



CHAPTER 2

Multiple Trunk Groups on a Single ISDN D-Channel

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Introduction

The Cisco BTS 10200 Softswitch supports ISDN 23B+D on a single T1 port with the ability to define explicit routing from a DN to a group of CICs or DS0s. To support using a different DN to route to an ISDN 23B+D, multiple trunk groups must be provisioned on a single D-channel. The trunk group is a logical entity used to group a range of B-channels or a single B-channel in a D-channel (ISDN T1). Specific DNs can be associated to the trunk groups for explicit routing of a DN to a specific range of B-channels in the ISDN D-channel (23B+D).

Provisioning

This section describes provisioning multiple trunk groups on a single ISDN D-Channel.

Step 1 Add one ISDN D-channel id.

```
add isdn-dchan id=40089; dchan-type=primary; dchan-format=slot-port;
dchan-slot=2;dchan-port=21;sctp_assoc_id=c5400_102;
backhaul-type=IUA; isdn_dchan-profile-id=NI2; dchan-intf=0;
```

Step 2 Provision multiple trunk groups to the same ISDN D-channel id (40089). In this example, 6 trunk groups: 9950, 9951, 9952, 9953, 9954, 9955 are provisioned.

```
add trunk-grp id=9950; call-agent-id=CA146; tg-type=ISDN; tg-profile-id=tb78-isdn-dchan1;
pop-id=tb78; GLARE=ALL; mgcp-pkg-type=T; dial-plan-id=tb78; isdn-dchan-id=40089;
```

```
add trunk-grp id=9951; call-agent-id=CA146; tg-type=ISDN; tg-profile-id=tb78-isdn-dchan1;
pop-id=tb78; GLARE=ALL; mgcp-pkg-type=T; dial-plan-id=tb78; isdn-dchan-id=40089;
```

```
add trunk-grp id=9952; call-agent-id=CA146; tg-type=ISDN; tg-profile-id=tb78-isdn-dchan1;
pop-id=tb78; GLARE=ALL; mgcp-pkg-type=T; dial-plan-id=tb78; isdn-dchan-id=40089;
```

```
add trunk-grp id=9953; call-agent-id=CA146; tg-type=ISDN; tg-profile-id=tb78-isdn-dchan1;
pop-id=tb78; GLARE=ALL; mgcp-pkg-type=T; dial-plan-id=tb78; isdn-dchan-id=40089;
```

```
add trunk-grp id=9954;call-agent-id=CA146;tg-type=ISDN;tg-profile-id=tb78-isdn-dchan1;
pop-id=tb78;GLARE=ALL;mgcp-pkg-type=T; dial-plan-id=tb78;isdn-dchan-id=40089;
```

```
add trunk-grp id=9955;call-agent-id=CA146;tg-type=ISDN;tg-profile-id=tb78-isdn-dchan1;
pop-id=tb78;GLARE=ALL;mgcp-pkg-type=T; dial-plan-id=tb78;isdn-dchan-id=40089;
```

Step 3 Provision one T1 endpoint to the 23 B-channels.

```
add termination prefix=S2/DS1-21/; port-start=1; port-end=23; type=trunk;
mgw-id=mgw_5400_isdn;
```

Step 4 Provision group of B-channels to a specific trunk-group

```
add trunk cic-start=1; cic-end=7; tgn-id=9950; mgw-id=mgw_5400_isdn;
termination-prefix=S2/DS1-21/; termination-port-start=1; termination-port-end=7;INTF=0;

add trunk cic-start=8; cic-end=13; tgn-id=9951; mgw-id=mgw_5400_isdn;
termination-prefix=S2/DS1-21/; termination-port-start=8; termination-port-end=13;INTF=0;

add trunk cic-start=14; cic-end=15; tgn-id=9952; mgw-id=mgw_5400_isdn;
termination-prefix=S2/DS1-21/; termination-port-start=14; termination-port-end=15;INTF=0;

add trunk cic-start=16; cic-end=17; tgn-id=9953; mgw-id=mgw_5400_isdn;
termination-prefix=S2/DS1-21/; termination-port-start=16; termination-port-end=17;INTF=0;

add trunk cic-start=18; cic-end=20; tgn-id=9954; mgw-id=mgw_5400_isdn;
termination-prefix=S2/DS1-21/; termination-port-start=18; termination-port-end=20;INTF=0;

add trunk cic-start=21; cic-end=23; tgn-id=9955; mgw-id=mgw_5400_isdn;
termination-prefix=S2/DS1-21/; termination-port-start=21; termination-port-end=23;INTF=0;
```

Step 5 Provision a dial plan for each of the 6 destination trunk groups.

