CHAPTER 6

ISDN Provisioning

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

This chapter describes the Integrated Services Digital Network (ISDN) Provisioning commands and their associated tables.

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

Backhaul Set

The Backhaul Set (backhaul-set) table defines an entity for IP communication between a Call Agent and a media gateway for ISDN signaling. It is used to group entries in the Reliable User Datagram Protocol Backhaul Session table.

Table Name: BACKHAUL-SET

Table Containment Area: Call Agent

Command Types

Show, add, change, and delete

Examples

```
show backhaul-set set-id=backset1;
add backhaul-set set-id=isdn1; mgw-id=mgw_isdn; set-name=set1;
change backhaul-set set-id=isdn1; set-name=set3;
delete backhaul-set set-id=isdn1;
```

Usage Guidelines

Primary Key Token(s): set-id

Foreign Key Token(s): mgw-id

Add Rules: None.

Change: Control trunk groups using this set to admin-oos.

Delete Rules: Foreign key constraints.

Note If using these commands after a system upgrade, use the mgw-id as the set-id. There is one entry for each ISDN media gateway. The hard code set-name = ISDN1.

Syntax Description

* SET-ID	Primary key. Specifies the entity to use for ISDN communication. Unique name for the Call Agent. VARCHAR(16): 1–16 ASCII characters.
* MGW-ID	Foreign key: Media Gateway table. The media gateway ID. VARCHAR(32): 1–32 ASCII characters.
* SET-NAME	Unique name for the gateway (see H.323 Gateway to Gatekeeper, page 7-18, for group information). 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.
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.

SIG-TOS-LOWDELAY	Specifies whether to set low delay. Low delay refers to the waiting time, or latency involved in sending and receiving a packet. You can set various options on the TCP socket to tune or optimize for certain performance parameters. CHAR(1): Y/N (Default = N). Y—Set low delay to 1. N—Set low delay to 0. **Caution** Cisco does not recommend using any value other than the specified default. Changing this value from its default may significantly impact network performance. Contact Cisco TAC for further information.
SIG-TOS-PRECEDENCE	Specifies the designation assigned to a phone call by the caller to indicate the relative urgency (and thus the order of handling) of a call. It also sends an indication to the called party of the order in which the call is answered. VARCHAR(16): 1–16 ASCII characters. Permitted values are: CRITICAL (=5)—Default NETCONTROL (=7) INTERNETCONTROL (=6) FLASHOVERRIDE (=4) FLASH (=3) IMMEDIATE (=2) PRIORITY (=1) ROUTINE (=0) **Caution** Cisco does not recommend using any value other than the specified default. Changing this value from its default may significantly impact network performance. Contact Cisco TAC for further information.
SIG-TOS-RELIABILITY	Specifies whether to set reliability. Reliability refers to the dependability of packet delivery. CHAR(1): Y/N (Default = N). Y—Set reliability to 1. N—Set reliability to 0. **Caution** Cisco does not recommend using any value other than the specified default. Changing this value from its default may significantly impact network performance. Contact Cisco TAC for further information.

SIG-TOS-SUPP	Specifies whether to send TOS information, because not all gateways support the TOS parameter. CHAR(1): Y/N (Default = N).
SIG-TOS-THROUGHPUT	Specifies whether to set throughput. Throughput refers to the actual amount of useful and nonredundant information that is transmitted or processed. CHAR(1): Y/N (Default = N). Y—Set throughput to 1. N—Set throughput to 0. **Caution** Cisco does not recommend using any value other than the specified default. Changing this value from its default may significantly impact network performance. Contact Cisco TAC for further information.
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).

ISDN B-Channel

The ISDN B-Channel (isdn-bchan) table specifies which interface a B channel is on. This table is not provisionable. It is created and populated when ISDN trunks are provisioned.

Table Name: ISDN-BCHAN

Command Types

Show

Examples

```
show isdn-bchan
```

Usage Guidelines

Primary Key Token(s): bchan, intf, tgn-id

Foreign Key Token(s): intf, tgn-id, trunk-id

Syntax Description

* BCHAN	Primary key. The B-channel number for ISDN PRI. INTEGER: 1–24.
AUTO-REFRESH	Specifies whether to display cached data on the screen. 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.

