



CHAPTER 13

Centrex Features

Revised: July 24, 2009, OL-3743-42

This chapter describes Centrex features. Centrex features are normally provided by a PBX to business subscribers. The Cisco BTS 10200 Softswitch allows a service provider to provide PBX features without purchasing separate PBX equipment.



Note

In this chapter, an asterisk preceding a token name means the token is mandatory. A token without an asterisk is optional.

Call Park Subscriber Group

The Call Park Subscriber Group (cpsg) table defines the Centrex-specific call park subscriber group identification and the call park timeout timer. Call park is similar to placing a call on hold, but the call is retrieved by dialing a code, rather than by pressing a line button. With call park, anyone, anywhere can retrieve the call.

Table Name: CPSG

Table Containment Area: FSPTC

Command Types

Show, add, change, and delete

Examples

```
show cpsg id=cisco;  
add cpsg id=cisco; tcprk=100; ctxg-id=cisco;  
change cpsg id=cisco; tcprk=60;  
delete cpsg id=cisco;
```

Usage Guidelines

Primary Key Token(s): id

Foreign Key Token(s): ctxg-id

Add Rules: None.

Delete Rules: None.

Syntax Description

* ID	Primary key. Call park subscriber group ID. VARCHAR(16): 1–16 ASCII characters.
* CTXG-ID	Foreign key: Centrex Group table. Valid Centrex group ID. VARCHAR(16): 1–16 ASCII characters.
AUTO-REFRESH	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.
CPRK-DIGIT-MAP-STRING (Release 4.5)	Allows a service provider to enter a digit map based on the length of extension supported in the Centrex Group. For example, the following digit map provides a digit extension beginning with digit 3 and a 4-digit extension beginning with digit 4: # 3xxx 4xxxx3 VARCHAR(32): 1–32 ASCII characters.
CPRK-FDN	Specifies the directory number (DN) to forward a parked call after three successive ring-back attempt failures. VARCHAR(26): 1–26 ASCII characters.
DISPLAY	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.
LIMIT	Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1–100000000 (Default = 100000000). Note The actual maximum number of rows displayed is currently lower than 100000000 due to software limitations.
ORDER	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.
START-ROW	Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1–100000000 (Default = 1).
TCPRK	Call park timeout timer value in seconds. VARCHAR(3): 0–360.

Centrex Group

Both the Call Agent and POTS/Tandem/Centrex (PTC) Feature Server (FSPTC) share the Centrex Group (centrex-grp) table. A Centrex group is typically assigned to a business group. Subscribers within a Centrex group can reach each other via intercom (extension) dialing. A Centrex group is an emulation of a PBX by a Class 5 switch. This table defines Centrex groups and their associated Call Agents. The FSPTC provides Centrex-group functionality. The properties assigned to the main-subscriber-id are applicable to the whole Centrex group.



Note

Provisioning Speed Call (dial) for Centrex

Provision Centrex speed calling using the Custom Dial Plan (CDP) table and setting NOD=speed-call, where NOD is nature of dial.

Table Name: CENTREX-GRP

Table Containment Area: Call Agent, FSPTC

Command Types

Show, add, change, and delete

Examples

```
show centrex-grp id=engineering;
add centrex-grp id=engineering; cdp-id=business; main-sub-id=26000sub2@cisco.com;
call-agent-id=CA146;
change centrex-grp id=engineering; main-sub-id=26211sub1@cisco.com; call-agent-id=CA146;
delete centrex-grp id=engineering;
```

Usage Guidelines

Primary Key Token(s): id

Foreign Key Token(s): cdp-id, call-agent-id, main-sub-id

Add Rules: None.

Change Rules: None.

Delete Rules:

- ID does not exist in ext2subscriber::ctxg-id.
- ID does not exist in any subscriber::ctxg-id.

Delete Procedure:

1. delete custom-dial-plan::cdp-id; digit-string=*
2. delete custom-dial-plan-profile::cdp-id.
3. delete subscriber where subscriber::ctxg-id=id; (see delete subscriber).
4. delete centrex-grp::id.

