default Value: 0 Possible Value: [0_10] Parser: DecimalParser
DEL_DIGITS9	Description: Number of digits to delete. SMALLINT: 0-16 (Default = 0). Valid for Command: add, audit, change, show Default Value: 0 Possible Value: [0_10] Parser: DecimalParser
DISPLAY	Description: Specifies what token information to display on the screen. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all tokens are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
DNIS_DIGMAN_ID1	Description: Foreign key: Digman Profile table. DNIS (called party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser

DNIS_DIGMAN_ID10	Description: Foreign key: Digman Profile table. DNIS (called party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
DNIS_DIGMAN_ID2	Description: Foreign key: Digman Profile table. DNIS (called party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
DNIS_DIGMAN_ID3	Description: Foreign key: Digman Profile table. DNIS (called party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
DNIS_DIGMAN_ID4	Description: Foreign key: Digman Profile table. DNIS (called party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
DNIS_DIGMAN_ID5	Description: Foreign key: Digman Profile table. DNIS (called party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
DNIS_DIGMAN_ID6	Description: Foreign key: Digman Profile table. DNIS (called party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser

DNIS_DIGMAN_ID7	Description: Foreign key: Digman Profile table. DNIS (called party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
DNIS_DIGMAN_ID8	Description: Foreign key: Digman Profile table. DNIS (called party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
DNIS_DIGMAN_ID9	Description: Foreign key: Digman Profile table. DNIS (called party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
ID	Description: Primary key. The route identification. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, delete, show Mandatory: add, change, delete Possible Value: [1_16] Parser: TextParser
LIMIT	Description: Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1-100000000 (Default = 100000000). Valid for Command: show Default Value: 100000000 Possible Value: [1_100000000] Parser: DecimalParser
MASTER	Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

NEXT_ACTION	Description: Specifies what action to perform after all trunk groups within a route are exhausted. VARCHAR(16): 1-16 ASCII characters. Permitted values are: NONE (Default)—No next action. Play standard no route to destination announcement. ALT-ROUTE—Use alternate route. ANNC—Use an announcement ID. OVERFLOW-DN—Reroute the call using the overflow DN. Valid for Command: add, audit, change, show, sync Default Value: NONE Possible Value: NONE, ALT_ROUTE, ANNC, ENUM_REROUTE Parser: TextParser.toUpperCase()
ORDER	Description: Specifies whether to display data on the screen in a sorted order. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all rows are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
PFX_DIGITS1	Description: Digits to be prefixed. Digits are prefixed after the number of specified digits are deleted. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_10] Parser: TextParser
PFX_DIGITS10	Description: Digits to be prefixed for tgn10-id. Digits are prefixed after the number of digits specified have been deleted. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_10] Parser: TextParser
PFX_DIGITS2	Description: Digits to be prefixed for tgn2-id. Digits are prefixed after the number of digits specified have been deleted. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_10] Parser: TextParser

PFX_DIGITS3	Description: Digits to be prefixed for tgn3-id. Digits are prefixed after the number of digits specified have been deleted. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_10] Parser: TextParser
PFX_DIGITS4	Description: Digits to be prefixed for tgn4-id. Digits are prefixed after the number of digits specified have been deleted. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_10] Parser: TextParser
PFX_DIGITS5	Description: Digits to be prefixed for tgn5-id. Digits are prefixed after the number of digits specified have been deleted. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_10] Parser: TextParser
PFX_DIGITS6	Description: Digits to be prefixed for tgn6-id. Digits are prefixed after the number of digits specified have been deleted. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_10] Parser: TextParser
PFX_DIGITS7	Description: Digits to be prefixed for tgn7-id. Digits are prefixed after the number of digits specified have been deleted. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_10] Parser: TextParser
PFX_DIGITS8	Description: Digits to be prefixed for tgn8-id. Digits are prefixed after the number of digits specified have been deleted. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_10] Parser: TextParser

PFX_DIGITS9	Description: Digits to be prefixed for tgn9-id. Digits are prefixed after the number of digits specified have been deleted. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_10] Parser: TextParser
PLATFORM_STATE	Description: State of an active or standby system shared memory database; use to audit an active or standby system shared memory database. Valid for the audit database and audit table name commands. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—System is active (currently running). STANDBY—System is in standby mode. EMS—Audits the active EMS to the standby EMS. Valid for Command: sync, audit Default Value: ACTIVE Possible Value: ACTIVE, STANDBY Parser: TextParser
START_ROW	Description: Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1-100000000 (Default = 1). Valid for Command: show Default Value: 1 Possible Value: [1_100000000] Parser: DecimalParser
TARGET	Description: Specifies the network element to receive the request. VARCHAR(5): 1-5 ASCII characters. Permitted values are: CA—Network identifier of a Call Agent. FSPTC (POTS/Tandem/Centrex Feature Server)—Network identifier of a specific Feature Server. FSAIN (AIN Feature Server)—Network identifier of AIN Feature Servers. Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

