



CHAPTER 5

Cable Subscriber Provisioning

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This chapter describes how to provision subscribers in a cable network.

For a more detailed description of all Cisco BTS 10200 Softswitch tables, tokens, and value ranges, refer to the *Cisco BTS 10200 Softswitch Command Line Interface Reference Guide*.

For information about how to provision the Cisco BTS 10200 Softswitch network elements to support PacketCable-based features and protocols, refer to the *PacketCable and Event Message Provisioning and Operations Guide (Release 4.5)*.

Provisioning a Cable Subscriber

[Table 5-1](#) provides an example of the steps required to provision the Cisco BTS 10200 Softswitch to communicate with a cable network and lists example commands with mandatory tokens. Click on each step for a complete description of the step.

Table 5-1 **Provisioning a Cable Subscriber**

	Description	CLI Command
Step 1	Add a Media Gateway Profile, page 5-2	add mgw-profile id=UBR925; vendor=cisco; packet-type=IP; ec_supp=y; mgcp-version=mgcp_1_0; termination-prefix=aaln/; port-start=0; mgcp-variant=ncs-1-0; description=Cisco UBR925;
Step 2	Add a Media Gateway, page 5-3	add mgw id=<MGW ID>; tsap-addr=<TSAP-ADDR>; call-agent-id=<CA ID>; mgw-profile-id=UBR925; type=rgw; aggr-id=aggr01;
Step 3	Add a Termination, page 5-3	add termination prefix=aaln/; port-start=0; port-end=1; mgw-id=<MGW ID>; type=line;
Step 4	Add a Destination, page 5-4	add destination dest-id=local-call; route-type=sub; call-type=local;

Table 5-1 *Provisioning a Cable Subscriber (continued)*

	Description	CLI Command
Step 5	Add a Dial Plan Profile, page 5-4	add dial-plan-profile id=dp1; description=NA_Default;
Step 6	Add a Dial Plan, page 5-4	add dial-plan id=dp1; digit-string=919-392; dest-id=sub; noa=national;
Step 7	Add a Subscriber Profile, page 5-4	add subscriber-profile id=subpf1; dial-plan-id=dp1; pop-id=1;
Step 8	Add a Subscriber, page 5-5	add subscriber id=sub11; sub-profile-id=subpf1; category=individual; term-id=aaln/0; mgw-id=c925.172;dn1=919-392-1235; name=RTP5; Note Each subscriber must have a unique term-id.
Step 9	Change Subscriber Ring Cadence (Optional), page 5-5	change subscriber id=sub11; sub-profile-id=subpf1; ring_type_dn1=3;
Step 10	Control a Media Gateway, page 5-6	control mgw id=<MGW ID>; target-state=INS; mode=FORCED;
Step 11	Equip a Subscriber Termination, page 5-6	equip subscriber-termination id=sub11;
Step 12	Control a Subscriber Termination, page 5-6	control subscriber-termination id=sub11; target-state=INS; mode=FORCED;

Add a Media Gateway Profile

A media gateway (MGW) profile provides a template for provisioning one or more media gateways by vendor. It identifies the specifications and settings necessary for communications between the Call Agent and each type of media gateway. Execute this command once for each gateway.

Command	Purpose
add mgw-profile id=UBR925; vendor=cisco; packet-type=IP; ec_supp=y; mgcp-version=mgcp_1_0; termination-prefix=aaln/; port-start=0; mgcp-variant=ncs-1-0; description=Cisco UBR925;	Adds a media gateway profile



Tip

The mgcp-max1-retries and mgcp-max2-retries tokens in the mgw-profile table can be adjusted, if necessary, to improve response if there are network bandwidth or reliability issues, or if an MGW is slow in responding to commands from the CA. For a detailed explanation of how these and other parameters affect the audit-endpoint and keepalive processes, see the applicable appendix ([Release 4.4.x Keepalive](#) or [Release 4.5.x Keepalive](#)) in the *Cisco BTS 10200 Softswitch Troubleshooting Guide*.

Add a Media Gateway

The Media Gateway (mgw) table holds information about each media gateway managed by the Call Agent. The media gateway can be uniquely addressed by domain name, an IP address, or the TSAP address.

The Media Gateway table has two associated commands: RGW and TGW. The RGW command provisions a gateway as only a residential gateway, with the type token automatically set to RGW. The TGW command provisions a gateway as a trunking gateway only, with the type token automatically set to TGW. Both of these commands provision the Media Gateway table, but a service provider can use these commands to provide user security to certain individuals based on their roles.

Command	Purpose
add mgw id=<MGW ID>; tsap-addr=<TSAP-ADDR>; call-agent-id=<CA ID>; mgw-profile-id=UBR925; type=rgw; aggr-id=aggr01;	Adds a media gateway



Note

The RGW command could also be used to provision the media gateway in this instance. Refer to the *Cisco BTS 10200 Softswitch Command Line Interface Reference Guide* for detailed information about the RGW and TGW commands.