Syntax Description

* ID	Primary key. Centrex group identification. VARCHAR(16): 1–16 ASCII characters.
* CDP-ID	Foreign key: Custom Dial Plan Profile table. Must match ID in the Custom Dial Plan Profile table. VARCHAR(16): 1–16 ASCII characters.
* CALL-AGENT-ID	Foreign key: Call Agent table. Identifies the Call Agent that the group belongs to. VARCHAR(8): 1–8 ASCII characters.
AUTO-REFRESH	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.
BOTH-SFG-COUNT	Specifies the number of simultaneous incoming/outgoing calls that are allowed in addition to the in-sfg-count and out-sfg-count. SMALLINT: 0–100.
CAT-SCREENING	Customer access treatment (CAT). Each CAT in a specific location in the string identifies a feature. The subscriber can access the feature if cat-screening allows. CHAR(1): Y/N (Default = Y). Y—CAT is turned on. N—CAT is turned off.
CPRK-FDN	Unsuccessful timed recall forward to extension. When a parked call times out, the call is forwarded to the extension specified in this column. VARCHAR(26): 1–26 ASCII characters.
DISPLAY	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.
IN-SFG-COUNT	Specifies the number of simultaneous incoming calls allowed for this Centrex group. SMALLINT: 0–100.
INTERNAL-CND-ONLY	This flag applies to calling number delivery (CND) and Caller ID with name (CNAM) features only. CHAR(1): Y/N (Default = Y). Y—CND/CNAM is applied only to intercom calls. N—CND/CNAM is applied to all calls.

LIMIT	Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1–100000000 (Default = 100000000). Note The actual maximum number of rows displayed is currently lower than 100000000 due to software limitations.
MAIN-SUB-ID	Foreign key: Subscriber table. Main subscriber ID. VARCHAR(30): 1–30 ASCII characters.
ORDER	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.
OUT-SFG-COUNT	Specifies the number of simultaneous outgoing calls allowed for this Centrex group. SMALLINT: 0–100.
SDT-TYPE	Specifies the second dial tone type. VARCHAR(8): 1–8 ASCII characters. Permitted values are: DL—Dial tone. SL—Stutter dial tone. CF—Confirmation tone. NA—Not applicable.
SFG-CONTROL	Specifies whether to apply a simulated facility group (SFG) control. CHAR(1): Y/N (Default = Y). Y—Apply SFG control. N—Do not apply SFG control.
START-ROW	Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1–100000000 (Default = 1).

Custom Dial Plan

The Custom Dial Plan (custom-dial-plan) table translates Centrex calls. If the result of a custom dial plan (CDP) is a POTS access code, call processing uses the POTS Dial Plan table to translate the digits dialed after the POTS access code. Speed call codes are provisioned in this table as nod=speed-call and fname=SC1D (or SC2D). Screening does not apply to speed dialing.

Table Name: CUSTOM-DIAL-PLAN

Table Containment Area: FSPTC

Command Types Show, add, change, and delete

Examples

```
show custom-dial-plan id=cisco plan; digit-string=4xx;
add custom-dial-plan id=cisco plan; digit-string=9; nod=pots-access;
cat-string=1111111111;
change custom-dial-plan id=cisco plan; digit-string=4xx; nod=vsc; fname=CFUA;
delete custom-dial-plan id=cisco plan; digit-string=*72;
```

Usage Guidelines

Primary Key Token(s): id, digit-string

Foreign Key Token(s): id, fname

Add Rules: None.

Change Rules: None.

Delete Rules: None.

Related Commands	* ID	Primary key. Foreign key: Custom Dial Plan Profile table. Must match ID in the Custom Dial Plan Profile table. VARCHAR(16): 1–16 ASCII characters.
	* DIGIT-STRING	Primary key. Digit string to be translated in this custom dial plan. VARCHAR(7): 1–7 digit string. Access codes can be 1–5 digits. Extensions can be 1–7 digits.
	* NOD	Nature of the dial—the type of digits dialed. If nod=speed-call, then fname must be either SC1D or SC2D. If nod=vsc, then an fname must be specified. If nod=attendant-access, pots-access, or extension, then fname is not required. VARCHAR(16): 1–16 ASCII characters. Permitted values are: VSC—Vertical service code. ATTENDANT-ACCESS—Attendant access. POTS-ACCESS—PSTN access code. EXTENSION—Extension dialing. SPEED-CALL—One- or two-digit speed calling.

AUTO-REFRESH	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.
CAT-STRING	Specifies customer access treatment (CAT) code screening. VARCHAR(16): 1–16 ASCII characters. You can specify only 0s (zeros) or 1s (ones). CAT codes are associated with the feature access codes of a Centrex group. A bitmap of 16 possible CAT code values is required for each feature access code. Each bit position is marked as Allowed/Disallowed. A CAT code value between 1–16 is assigned to a subscriber. The CAT code value assigned to a subscriber is used to index the CAT code bit map assigned to the feature access code. The feature access code is allowed or disallowed based on the value of the corresponding bit value.
DISPLAY	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.
FNAME	Feature name. Mandatory if nod = vsc; null for all others. Foreign key: Feature table. See the Subscriber Feature Data table for more information. VARCHAR(6): 1–6 ASCII characters. See Appendix C, “Vertical Service Codes” for permitted values.
LIMIT	Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1–100000000 (Default = 100000000). Note The actual maximum number of rows displayed is currently lower than 100000000 due to software limitations.
ORDER	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.
START-ROW	Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1–100000000 (Default = 1).