TG_SELECTION	Description: Trunk group selection policy. VARCHAR(3). Permitted values are: LCR—Least cost routing P—Priority and weight-based routing RR—Round robin SEQ (Default)—Sequential order Valid for Command: add, audit, change, show Default Value: SEQ Possible Value: LCR, RR, SEQ Parser: TextParser
TG1	Valid for Command: add, change, audit, sync, show Possible Value: [1_20] Parser: TextParser
TG10	Valid for Command: add, change, audit, sync, show Possible Value: [1_20] Parser: TextParser
TG2	Valid for Command: add, change, audit, sync, show Possible Value: [1_20] Parser: TextParser
TG3	Valid for Command: add, change, audit, sync, show Possible Value: [1_20] Parser: TextParser
TG4	Valid for Command: add, change, audit, sync, show Possible Value: [1_20] Parser: TextParser
TG5	Valid for Command: add, change, audit, sync, show Possible Value: [1_20] Parser: TextParser
TG6	Valid for Command: add, change, audit, sync, show Possible Value: [1_20] Parser: TextParser
TG7	Valid for Command: add, change, audit, sync, show Possible Value: [1_20] Parser: TextParser
TG8	Valid for Command: add, change, audit, sync, show Possible Value: [1_20] Parser: TextParser

TG9	Valid for Command: add, change, audit, sync, show Possible Value: [1_20] Parser: TextParser
TGN1_ID	Description: Foreign key: Trunk Group table. The first trunk group within the route. The trunk groups are searched in the order specified unless least cost routing (LCR) applies. If LCR is applied, the Call Agent reads the cost for each trunk group from the trunk-grp table and selects trunks from the least expensive trunk group to the most expensive one. This field can also be provisioned using tg instead of tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it. INTEGER: 1-99999999. Valid for Command: add, audit, change, show Possible Value: [0_99999999] Parser: DecimalParser
TGN10_ID	Description: Foreign key: Trunk Group table. The tenth trunk group within the route. This field can also be provisioned using tg instead of tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it. INTEGER: 1-99999999. Valid for Command: add, audit, change, show Possible Value: [0_99999999] Parser: DecimalParser
TGN2_ID	Description: Foreign key: Trunk Group table. The second trunk group within the route. This field can also be provisioned using tg instead of tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it. INTEGER: 1-99999999. Valid for Command: add, audit, change, show Possible Value: [0_99999999] Parser: DecimalParser
TGN3_ID	Description: Foreign key: Trunk Group table. The third trunk group within the route. This field can also be provisioned using tg instead of tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it. INTEGER: 1-99999999. Valid for Command: add, audit, change, show Possible Value: [0_99999999] Parser: DecimalParser
TGN4_ID	Description: Foreign key: Trunk Group table. The fourth trunk group within the route. This field can also be provisioned using tg instead of tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it. INTEGER: 1-99999999. Valid for Command: add, audit, change, show Possible Value: [0_99999999] Parser: DecimalParser

TGN5_ID	Description: Foreign key: Trunk Group table. The fifth trunk group within the route. This field can also be provisioned using tg instead of tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it. INTEGER: 1-99999999. Valid for Command: add, audit, change, show Possible Value: [0_99999999] Parser: DecimalParser
TGN6_ID	Description: Foreign key: Trunk Group table. The sixth trunk group within the route. This field can also be provisioned using tg instead of tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it. INTEGER: 1-99999999. Valid for Command: add, audit, change, show Possible Value: [0_99999999] Parser: DecimalParser
TGN7_ID	Description: Foreign key: Trunk Group table. The seventh trunk group within the route. This field can also be provisioned using tg instead of tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it. INTEGER: 1-99999999. Valid for Command: add, audit, change, show Possible Value: [0_99999999] Parser: DecimalParser
TGN8_ID	Description: Foreign key: Trunk Group table. The eighth trunk group within the route. This field can also be provisioned using tg instead of tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it. INTEGER: 1-99999999. Valid for Command: add, audit, change, show Possible Value: [0_99999999] Parser: DecimalParser
TGN9_ID	Description: Foreign key: Trunk Group table. The ninth trunk group within the route. This field can also be provisioned using tg instead of tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it. INTEGER: 1-99999999. Valid for Command: add, audit, change, show Possible Value: [0_99999999] Parser: DecimalParser

Trunk Group

The Trunk Group (trunk-grp) table identifies the trunk group and maps it to the associated media gateway. Table 1-4 indicates optional tokens that are required during provisioning based on the trunk group type.

The Cisco BTS 10200 Softswitch supports the following trunk group types: announcement, channel associated signaling (CAS), Integrated Services Digital Network (ISDN), Signaling System 7 (SS7) and SOFTSW (Session Initiation Protocol (SIP)). The Trunk Group table defines common information based on the trunk group type. The Cisco BTS 10200 Softswitch supports announcement, CAS, ISDN, SS7 and SOFTSW (SIP) trunk group profiles.