DISPLAY	Specifies what token information to display on the screen. 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.
INTF	Primary key. Foreign key: ISDN Interface table. Interface number. INTEGER: 0–31 (Default = 0).
LIMIT	Specifies the number of rows to display on the screen. 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. 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. INTEGER: 1–100000000 (Default = 1).
TGN-ID (or TG)	Primary key. Foreign key: Trunk Group table. Identifies the trunk group ID. This field can also be specified using tg instead of a tgn-id. INTEGER: 1–99999999.
TRUNK-ID (System generated)	Foreign key: Trunk table. Identifies the trunk ID. Constructed from the CIC start and CIC end tokens. INTEGER.

ISDN D-Channel

The ISDN D-Channel (isdn-dchan) table is used to provision ISDN D channels on trunk groups.

Table Name: ISDN-DCHAN

Table Containment Area: Call Agent

Command Types

Show, add, change, and delete

Examples

```
show isdn-dchan tgn-id=1;
add isdn-dchan tgn-id=1; dchan-type=primary; dchan-slot=0; dchan-port=4; dchan-intf=0;
add isdn-dchan tgn-id=1; dchan-type=backup; dchan-slot=0; dchan-port=4; dchan-intf=8;
add isdn-dchan tgn-id=1; dchan-type=backup; dchan-port=4;
change isdn-dchan tgn-id=1; dchan-type=primary; dchan-format=SLOT-SUBSLOT-PORT;
dchan-slot=0; dchan-port=1; dchan-subslot=1; dchan-intf=0;
delete isdn-dchan tgn-id=1; dchan-type=backup;
```

Usage Guidelines

Primary Key Token(s): tg, dchan-type, tgn-id

Foreign Key Token(s): tgn-id, set-id, dchan-intf

Unique Key Token(s): set-id, dchan-slot, dchan-port

Note Set-id, slot, and port are used as primary keys to find a record. That is why the primary and backup are different records.

Add Rules:

- No backup if nfas=n in isdn-tg-profile.
- Intf=0; if nfas=n in isdn-tg-profile.
- Cannot create a backup D channel without a primary.
- The chan-intf number cannot be the same for primary and backup (same trunk group number), such as:

```
uk on tg and dchan-intf;
```

- Tgn-id+dchan-intf is a foreign key to the isdn-intf table.
- Set-id must be the same for primary and backup.

Delete Rules: Trunk-grp must be in admin-oos state.

Syntax Description

* TGN-ID (or * TG)	Primary key. Foreign key: Trunk Group table. Identifies the trunk group ID. This field can also be provisioned using tg instead of a tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it. INTEGER: 1–99999999.
* SET-ID	Unique key. Foreign key: Backhaul Set table. Specifies which backhaul-set-to-gateway to use for communication. Must match a set-id in the Backhaul Set table. VARCHAR(16): 1–16 ASCII characters.
* DCHAN-SLOT	Unique key. D-channel slot (board) number at the gateway. Required for ISDN trunk group (see the MGW vendor's documentation). Do not confuse with Time Slot. SMALLINT: 0–255. **Note** Cisco recommends using 0 for this token. When 0 is used, The Cisco BTS 10200 Softswitch will automatically select whatever slot is not used as the B-channel as the D-channel.
* DCHAN-PORT	Unique key. D-channel port (T1/DS1 span on the board) number. Required for ISDN Trunk Group. SMALLINT: 0–255. Use 0–3 for the Cisco AS5300. *Port* is 0, 1, 2, 3. The leftmost T1 is 0. The rightmost T1 is 3. SMALLINT: 0–32768. Use 0–3 for the Cisco AS5350. Port is 0, 1, 2, 3. The leftmost T1 is 0. The rightmost T1 is 3. (Release 4.4.0) **Note** When interfacing with a voice switch service module (VXSM), the Cisco BTS 10200 Softswitch sets the slot to 0 if the port is greater than 255.