a. Add the destination ids.

```
add destination dest-id=9950; call-type=local; route-type=route; route-guide-id=9950;
add destination dest-id=9951; call-type=local; route-type=route; route-guide-id=9951;
add destination dest-id=9952; call-type=local; route-type=route; route-guide-id=9952;
add destination dest-id=9953; call-type=local; route-type=route; route-guide-id=9953;
add destination dest-id=9954; call-type=local; route-type=route; route-guide-id=9954;
add destination dest-id=9955; call-type=local; route-type=route; route-guide-id=9955;
```

b. Add the dial plan ids.

```
add dial-plan id=tb78;digit-string=469450; dest-id=9950;
add dial-plan id=tb78;digit-string=469451; dest-id=9951;
add dial-plan id=tb78;digit-string=469452; dest-id=9952;
add dial-plan id=tb78;digit-string=469453; dest-id=9953;
add dial-plan id=tb78;digit-string=469454; dest-id=9954;
add dial-plan id=tb78;digit-string=469455; dest-id=9955;
```

c. Add the route guide ids.

```
add route-guide id=9950;policy-type=ROUTE; policy-id=9950;
add route-guide id=9951;policy-type=ROUTE; policy-id=9951;
add route-guide id=9952;policy-type=ROUTE; policy-id=9952;
add route-guide id=9953;policy-type=ROUTE; policy-id=9953;
add route-guide id=9954;policy-type=ROUTE; policy-id=9954;
add route-guide id=9955;policy-type=ROUTE; policy-id=9955;
```

d. Add the route ids.

```
add route id=9950;tgn1-id=9950;
add route id=9951;tgn1-id=9951;
add route id=9952;tgn1-id=9952;
add route id=9953;tgn1-id=9953;
```

```
add route id=9954;tgn1-id=9954;
add route id=9955;tgn1-id=9955;
```

Sample Line Test Configuration for Multiple Trunk Groups on a Single ISDN D-Channel

A single ISDN 23B+D can support multiple test lines to run different tests. Each B-channel in the ISDN 23B+D is connected to a different type of test and requires a different DN to route to the test destination.

Table 2-1 provides a sample ISDN 23B+D line test configuration supporting multiple trunk groups. Each trunk group in the D-channel is routed using a different DN (one T1 per slot or port).

Table 2-1 Sample ISDN 23B+D Line Test Configuration

T1 Port	DS0 (B-channel)	Test Type	Phone Number	Agent Type	Trunk Group
Port #1	Channel #1	PESQ 2.1, VQES 3.0, DTMF 1.1, Speech and DTMF 1.0	XXX-XXX-XXXX	Initiator	9950
Port #1	Channel #2	PESQ 2.1, VQES 3.0, DTMF 1.1, Speech and DTMF 1.0			
Port #1	Channel #3	PESQ 2.1, VQES 3.0, DTMF 1.1, Speech and DTMF 1.0			
Port #1	Channel #4	PESQ 2.1, VQES 3.0, DTMF 1.1, Speech and DTMF 1.0			
Port #1	Channel #5	PESQ 2.1, VQES 3.0, DTMF 1.1, Speech and DTMF 1.0			
Port #1	Channel #6	PESQ 2.1, VQES 3.0, DTMF 1.1, Speech and DTMF 1.0			
Port #1	Channel #7	PESQ 2.1, VQES 3.0, DTMF 1.1, Speech and DTMF 1.0			
Port #1	Channel #8	PESQ 2.1, VQES 3.0, DTMF 1.1	YYY-YYY-YYYY	Responder	9951
Port #1	Channel #9	PESQ 2.1, VQES 3.0, DTMF 1.1			
Port #1	Channel #10	PESQ 2.1, VQES 3.0, DTMF 1.1			
Port #1	Channel #11	PESQ 2.1, VQES 3.0, DTMF 1.1			
Port #1	Channel #12	PESQ 2.1, VQES 3.0, DTMF 1.1			
Port #1	Channel #13	PESQ 2.1, VQES 3.0, DTMF 1.1			
Port #1	Channel #14	Fax Termination	ZZZ-ZZZ-ZZZZ	Initiator	9952
Port #1	Channel #15	Fax Termination			
Port #1	Channel #16	Fax Termination	VVV-VVV-VVVV	Responder	9953
Port #1	Channel #17	Fax Termination			
Port #1	Channel #18	Code 100, 102, 105	PPP-PPP-PPPP	Initiator	9954
Port #1	Channel #19	Code 100, 102, 105			

Table 2-1 Sample ISDN 23B+D Line Test Configuration

T1 Port	DS0 (B-channel)	Test Type	Phone Number	Agent Type	Trunk Group
Port #1	Channel #20	Code 100, 102, 105			
Port #1	Channel #21	Code 105	NNN-NNN-NNNN	Responder	9955
Port #1	Channel #22	Code 105			
Port #1	Channel #23	Code 105			
Port #1	Channel #24	ISDN D-Channel	N/A	Special	N/A