Table Name: TRUNK_GRP

Table Containment Area: EMS, CA

Table 1-4 Required Tokens by Trunk Group

Token	Values	Required Tokens
TG-TYPE	SOFTSW	SOFTSW-TSAP-ADDR, TG-PROFILE-ID, DIAL-PLAN-ID
	ISDN	TG-PROFILE-ID, DIAL-PLAN-ID, ID, TG-TYPE, POP-ID, GLARE, MGCP-PKG-TYPE Note For ISDN, GLARE must set to ALL and MGCP-PKG-TYPE must be set to T.
	SS7	CALL-CTRL-ROUTE-ID, DPC, TG-PROFILE-ID, DIAL-PLAN-ID
	CAS	TG-PROFILE-ID, DIAL-PLAN-ID
	ANNC	None
	H323	H323-GW-ID, TG-PROFILE-ID Note If you specify the value H323 for the TG-TYPE token, you must provision the association between the trunk group and the H.323 gateway. However, you cannot provision the H.323 trunk group type and the H.323 gateway simultaneously. To provision an H.323 trunk group and H.323 gateway correctly, use the following sequence of commands: 1. Establish the trunk group type as H.323 by using the TG-TYPE token in the Trunk Group table: <pre>add trunk-grp tg-type=H323;</pre> 2. Establish the association between the H.323 gateway and the trunk group by using the TGN-ID token in the H.323 Gateway table: <pre>add h323-gw tgn-id=<trunk group ID from the trunk group table>;</pre> 3. Establish the association between the specified trunk group and the H.323 gateway by using the H323-GW-ID token in the Trunk Group table. <pre>change trunk-grp h323-gw-id=<H.323 gateway ID from the H.323 gateway table>;</pre>

Command Types

add, audit, change, control, delete, help, show, status, sync

**Caution**

Sync is a restricted command and is intended for repairing data only. Improper use may corrupt database and disrupt call processing. Use with caution.

Examples

```
show trunk-grp id=101;
add trunk-grp id=101; call-agent-id=CA146; tg-type=ss7; dial-plan-id=tg-dp;
dpc=101-55-103; tg-profile-id=SS71; call-ctrl-route-id=ccr1;
change trunk-grp id=101; cost=200;
delete trunk-grp id=101;
```

Usage Guidelines

Primary Key Token(s): ID

Foreign Key Token(s): call-agent-id, ani-digman-id, call-control-route-id, carrier-id, cause-code-map-id, dial-plan-id, dnis-digman-id, isdn-dchan, h323-gw-id, main-sub-id, pop-id, qos-id, sp-id, ani-screening-profile-id

Add Rules:

- ID exists in the carrier table; id exists in the subscriber table.
- DIAL-PLAN-ID is required except if tg-typ=ANNC or if main-sub-id is not equal to NULL.

Change Rules:

- Ensure that the id exists in the Subscriber table if entered; ensure the id exists in the Media Gateway table if entered.
- The DPC field cannot be changed.

Delete Rules:

- ID cannot exist in any subscriber::term-id; ID cannot exist in any trunk::term-id.
- ID cannot exist in any mlhg-terminal::term-id.
- Trunk group status must be OOS.

Upgrade Impact:

- IF TG-TYPE=ISDN, Name the ISDN-DCHAN-ID as TGN# (e.g. 9009991)
- STATUS_MONITORING is moved to SIP_ELEMENT table
- Set CUT_THRU_BEFORE_ANSWER (moved from ISDN-TG-PROFILE) to N.
- Pre-check on 4.5 before upgrade, if POP_ID is null, provision a valid POP_ID at 4.5 side before upgrade.

Syntax Description

ALT_ROUTE_ON_CONG	Description: Specifies whether to use an alternate route when there is traffic congestion. CHAR(1): Y/N (Default = N). Y—SKIP N—BLOCK Valid for Command: add, change, audit, sync, show Default Value: N Possible Value: Y, N Parser: BooleanParser
ANI_BASED_ROUTING	Description: Used when there are multiple subscribers homing on the same trunk group. The ANI is used to determine the subscriber ID associated with the call. CHAR(1): Y/N (Default = N). Y—Determine subscriber ID based on the ANI. N—Use normal routing. Valid for Command: add, change, audit, sync, show Default Value: N Possible Value: Y, N Parser: BooleanParser
ANI_DIGMAN_ID	Description: Foreign key: Digman Profile table. ANI (calling party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
ANI_SCREENING	Description: Specifies whether to screen the call against the ANI if set. CHAR(1): Y/N (Default = N). N—Perform normal routing. Y—Determine the subscriber ID based on the ANI Screening table. Valid for Command: add, change, audit, sync, show Mandatory: add Default Value: N Possible Value: Y, N Parser: BooleanParser

ANI_SCREENING_PROFILE_ID	Description: Mandatory if ani-screening=y. Foreign key: ANI Screening Profile table. ANI screening profile id. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, show, audit Possible Value: [1_16] Parser: TextParser
AUTO_REFRESH	Description: Specifies whether to display cached data on the screen. Valid only for the show command. CHAR(1): Y/N (Default = Y). Y—Queries the database for the most current data. N—Queries the database for the most current data only if the cached data is unavailable. Valid for Command: show Default Value: Y Possible Value: Y, N Parser: BooleanParser
CALL_AGENT_ID	Description: Foreign key: Call Agent table. Call Agent ID. Same as ID in Call Agent table. VARCHAR(8): 8 ASCII characters. Format is CAnnn or cannn where nnn = 001-999. 3 characters are reserved for Not Used use. Valid for Command: add, change, audit, sync, show Mandatory: add Possible Value: [1_8] Parser: TextParser
CALL_CTRL_ROUTE_ID	Description: Mandatory if tg-type=ss7. Foreign key: Call Control Route table. The Call Control Route ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, sync, show Possible Value: [1_16] Parser: TextParser
CARRIER_ID	Description: Foreign key: Carrier table. Carrier ID if direct trunk group to a carrier. Used during incoming call processing. Same as carrier-id in Carrier table. CHAR(4): 4 numeric characters—leading zeros count. Valid for Command: add, change, audit, sync, show Possible Value: [1_4] Parser: TextParser