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.
DCHAN-FORMAT (Release 4.5)	Specifies how to encode a channel id in the backhaul message. VARCHAR(16): 1–16 ASCII characters. Permitted values are: PORT—Include only the dchan-port in the channel id. SLOT-PORT (DEFAULT)—Include both the dchan-slot and dchan-port in the channel id. SLOT-SUBSLOT-PORT—Include the slot, subslot, and port number in the channel id.
DCHAN-INTF	Foreign key: the tgn-id+dchan-intf is the foreign key to the ISDN Interface table. The default interface number is 0 for the primary D channel, but can be any number for the backup D channel. SMALLINT: 0–31 (Default = 0).
DCHAN-SUBSLOT (Release 4.5)	Specifies the D-channel subslot. Valid only if dchan-format=slot-subslot-port. INTEGER: 0–7 (Default = 0).
DCHAN-TYPE	Primary key. Specifies whether the D-channel type is primary or backup. VARCHAR(7): 1–7 ASCII characters. Permitted values are: PRIMARY (Default)—First D channel set to provide signaling. BACKUP—Reserve D channel. Use for nonfacility associated signaling (NFAS) only.
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).

ISDN Interface

The ISDN Interface (isdn-intf) table defines the number of T1s per primary rate interface (PRI). This table is provisioned before the Trunk table. The number of entries for a trunk group is dependent on whether it is nonfacility associated signaling (NFAS) and facility associated signaling (FAS). FAS trunk groups have only one entry in this table, and with an INTF value of zero (0). NFAS trunk groups have multiple entries in this table; one for each T1.

Table Name: ISDN-INTF

Table Containment Area: EMS, CA

Command Types

Show, add, and delete

Examples

```
show isdn-intf;
add isdn-intf tgn-id=1; intf=3;
delete isdn-intf tgn-id=1; intf=3;
```

Usage Guidelines

Primary Key Token(s): tgn-id; intf

Foreign Key Token(s): tgn-id

Add Rules: intf = 0, if nfas = n (non-zero intf is not allowed if nfas=n).

Delete Rules: tg+intf is not used in any trunk or isdn-dchan tables.

Syntax Description

* TGN-ID (or * TG)	Primary key. Foreign key: Trunk Group table. Identifies the trunk group ID. This field can also be provisioned using tg instead of a tgn-id. The EMS looks up the tgn-id based on the trunk group and then provisions it. INTEGER: 1–99999999.
* INTF (Mandatory in Release 4.5.1)	Primary key. Specifies which T1 on the PRI to use. INTEGER: 0–31 (Default = 0).
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.
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).

ISDN Trunk Group Profile

The ISDN Trunk Group Profile (isdn-tg-profile) table holds common information regarding an ISDN trunk group. This table is used to configure the Cisco BTS 10200 Softswitch to interact with various types of private branch exchanges (PBXs) having different configurations (such as NFAS, FAS, and so forth), initialization procedures (service or restart), or supporting different call control or maintenance timer values. The isdn-tg-profile record can be shared by multiple ISDN trunk groups. The table tokens configure the Call Agent to communicate with a particular PBX.

Table Name: ISDN-TG-PROFILE

Table Containment Area: Call Agent

Command Types

Show, add, change, and delete

Examples

```
show isdn-tg-profile id=dallas1;
add isdn-tg-profile id=dallas1; type=swv-us-ni2-pri;
change isdn-tg-profile id=dallas1;
delete isdn-tg-profile id=dallas1;
```

Usage Guidelines

Primary Key Token(s): id

Add Rules: None.

Change Rules: None.

Delete Rules: ID cannot exist in any trunk-grp::tg-profile-id where tg-type=isdn.