Add a Termination

The Termination (termination) table holds information about each termination/endpoint managed by the Call Agent. Termination structure uniformly addresses analog ports, DS0 ports, ISDN circuits, and allows termination groupings for ISDN PRI and multiline hunt groups (MLHGs) for a single subscriber. Termination events and signals are grouped into packages. Packages are groupings of events and signals supported by a particular type of endpoint. For instance, one package supports a certain group of events and signals for analog access lines, while another package supports another group of events and signals for video lines. One or more packages can exist for a given endpoint type. The package type is determined by the gateway used.

This table can use commands that do not match command-to-field of the database. If the prefix token is used during provisioning, the termination ID is generated by concatenating a prefix and port-start value and incrementing the termination port number until the port number value reaches port-end. The prefix, port-start, and port-end are not in the table as individual fields.

The user enters:

prefix: 1–32 ASCII characters

port-start: 0000–9999 (1–4 numeric characters) (default = 1)

port-end: 0000–9999 (1–4 numeric characters) (default = 24)

Command	Purpose
add termination prefix=aaln/; port-start=0; port-end=1; mgw-id=<MGW ID>; type=line;	Adds a termination

Add a 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.

Command	Purpose
add destination dest-id=local-call; route-type=sub; call-type=local;	Adds a destination

Add a 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.

Command	Purpose
add dial-plan-profile id=dp1; description=NA_Default;	Adds a dial plan profile

Add a Dial Plan

A dial plan analyzes, screens, and routes 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.

Command	Purpose
add dial-plan id=dp1; digit-string=919-392; dest-id=sub; noa=national;	Adds a dial plan

Add a Subscriber Profile

The Subscriber Profile (subscriber-profile) table groups properties that are shared by a group of subscribers. For example, a Centrex group consisting of several subscribers can share a subscriber profile. Because a Call Agent consists of several points of presence (POPs), and POP is one of the tokens in the subscriber profile, POP-specific subscriber profiles must be created.

Command	Purpose
add subscriber-profile id=subpf1; dial-plan-id=dp1; pop-id=1;	Adds a subscriber profile

Add a Subscriber

The Subscriber (subscriber) table defines the characteristics of a subscriber or group of subscribers in a Call Agent. All termination numbers reached by a directory number (DN) must be set up as a subscriber. Any termination that can originate in the primary Call Agent must be set up as a subscriber (residential, PBX, business, and Centrex). All terminations to customers, such as MLHG and Centrex, must be defined as well.

Table 5-2 lists the required tokens for each category.

Command	Purpose
add subscriber id=sub11; sub-profile-id=subpf1; category=individual; term-id=aaln/0; mgw-id=c925.172; dn1=919-392-1235; name=RTP5;	Adds a subscriber Note Each subscriber must have a unique term-id.

Table 5-2 Required Tokens Per Category

Token	Value	Required Tokens
Category	INDIVIDUAL	TERM-ID, MGW-ID
	MLHG	MLHG-ID
	MLHG-INDIVIDUAL	TERM-ID, MGW-ID, MLGH-ID
	MLHG-PREF-INDIV	TERM-ID, MGW-ID, MLHG-ID, MLHG-PREF-LIST-ID
	CTXG-MLHG	MLHG-ID, CTXG-ID
	CTXG	CTXG-ID
	CTXG-INDIVIDUAL	TERM-ID, MGW-ID, CTXG-ID
	CTXG-TG	CTXG-ID, TGN-ID
	PBX	TGN-ID

Change Subscriber Ring Cadence (Optional)

When changing the subscriber ring cadence, permitted values 1-7 are available. The cadence of each of these ringing cycles is:

- 1 = 2 seconds ringing, 4 seconds off
- 2 = .5s ringing, .5s ringing, 4s off
- 3 = .5s ringing, .5s ringing, .5s ringing, 4s off
- 4 = .3s ringing, .2s ringing, .3s ringing, 4s off
- 5 = .5s ringing, 6s off
- 6 = .5s ringing, 1s ringing, .5s ringing, 4s off
- 7 = .5s ringing, 6s off

Command	Purpose
change subscriber id=sub11; sub-profile-id=subpf1; ring_type_dn1=3;	Changes subscriber ring cadence

Control a Media Gateway

The control command sets the administrative state (OOS, INS) of media gateways, subscribers terminations, trunks, and trunk groups.

Command	Purpose
control mgw id=c925.172; target-state=INS; mode=FORCED;	Places a media gateway in-service

Enter a CLI status command similar to the following to verify that the media gateway is in-service:

```
status mgw id=c925.172;
```

```
Reply : Success:
```

```
MGW ID -> c925.172
RESULT -> ADM configure result in success
REASON -> ADM executed successful
ADMIN STATE -> ADMIN_INS
OPER STATE -> Media gateway in working status
```

Equip a Subscriber Termination

The equip command enables the subscriber trunk termination to be placed in-service.

Command	Purpose
equip subscriber-termination id=sub11;	Enables a subscriber termination to be placed in-service

Control a Subscriber Termination

The control command sets the administrative state (OOS, INS) of media gateways, subscribers terminations, trunks, and trunk groups.

Command	Purpose
control subscriber-termination id=sub11; target-state=INS; mode=FORCED;	Places a subscriber termination in-service

Verify that the subscriber termination is in-service by using the status command:

```
status subscriber-termination id=sub11;
```