CAUSE_CODE_MAP_ID	Description: Foreign key: Cause Code Map table. The cause code map ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_16] Parser: TextParser
CLLI	Description: Common Language Location Identifier for the remote switch. CHAR(11): Eleven ASCII characters. Valid for Command: add, audit, change, show Possible Value: [11_11] Parser: TextParser
COST	Description: Relative cost value; used if TG selection is based on least cost routing (LCR). SMALLINT: 0-999. Valid for Command: add, change, audit, sync, show Possible Value: [0_999] Parser: DecimalParser
DEFAULT_CHG	Description: Default charge number. VARCHAR(16): 1-16 numeric digits. Valid for Command: add, change, audit, sync, show Possible Value: [1_16] Parser: TextParser
DEL_DIGITS	Description: Specifies the number of digits to delete. SMALLINT: 0-14 numeric characters. (Default = 0). Valid for Command: add, change, audit, sync, show Default Value: 0 Possible Value: [0_14] Parser: DecimalParser
DESCRIPTION	Description: Described by the service provider. VARCHAR(64): 1-64 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_64] Parser: TextParser

DIAL_PLAN_ID	Description: Foreign key: Dial Plan table. Specifies which dial plan ID to use. For trunk groups with a main subscriber id (CAS, ISDN), the Call Agent uses the dial-plan-id assigned to the trunk group (if available), else it uses the dial-plan-id assigned to the subscriber profile. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_16] Parser: TextParser
DIRECTION	Description: Direction of the trunk group. Can be incoming only, outgoing only, or both incoming and outgoing. If bothway, the glare parameter is required. VARCHAR(4): 1-4 ASCII characters. Permitted values are: BOTH (Default)—Bothway trunk group (used for both incoming and outgoing calls). OUT—Used for outgoing calls only. IN—Used for incoming calls only. Valid for Command: add, change, audit, sync, show Default Value: BOTH Possible Value: BOTH, OUT, IN Parser: TextParser
DISPLAY	Description: Specifies what token information to display on the screen. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all tokens are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
DNIS_DIGMAN_ID	Description: Foreign key: Digman Profile table. DNIS (called party number) digit manipulation ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, audit, change, show Possible Value: [1_16] Parser: TextParser
DPC	Description: Not provisionable. Mandatory if tg-type=SS7. Destination Point Code if SS7. The DPC is automatically provisioned from the call-ctrl-route-id. VARCHAR(16): 1-16 ASCII characters. Valid for Command: audit, sync, show Possible Value: [0_16] Parser: PointCodeParser

EARLY_BKWD_MSG_TMR	Description: Specifies the amount of time, in seconds, for the Early Backward Message timer. Applies only if send-early-bkwd-msg=Y. INTEGER: 0-30 (Default = 5). Valid for Command: add, change, audit, sync, show Default Value: 5 Possible Value: [0_30] Parser: DecimalParser
GLARE	Description: Used in bothway trunks. Defines how to resolve a glare condition—a bothway (simultaneous) trunk seizure. For example, an incoming and an outgoing call on the same endpoint. For ISDN trunk groups, glare must be set to ALL. Setting glare to SLAVE can cause CIC/trunk instability. VARCHAR(5): 1-5 ASCII characters. Permitted values are: SLAVE (Default)—This trunk group yields any trunk in glare condition. ALL—This trunk group is master of all trunks. EVEN—This trunk group is master of even numbered trunks. ODD—This trunk group is master of odd numbered trunks. PC—Not used. Point code driven. In the absence of an overriding control assignment (such as all or none), the SPCS with the higher assigned signaling point code controls the even numbered circuits, and the SPCS with the lower signaling point code controls the odd-numbered circuits. Valid for Command: add, change, audit, sync, show Default Value: SLAVE Possible Value: ALL, SLAVE, ODD, EVEN, PC Parser: TextParser
H323_GW_ID	Description: Mandatory if tg-type=h323. Foreign key: H.323 Gateway table. Specifies the gateway id for this trunk group. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_16] Parser: TextParser
ID	Description: Primary key. Trunk group number. INTEGER: 1-99999999. Valid for Command: add, change, show, delete, audit, sync, control, status Mandatory: add, change, delete, control, status Possible Value: [1_99999999] Parser: DecimalParser

LIMIT	Description: Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1-100000000 (Default = 100000000). Valid for Command: show Default Value: 100000000 Possible Value: [1_100000000] Parser: DecimalParser
MAIN_SUB_ID	Description: Foreign key: Subscriber table. Used for PBX subscribers. VARCHAR(30): 1-30 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_30] Parser: TextParser
MASTER	Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