Other Rules:

- playtone=Y is allowed only if inband-info=Y
- T310 must be greater than T303
- proprietary-supp token must be set to 8 when provisioning NI2, DMS, 4ESS or 5ESS. (Release 4.4.0)

- send-group-dn token sends the main billing-dn for emergency calls that originate on the same trunk.
- Release 4.4.x:
  - if an ISDN PBX has the main-sub-id provisioned with send-group-dn=Y, send-bdn-for-emg=N, send-bdn-as-cpn=N, and it is an EMG call, then the DN1 of the main-sub-id is sent as the calling party number.
  - if an ISDN PBX has the main-sub-id provisioned with send-group-dn=Y, send-bdn-for-emg=Y, send-bdn-as-cpn=N, and it is an EMG call, then the billing-dn of the main-sub-id is sent as the calling party number.
  - if an ISDN PBX has the main-sub-id provisioned with send-group-dn=N, send-bdn-for-emg=N, send-bdn-as-cpn=N, and it is an EMG call, then the DN1 of the individual subscriber is sent as the calling party number.
  - if an ISDN PBX has the main-sub-id provisioned with send-group-dn=N, send-bdn-for-emg=Y, send-bdn-as-cpn=N, and it is an EMG call, then the billing-dn of the individual subscriber is sent as the calling party number.
- Release 4.5
  - if an ISDN PBX has the main-sub-id provisioned with send-bdn-for-emg=N, send-bdn-as-cpn=N, and it is an EMG call, then the DN1 of the main-sub-id is sent as the calling party number. The system does not check the provisioned value for send-group-dn.
  - if an ISDN PBX has the main-sub-id provisioned with send-bdn-for-emg=Y, send-bdn-as-cpn=N, and it is an EMG call, then the billing-dn of the main-sub-id is sent as the calling party number. The system does not check the provisioned value for send-group-dn.

Syntax Description

* ID	Primary key. Unique ID for this trunk group profile. Assigned by service provider. 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.
BCHAN-NEG-SUPP	Specifies whether B-channel negotiation is supported. The B-channel availability procedure can be turned on or off using the isdn-service-supp token. CHAR(1): Y/N (Default = N). N—The PBX will not perform the B-channel negotiation procedure. Y—The PBX will perform the B-channel negotiation procedure.
CHRG-NUM-SUPP	Specifies whether a calling party number is transported with a charge number, if available. CHAR(1): Y/N (Default = N). N—Calling party number IE is transported as is. Y—Calling party number IE is populated with a charge number if available.

CNAME-SUPP	Specifies how the calling name parameter is conveyed to an ISDN PBX. The main subscriber must be subscribed to the calling name feature. VARCHAR(16): 1–16 ASCII characters. Permitted values are: PROTOCOL (Default)—Calling, or Connected, name is supported as specified by the switch type configured in the trunk group profile. RAW-DISP—Calling, or Connected, name is carried in a raw display IE.
CUT-THRU-BEFORE-ANSWER	Used to cut through a both-way voice path on the first backward message. CHAR(1): Y/N (Default = N).
DESCRIPTION (EMS-only field)	Described by the service provider. VARCHAR(64): 1–64 ASCII characters.
DISP-IE-CODESET	Determines the codeset in which a display IE is sent out in any message. SMALLINT: 0–7 numeric characters (Default = 0).
DISP-IE-SUPP	Specifies whether the display information element (IE) is supported. CHAR(1): Y/N (Default = Y). Y—Display IE is supported on the trunk group. N—Display IE is not supported on the trunk group.
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.
FACIL-IE-CODESET	Determines the codeset in which a facility IE is sent out in any message other than a facility message. SMALLINT: 0–7 numeric characters (Default = 0).
FACIL-IE-SUPP	Specifies whether facility IE is supported. CHAR(1): Y/N (Default = N). Y—Facility IE is supported on the trunk group. N—Facility IE is not supported on the trunk group.
FLIP-CHAN-EXT-BIT	Specifies whether the channel ID octet carrying the channel number has the most significant bit set or coded as zero. CHAR(1): Y/N (Default = N). N—The channel ID octet carrying the channel number has the most significant bit set. Y—The channel ID octet carrying the channel number has the most significant bit coded as zero.
GENDIGIT-IE-CODESET (Release 4.4.0)	Determines what codeset a Generic Digits IE is sent out in. On the receiving side, the Cisco BTS 10200 Softswitch can accept any codeset. SMALLINT: 0–7 (Default = 6).