Custom Dial Plan Profile

The Custom Dial Plan Profile (custom-dial-plan-profile) table defines custom dial plan IDs (CDP IDs) assigned to Centrex groups.

Table Name: CUSTOM-DIAL-PLAN-PROFILE (EMS ONLY)

Table Containment Area: FSPTC

Command Types

Show, add, change, and delete

Examples

```
show custom-dial-plan-profile id=cisco plan;
add custom-dial-plan-profile id=cisco plan;
change custom-dial-plan-profile id=cisco plan; description=main dialing plan for cisco;
delete custom-dial-plan-profile id=cisco plan;
```

Usage Guidelines

Primary Key Token(s): id

Add Rules: None.

Change Rules: None.

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

Syntax Description

* ID	Primary key. Custom dial plan profile ID. VARCHAR(16): 1–16 ASCII characters.
AUTO-REFRESH	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.
DESCRIPTION (EMS-only field)	Described by the service provider. VARCHAR(64): 1–64 ASCII characters.
DISPLAY	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.
LIMIT	Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1–100000000 (Default = 100000000). Note The actual maximum number of rows displayed is currently lower than 100000000 due to software limitations.

ORDER	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.
START-ROW	Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1–100000000 (Default = 1).

Ext2Subscriber

The EXT2SUBSCRIBER table has to be manually defined for each subscriber in the CENTREX group including main_sub.



Note

If this table is not created manually then the dial-plan defined in the CDP (customer dial-plan) for the centrex will not work.

Table Name: EXT2SUBSCRIBER

Table Containment Area: FSPTC

Command Types

Show, add, change, and delete

Examples

```
show ext2subscriber ctxg-id=engineering; ext=1234;
add ext2subscriber ctxg-id=engineering; ext=1234;
change ext2subscriber ctxg-id=engineering; ext=1234; sub-id=wilmerwabash;
delete ext2subscriber ctxg-id=engineering; ext=1234;
```

Usage Guidelines

Primary Key Token(s): ctxg-id, ext

Foreign Key Token(s): ctxg-id, cpsg-id, sub-id

Add Rules: None.

Change Rules: None.

Delete Rules: None.

Syntax Description

* CTXG-ID	Primary key. Foreign key: Centrex Group table. Centrex group ID. VARCHAR(16): 1–16 ASCII characters.
* EXT	Primary key. Extension number. VARCHAR(7): 1–7 digits. 0 is a valid extension.

ASSIGNED	Indicates if extension is assigned. CHAR(1): Y/N (Default = Y). Y—Assigned N—Unassigned (Not supported)
ATTENDANT	Specifies whether subscriber is an attendant. CHAR(1): Y/N (Default = N). N—Subscriber is not an attendant. Y—Subscriber is an attendant.
AUTO-REFRESH	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.
CAT-CODE	Mandatory if cat-screening=y in centrex-grp::ctxg-id. Customer access treatment (CAT) code assigned to the Centrex subscriber. SMALLINT: 1–16.
CPSG-ID	Foreign key: Call Park Subscriber table. Call park subscriber group identification. VARCHAR(16): 1–16 ASCII characters.
CTX-RESTRICT	Specifies if there are any Centrex restrictions. VARCHAR(4). Permitted values are: NONE (Default)—No restriction on the line. FULL—Fully restricted line. Cannot make or receive DOD/DID calls. DID calls cannot be transferred to a fully restricted line. SEMI—Similar to fully restricted line but can receive transferred DID calls.
DISPLAY	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.
LIMIT	Specifies the number of rows to display on the screen. Valid only for the show command. INTEGER: 1–100000000 (Default = 100000000). Note The actual maximum number of rows displayed is currently lower than 100000000 due to software limitations.
ORDER	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.

START-ROW	Specifies to begin displaying data on the screen at a specific row. Valid only for the show command. INTEGER: 1–100000000 (Default = 1).
SUB-ID	Foreign key: Subscriber table. Subscriber ID from the Subscriber table. VARCHAR(30): 1–30 ASCII characters.