MGCP_PKG_TYPE	Description: Determines the MGCP Package type for the announcement server. VARCHAR(16): 1-16 ASCII characters (Default = NA). Permitted values are: NA—For SIP and H.323 trunk groups. ANNC-CABLE-LABS—Announcement signaling type based on the Cable Labs package. AUTO—EAOSS signaling. The package is dynamically determined based on the call type (can be MO, MS, MD). Used when sig-type in CAS Trunk Group Profile table is EAOSS. For inbound calls, always use the MS package. (Not supported). DT—DTMF package. IT—ISUP trunk package. LINE—Line package used for Test Line Access. MD—MF FGD package (Not supported). MO—MF operator trunks. MS—MF package. MT—MF terminating package. TCL-CISCO (Default)—Announcement signaling type for the Cisco AS5350/AS5400. T—Trunk package. Valid for Command: add, show, change Default Value: NA Possible Value: T, IT, DT, MS, MT, MO, TCL_CISCO, ANNC_CABLE_LABS, NA, LINE Parser: TextParser.toUpperCase()
MODE	Description: Specifies the information returned by the command. VARCHAR(8): 1-8 ASCII characters (Default = BRIEF). Permitted values are: BRIEF VERBOSE Valid for Command: control, show Mandatory: control Possible Value: FORCED, GRACEFUL Parser: TextParser
NUM_OF_TRUNKS	Description: Not provisionable. EMS provisions this field when trunks are provisioned for this trunk group. SMALLINT: 1-9999. Valid for Command: audit, sync, show Possible Value: [0_2147483647] Parser: DecimalParser

ORDER	Description: Specifies whether to display data on the screen in a sorted order. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all rows are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
PERFORM_LNP_QUERY	Description: Specifies whether to perform an LNP query. This token applies only to incoming calls (for ITU local LNP, when the LNP Profile lnp-db-type is RN). CHAR(1): Y/N (Default = N). Y—Perform an LNP Query if required based on the LNP Profile table and the acq-lnp-query token in the Destination table. This applies to both LNP Types: ACQ and QOR. Set this token to Y when the remote switch is not LNP-capable. N—An LNP query is not required as originating switch is LNP-capable or LNP is not required. Valid for Command: add, change, audit, sync, show Default Value: N Possible Value: Y, N Parser: BooleanParser
PFX_DIGITS	Description: Specifies what digits to prefix. Digits are prefixed after the specified number of digits are deleted. VARCHAR(10): 1-10 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [0_10] Parser: GenericDNParser
PLATFORM_STATE	Description: State of an active or standby system shared memory database; use to audit an active or standby system shared memory database. Valid for the audit database and audit table name commands. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—System is active (currently running). STANDBY—System is in standby mode. EMS—Audits the active EMS to the standby EMS. Valid for Command: sync, audit Default Value: ACTIVE Possible Value: ACTIVE, STANDBY Parser: TextParser

POP_ID	Description: Foreign key: POP table. Defines the number of POPs in a Call Agent; used for incoming trunk groups. VARCHAR(16): 1-16 ASCII characters. SValid for Command: add, change, audit, sync, show Mandatory (new): add Possible Value: [1_16] Parser: TextParser
QOS_ID	Description: Foreign key: QOS table. Specifies whether or not to use QOS index for codec selection. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_16] Parser: TextParser
REGION	Description: Region of the incoming trunk group. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_16] Parser: TextParser
REMOTE_SWITCH_LRN	Description: LRN of the previous switch used for billing. VARCHAR(10): 1-10 numeric digits, in the format NPA-NXX-XXXX. (Default = 0). Valid for Command: add, change, audit, sync, show Possible Value: [3_10] Parser: NPAParser
SCRIPT_SUPP	Description: Specifies whether the script package is supported by the trunk group. Used for prepaid service. CHAR(1): Y/N (Default = N). Valid for Command: add, change, audit, sync, show Default Value: N Possible Value: Y, N Parser: BooleanParser

SEL_POLICY	Description: Trunk selection policy. Control the Call Agent out-of-service, then in-service, after changing the selection policy. Then verify that the selection policy is changed. VARCHAR(4): 1-4 ASCII characters (Default = ASC). Permitted values are: ASC—Select trunks in ascending order. When trunks are released, they are released at the top of the queue. When a new trunk is selected, the lower number trunk (CIC) is selected. CASC—Cyclic ascending. Select trunks in ascending order. When trunks are released, they are released at the end of the list, so when a new trunk is selected, the next higher trunk (CIC) is selected. CDSC—Cyclic descending. Select trunks in descending order. When trunks are released, they are released at the end of the list, so when a new trunk is selected, the next lower trunk (CIC) is selected. DSC—Select trunks in descending order. When trunks are released, they are released at the top of the queue. When a new trunk is selected, the higher number trunk (CIC) is selected. EVEN—Select the least recently used even-numbered trunks. LRU—Select the least recently used trunk. MRU—Not used. Select the most recently used trunk. ODD—Select the least recently used odd-numbered trunks. RAND—Not used. Select a trunk randomly. Valid for Command: add, change, audit, sync, show Default Value: ASC Possible Value: ODD, DSC, LRU, ASC, EVEN, MRU, CASC, CDSC Parser: TextParser
SEND_EARLY_ BKWD_MSG	Description: Specifies whether to start the Early Backward Message timer. CHAR(1): Y/N (Default = N). Y—Start early backward message timer. An early message is sent when it expires. N—Do not start early backward message timer. Valid for Command: add, change, audit, sync, show Mandatory: add Default Value: N Possible Value: Y, N Parser: BooleanParser