GENDIGIT-IE-SUPP (Release 4.4.0)	Specifies whether sending of Generic Digits IE is supported on this trunk group. CHAR(1): Y/N (Default = N). **Note** Only supported if type=swv-dms-pri.
GENDIGIT-TOD-INFODIGIT (Release 4.4.0)	Specifies the type of digit for sending Info Digits in a Generic Digits IE. SMALLINT: 0–31 (Default = 4). **Note** Used only when gendigit-ie-supp=Y. If this token is configured as 31, sending of Info Digits is disabled on the outgoing trunk group.
INBAND-INFO	Specifies whether to send a release, or provide a tone or announcement. CHAR(1): Y/N (Default = N). Y—Provide announcement or tone locally. N—Send release if not a specialized announcement.
INTERFACE-TYPE	Interface type. Specifies whether the Call Agent is operating as the network side or the user side. VARCHAR(7): 1–7 ASCII characters. Permitted values are: NETWORK (Default)—Call Agent operates as a network. USER (Release 4.4.0)—Call Agent operates as a PBX. SYMMETRIC (Not used) (Release 4.4.0)
ISDN-FAREND-INIT	Specifies whether the PBX sends restart/service messages to bring B channels in-service. CHAR(1): Y/N (Default = N). N—Call Agent performs the initialization (rest oral) procedure, and sends restart and service messages. Y—Call Agent sets B channels to remote block and waits for the remote PBX to send restart and service messages.
ISDN-QUERY-SUPP	Specifies whether to query if a PBX supports sending an appropriate status back on receiving a status inquiry. CHAR(1): Y/N (Default = N). N—Call Agent does not initiate a status inquiry (audit) procedure for every active call. Y—Call Agent initiates a status inquiry (audit) procedure for every active call.
ISDN-RESTART-CHAN-SUPP	Specifies whether restart (initialization) on a channel basis is supported. CHAR(1): Y/N (Default = Y). N—Not supported. Call Agent does not send a single restart message for an individual channel (restart class 0). Y—Supported. Call Agent sends a single restart message for an individual channel (restart class 0).

ISDN-RESTART-INTERFACE-SUPP	Specifies if restart (initialization) on interface is supported for a particular PBX. CHAR(1): Y/N (Default = Y). Y—Supported. The Call Agent sends a restart message for all interfaces (restart class 6). N—The PBX does not support restart messaging for all interfaces (restart class 6) and the Call Agent will not send the message "restart all interfaces."
ISDN-RESTART-PRI-SUPP	Specifies if restart (initialization) on PRI is supported for a particular PBX. Used for NFAS. CHAR(1): Y/N (Default = N). N—Supported. The Call Agent sends a restart message for all interfaces (restart class 7). Y—The PBX does not support restart messaging for all interfaces (restart class 7) and the Call Agent will not send the message *restart all interface*.
ISDN-SERVICE-SUPP	Specifies if a far-end PBX supports receiving service message. CHAR(1): Y/N (Default = Y). N—The PBX supports service messages (B-channel availability) Y—The PBX does not support service messages (B-channel availability); the Call Agent sends a single service message for an individual channel.
IW-SPEC	Specifies the interworking specification supported by the PBX. TR-NWT-444 is only partially implemented in this release. VARCHAR(16): 1–16 ASCII characters. Permitted values are: T1-609 (Default)—The PBX supports the T1-609 specification. TR-NWT-444—The PBX supports the Bellcore TR-NWT-444 specification.
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.
MAX-RESTART-COUNT (Release 4.4.0)	Limits the number of ISDN restarts sent by the Cisco BTS 10200 Softswitch, in case the peer switch does not respond with a RESTART ACK. SMALLINT: 0–7 (Default = 3).
MAX-SERVICE-COUNT (Release 4.4.0)	Limits the number of ISDN service messages sent by the Cisco BTS 10200 Softswitch, in case the peer switch does not respond with a SERVICE ACK. SMALLINT: 0–7 (Default = 3).
NFAS-SUPP	Specifies if nonfacility associated signaling (NFAS) is supported. CHAR(1): Y/N (Default = N). N—The configuration in use is not NFAS. Only a single interface is configured. Y—The configuration in use is NFAS. The number of interfaces controlled by the D channel is more than one.