SEND_RDN_AS_CPN	Description: Use when a call is forwarded and call routing is to the PSTN where Calling Party Number Screening is performed. If redirecting number information is available, the Cisco BTS 10200 Softswitch overwrites the calling party number with RDN. Otherwise, if Original Called number information is available, the Cisco BTS 10200 Softswitch overwrites the calling party number with the OCN. CHAR(1): Y/N (Default = N). Valid for Command: add, change, audit, sync, show Mandatory: add Default Value: N Possible Value: Y, N Parser: BooleanParser
SIGNAL_PORTED_NUMBER	Description: Used for local number portability (LNP) when the next switch does not support LNP. The local routing number (LRN) from the called party number is removed and the called party number parameter is filled with the called party number from GAP. The translated bit (M-bit) is also reset. CHAR(1): Y/N (Default = N). Y—Send IAM without GAP. N—Send GAP. Valid for Command: add, change, audit, sync, show Default Value: N Possible Value: Y, N Parser: BooleanParser
SOFTSW_TSAP_ADDR	Description: Mandatory if tg-type=softsw. Unique key between softsw-tsap-addr + trunk-sub-grp. TSAP address of the softswitch if tg-type=softsw. Use different ports if multiple trunk groups to the same softswitch are supported. VARCHAR(64): 1-64 ASCII characters. Domain names cannot begin with a number. Valid for Command: add, change, audit, sync, show Possible Value: [1_64] Parser: DomainParser
SOURCE	Description: Source of the infraction—name in the Users table. Source is actually the username. If you enter source without a start-time or end-time, all infractions are shown. VARCHAR(16): 1-16 ASCII characters. Valid for Command: status Mandatory: status Default Value: AGENT Possible Value: EMS, AGENT Parser: TextParser

SP_ID	Description: Foreign key: Service Provider table. The service provider ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_16] Parser: TextParser
START_ROW	Description: Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1-100000000 (Default = 1). Valid for Command: show Default Value: 1 Possible Value: [1_100000000] Parser: DecimalParser
STATUS	Description: Status of the trunk group. Valid only for the show command. VARCHAR(25): 1-25 ASCII characters. Valid for Command: audit, sync, show Default Value: OOS Possible Value: OOS, INS, MAINT, OOS_PENDING, MAINT_PENDING Parser: TextParser
STATUS_ MONITORING	Valid for Command: add, change, audit, sync, show Default Value: N Possible Value: Y, N Parser: BooleanParser
TARGET	Description: Specifies the network element to receive the request. VARCHAR(5): 1-5 ASCII characters. Permitted values are: CA—Network identifier of a Call Agent. FSPTC (POTS/Tandem/Centrex Feature Server)—Network identifier of a specific Feature Server. FSAIN (AIN Feature Server)—Network identifier of AIN Feature Servers. Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

TARGET_STATE	Description: The state (active or standby) of the Call Agent or Feature Server. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—Call Agent or Feature Server is in active state. STANDBY—Call Agent or Feature Server is in standby state. Valid for Command: control, show Mandatory: control Possible Value: INS, MAINT, OOS Parser: TextParser
TG	Description: Unique key. ASCII name for the trunk group. VARCHAR(20): 1-20 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_20] Parser: TextParser
TG_PROFILE_ID	Description: Mandatory if tg-type=annc. The trunk group profile ID. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, audit, sync, show Mandatory: add Possible Value: [1_16] Parser: TextParser
TG_TYPE	Description: Trunk group type. VARCHAR(6): 1-6 ASCII characters. Permitted values are: ANNC—Announcement. SOFTSW—Softswitch trunk group. CAS—Channel associated signaling. ISDN—Integrated Services Digital Network. SS7—Signaling System 7. H323—H.323 trunk group. Valid for Command: add, audit, sync, show Mandatory: add Possible Value: ANNC, SOFTSW, CAS, ISDN, SS7, H323 Parser: TextParser
THROTTLE	Valid for Command: status Mandatory: status Default Value: N Possible Value: Y, N Parser: TextParser

TRAFFIC_TYPE	Description: Specifies the type of traffic carried over this trunk group. It is required for incoming and bothway trunk groups. If it is not specified, the Call Agent defaults to local. VARCHAR(8): 1-8 ASCII characters. Permitted values are: LOCAL (Default)—Local incoming trunk group. PBX—Not used. Incoming PBX trunk group (for ISDN and CAS), DAL, and so forth. TANDEM—Incoming local/tandem trunk group. Calls are allowed to a tandem trunk. USER—Cisco BTS 10200 acts as a user side (PBX) toward the network. Valid for Command: add, change, audit, sync, show Default Value: LOCAL Possible Value: LOCAL, TANDEM, PBX, USER Parser: TextParser
TRUNK_SUB_GRP	Description: Unique key: softsw-tsap-addr+trunk-sub-grp. Identifies a specific trunk group when multiple trunk groups exist between a Cisco BTS 10200 Softswitch and another softswitch. VARCHAR(64): 1-64 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_64] Parser: TextParser
VOICE_INFO_ TRANSFER_CAP	Description: Information sent in the forward direction indicating the type of transmission medium required for the connection. VARCHAR(16): 1-16 ASCII characters (Default = AUTO). Permitted values are: AUTO—Same as configured or received for the incoming leg/ SPEECH—If voice call, override with Speech. 3POINT1KHZ-AUDIO—If voice call, override with 3.1 KHz audio. Valid for Command: add, show, change, audit, sync Default Value: AUTO Possible Value: AUTO, SPEECH, 3POINT1KHZ_AUDIO Parser: TextNoCaseParser

VOICE_LAYER1_ USERINFO	Description: Specifies the voice encoding codec to use for a call. VARCHAR(16): 1-16 ASCII characters (Default = AUTO). Permitted values are: AUTO—Same as configured or received for incoming leg. G711-ULAW—Use the G711 Law codec. G711-ALAW—Use the A-Law codec. Valid for Command: add, show, change, audit, sync Default Value: AUTO Possible Value: AUTO, G711_ULAW, G711_ALAW Parser: TextNoCaseParser
WAIT	Valid for Command: status, control Mandatory: status, control Default Value: N Possible Value: Y, N Parser: BooleanParser

Policy NXX

The Policy NXX (policy-nxx) table is used when a number services call results in a translated number, carrier ID, translated number and a carrier ID, or a route ID.

Table Name: POLICY_NXX

Table Containment Area: EMS, CA, FSAIN

Command Types

add, audit, change, delete, help, show, sync



Caution

Sync is a restricted command and is intended for repairing data only. Improper use may corrupt database and disrupt call processing. Use with caution.

Examples

```
show policy-nxx id=normalroute;
add policy-nxx id=normalroute;
change policy-nxx id=normalroute; carrier=1234;
delete policy-nxx id=normalroute;
```

Usage Guidelines

Primary Key Token(s): ID

Add Rules: id plus type must exist in the Policy Profile table.

**Note**

Both the carrier and the translated-dn can be entered; however, if route is entered, neither the carrier-id nor the translated-dn can be entered.

Upgrade Impact:

- Set TYPE to NXX.
- Set ROUTE_POLICY_TYPE to ROUTE.
- For each entry in POLICY_NXX, add an entry into POLICY_PROFILE table.
- For each ROUTE if not null, add an entry into POLICY_PROFILE table if it does not exist yet.

Syntax Description

AUTO_REFRESH	Description: Specifies whether to display cached data on the screen. Valid only for the show command. CHAR(1): Y/N (Default = Y). Y—Queries the database for the most current data. N—Queries the database for the most current data only if the cached data is unavailable. Valid for Command: show Default Value: Y Possible Value: Y, N Parser: BooleanParser
CARRIER	Description: Carrier identification code (CIC). Used for routing a call. CHAR(4): 0000-9999. Valid for Command: add, change, audit, sync, show Possible Value: [4_4] Parser: DigitParser
DISPLAY	Description: Specifies what token information to display on the screen. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all tokens are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser

ID	Description: Primary key. Policy-nxx identification field. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, show, delete, audit, sync Mandatory: add, change, delete Possible Value: [1_16] Parser: TextParser
LIMIT	Description: Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1-100000000 (Default = 100000000). Valid for Command: show Default Value: 100000000 Possible Value: [1_100000000] Parser: DecimalParser
MASTER	Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser
ORDER	Description: Specifies whether to display data on the screen in a sorted order. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all rows are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
PLATFORM_STATE	Description: State of an active or standby system shared memory database; use to audit an active or standby system shared memory database. Valid for the audit database and audit table name commands. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—System is active (currently running). STANDBY—System is in standby mode. EMS—Audits the active EMS to the standby EMS. Valid for Command: sync, audit Default Value: ACTIVE Possible Value: ACTIVE, STANDBY Parser: TextParser

ROUTE	Description: Defines a list of trunk groups. VARCHAR(16): 1-16 ASCII characters. Valid for Command: add, change, audit, sync, show Possible Value: [1_16] Parser: TextParser
START_ROW	Description: Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1-100000000 (Default = 1). Valid for Command: show Default Value: 1 Possible Value: [1_100000000] Parser: DecimalParser
TARGET	Description: Specifies the network element to receive the request. VARCHAR(5): 1-5 ASCII characters. Permitted values are: CA—Network identifier of a Call Agent. FSPTC (POTS/Tandem/Centrex Feature Server)—Network identifier of a specific Feature Server. FSAIN (AIN Feature Server)—Network identifier of AIN Feature Servers. Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser
TRANSLATED_DN	Description: The call is routed to the translated DN. VARCHAR(14): 1-14 numeric digits. Valid for Command: add, change, audit, sync, show Possible Value: [1_14] Parser: GenericDNParser

Call Type Profile

The Call Type Profile (call-type-profile) table defines the Call Type properties supported by the Cisco BTS 10200 Softswitch. Provision this table if the ALL-CALL-QUERY flag in the LNP-PROFILE table is set to Y and the ACQ-LNP-QUERY token in the Destination table is set to ACQ-BASED-ON-CALL-TYPE.

Table Name: CALL_TYPE_PROFILE

Table Containment Area: EMS, CA

Command Types

add, audit, change, delete, help, show, sync

**Caution**

Sync is a restricted command and is intended for repairing data only. Improper use may corrupt database and disrupt call processing. Use with caution.

Examples

```
show call-type-profile;
add call-type-profile call-type=mobile; lnp-query=y;
change call-type-profile call-type=mobile; lnp-query=n;
delete call-type-profile call-type=mobile;
```

Usage Guidelines

Primary Key Token(s): CALL_TYPE

**Note**

LATA stands for local access transport area. It is predefined by geographical area.