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.
OVERLAP-RECEIVING-SUPP (Release 4.4.0)	Specifies whether overlap receiving procedures are supported on the trunk group. CHAR(1): Y/N (Default = N).
OVERLAP-SENDING-SUPP (Release 4.4.0)	Specifies whether overlap sending procedures are supported on the trunk group. CHAR(1): Y/N (Default = N).
PROPRIETARY-SUPP	Used to deal with proprietary issues encountered in the field. This is a generic 8-bit field. Any usage of the field is a candidate for a token in the next release explicitly defined to deal with the discovered proprietary issue. SMALLINT: 0–255 numeric characters (Default = 0). Permitted values for Release 4.4 and higher are: 1—Disables sending status messages except in response to a Status Enquiry message. 3—Trunk is set to the TRANS state due to a Restart Timer expiration after a Restart message is sent the maximum number of times. 4—Trunk is set to the TRANS state due to a Restart Timer expiration after a Restart message is sent the maximum number of times. 5—Disables sending a Calling Party IE when presentation is restricted. 6—Passes a NOA transparently. Indicates whether to change the NOA to "unknown" or use the NOA as received when a SETUP is received with the called party number as 0+ or 1+. (Release 4.5.1) 8—Disables sending a Suspend or Resume indication in a Notify message. If the NI2 variant is used, this value must be set. 16—Disables sending a Calling Party IE when presentation is restricted. **Note** These values can be combined together. For example, to use the NI2 variant and disable sending a Calling Party IE when presentation is restricted, then set the value of this token to 24 (8 + 16 = 24).
SEND-GROUP-DN	Specifies whether a group DN is sent for billing the call instead of sending an individual billing DN. CHAR(1): Y/N (Default = N). Y—Puts the main-sub DN1 in the billing chargenumber field and populates the orignumber field with the subscriber DID. For EMG calls that originate on the trunk, the DN1 in the main-sub id is sent as the calling party number. N—Send individual DN for billing.
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).

T-301 (ALERTING)	Alert Timer. The layer 3 parameter, T301, is the maximum time the stored program control switching system (SPCS) waits for a connect message after receiving an alerting message from the called user equipment. SMALLINT: 180–420 seconds (Default = 300).
T-302 (OVERLAPPED SENDING) (Release 4.4.0)	Overlapped Sending Timer. Upon receipt of a setup message, the network starts timer T302, sends a setup acknowledge message to the user, and enters the overlap sending state. The network restarts timer T302 on receipt of every information message not containing a sending complete indication. SMALLINT: 10–15 seconds (Default = 10).
T-303 (SETUP RETRY)	Setup Retry Timer. Not provisionable. The layer 3 parameter, T303, is the maximum time the SPCS waits for a response to the setup message sent to the user equipment. SMALLINT: 1–4 seconds (Default = 4).
T-304 (OVERLAPPED RECEIVING) (Release 4.4.0)	Overlapped Receiving Timer. The layer 3 parameter T034, is the maximum time, in seconds, the SPCS waits for any additional dialed digits. SMALLINT: 2–60 (Default = 20).
T-305 (DISCONNECT)	Disconnect Timer. The layer 3 parameter, T305, is the maximum time the SPCS waits for a response to the disconnect message sent to the user equipment. SMALLINT: 2–60 seconds (Default = 30).
T-306	Specifies the maximum time, in seconds, the SPCS waits for a RELease message while applying inband tones. SMALLINT: 2–60 (Default = 60). SMALLINT: 2–150 (Default = 60). (Release 4.5.1)
T-307 (Release 4.4.0) (Not used)	Suspend timer. The layer 3 parameter T307, is the maximum time, in minutes, that the SPCS waits for a RESUME message. SMALLINT: 1–10 (Default = 3).
T-308 (RELEASE)	Release Timer. The layer 3 parameter, T308, is the maximum time the SPCS waits for a response to the disconnect message sent to the user equipment. SMALLINT: 2–10 seconds (Default = 4).
T-309 (DL FAILURE)	DL Failure Timer. The layer 3 parameter, T309, is started when the SPCS detects a data link malfunction during an active call. SMALLINT: 10–90 seconds (Default = 90).
T-310 (CALL PROCEEDING)	Incoming Call Proceeding Timer. The layer 3 parameter, T310, is the maximum time the SPCS waits for another response after receiving a call proceeding message from the user equipment. SMALLINT: 10–30 seconds (Default = 10).
T-316 (RESTART)	Restart Timer. The layer 3 parameter, T316, is the maximum time the SPCS waits for a reset acknowledge response to a restart message. SMALLINT: 10–120 seconds (Default = 30).
T-321	This timer is used in D-channel backup to allow a timeout after sending a service message to bring a particular D channel to in-service (active) state. SMALLINT: 10–40 seconds (Default = 20).