Syntax Description

AUTO_REFRESH	Description: Specifies whether to display cached data on the screen. Valid only for the show command. CHAR(1): Y/N (Default = Y). Y—Queries the database for the most current data. N—Queries the database for the most current data only if the cached data is unavailable. Valid for Command: show Default Value: Y Possible Value: Y, N Parser: BooleanParser
CALL_TYPE	Description: Primary key. Foreign key: Call Type table. The call type. Valid call types are defined in the Call Type table. VARCHAR(16): 1-16 ASCII characters. See Appendix G, “Call Types and Subtypes” for a list of valid call types. Valid for Command: add, change, delete, show, audit, sync Mandatory: add, change, delete Possible Value: [1_16] Parser: TextNoCaseParser

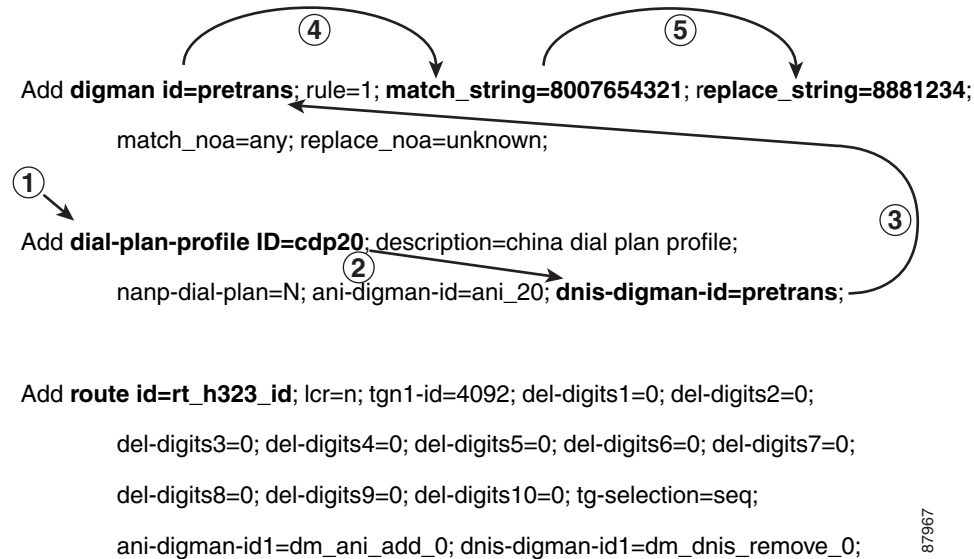
DISPLAY	Description: Specifies what token information to display on the screen. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all tokens are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser
LIMIT	Description: Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1-100000000 (Default = 100000000). Valid for Command: show Default Value: 100000000 Possible Value: [1_100000000] Parser: DecimalParser
LNP_QUERY	Description: Specifies whether to perform an LNP query on the call type. Applies only if the all-call-query token in the LNP Profile table is set to Y and the acq-lnp-query token in the Destination table is set to acq-based-on-call-type. CHAR(1): Y/N (Default = Y) Y—Perform an LNP query. N—Do not perform an LNP query. Valid for Command: add, change, show, audit, sync Default Value: Y Possible Value: Y, N Parser: BooleanParser
MASTER	Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser
ORDER	Description: Specifies whether to display data on the screen in a sorted order. Valid only for the show command. VARCHAR(1024): 1-1024 (Default = all rows are displayed). Permitted values are any valid token that can be shown for this command. Multiple tokens can be entered by separating with a comma. Valid for Command: show Possible Value: [1_1024] Parser: TextParser

PLATFORM_STATE	Description: State of an active or standby system shared memory database; use to audit an active or standby system shared memory database. Valid for the audit database and audit table name commands. VARCHAR(7): 1-7 ASCII characters. Permitted values are: ACTIVE (Default)—System is active (currently running). STANDBY—System is in standby mode. EMS—Audits the active EMS to the standby EMS. Valid for Command: sync, audit Default Value: ACTIVE Possible Value: ACTIVE, STANDBY Parser: TextParser
START_ROW	Description: Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1-100000000 (Default = 1). Valid for Command: show Default Value: 1 Possible Value: [1_100000000] Parser: DecimalParser
TARGET	Description: Specifies the network element to receive the request. VARCHAR(5): 1-5 ASCII characters. Permitted values are: CA—Network identifier of a Call Agent. FSPTC (POTS/Tandem/Centrex Feature Server)—Network identifier of a specific Feature Server. FSAIN (AIN Feature Server)—Network identifier of AIN Feature Servers. Valid for Command: sync Mandatory: sync Possible Value: [1_10] Parser: TextParser

Sample Provisioning

This section provides a sample provisioning script for the implementation of the digman functionality.

Figure 1-3 Sample Provisioning



Caller A, using dial-plan-id=cdp20, dials 8007654321. The call hits the dial-plan-profile table (1) and uses the pretrans entry (2 and 3). It matches on the 800 number (4) and replaces it with 8881234 (5).

Feature Interaction

When a call is terminated to a subscriber with Call Forwarding activated, a feature interaction occurs when calls are forwarded out of the Cisco BTS 10200 Softswitch. In China, the Cisco BTS 10200 Softswitch uses H323 signaling to route calls to the PSTN; however, this scenario applies to any call which is forwarded over a non-SS7 signaling interface.

The H323 protocol and other non-SS7 signaling protocols do not support the Charge Number parameter, Original Called Party Number, or Redirecting Party Number. When Call Forwarding occurs, the ANI manipulation is performed on the redirecting party number if it is available. The DN of the forwarding party should also be sent as ANI digits and, as such in a forwarding scenario, the called number of the forwarding party should also be manipulated for the call.