T-322 (STATUS ENQ)	Status Enquiry Timer. The layer 3 parameter, T322, is the maximum time the SPCS waits for a response to a status enquiry sent to the user equipment. SMALLINT: 2–10 seconds (Default = 4).
T-323	Service Timer. The layer 3 parameter, T323, is the maximum time the SPCS waits for a service acknowledge message in response to a service message. SMALLINT: 30–120 seconds (Default = 30).
TYPE	ISDN type. VARCHAR(16): 1–16 ASCII characters. Permitted values are: SWV-US-NI2-PRI (Default)—Complies to Telecordia SR-4994. SWV-4ESS SWV-5ESS-PRI SWV-DMS-PRI SWV-ETSI-PRI (Release 4.4.0) SWV-Q931-PRI (Release 4.4.0) SWV-VNX-PRI (Not used) (Release 4.4.0) SWV-AUS-PRI (Not used) (Release 4.4.0) SWV-QSIG-PRI (Not used) (Release 4.4.0) SWV-DPNSS-PRI (Not used) (Release 4.4.0)
USE-GRP-DN (Obsolete in Release 4.5)	Specifies whether a group billing DN is sent as the calling party number. CHAR(1): Y/N (Default = N). N—Propagates the calling party number to the terminating call leg. Y—Replaces the calling party number with the group DN (main subscriber DN).

Reliable User Datagram Protocol Backhaul Session

The Reliable User Datagram Protocol (RUDP) Backhaul Session (rudp-backhaul-session) table specifies the IP connections between a media gateway and the Call Agent for ISDN call processing.

Table Name: RUDP-BACKHAUL-SESSION

Table Containment Area: Call Agent

Command Types

Show, add, change, and delete

Examples

```
show rudp-backhaul-session set-id=isdn1;
add rudp-backhaul-session set-id=backset1; group-name=group1; session-name=session1;
mgw-tsap-addr=10.89.227.200; mgw-backhaul-port=9000; call-agent-tsap-addr=10.89.225.223;
call-agent-backhaul-port=9000;
change rudp-backhaul-session set-id=backset1; group-name=group1; session-name=session1;
call-agent-backhaul-port=17777;
delete rudp-backhaul-session set-id=isdn1;
```

Usage Guidelines

Primary Key Token(s): set-id, group-name, session-name

Foreign Key Token(s): set-id

Add Rules: None.

Change: Control trunk groups using this set to admin-oos.

Delete Rules:

- Foreign key: constraints
- Allowed only if the media gateway supports ISDN.

(Release 4.5.1) For medium configurations, if configuring 2000 D-channels, changes to the RUDP retransmission timeout value configured in the gateway can adversely affect link recovery times. Lost calls can occur on switchover. The retransmit timer value must be above 1000 in order to maintain all active calls during switchover. For example:

```
group group1 timer retransmit 2000
group group2 timer retransmit 2000
```

Syntax Description

* SET-ID	Primary key. Foreign key: Backhaul Set table. Specifies which backhaul set to gateway to use for communication. Must match a set-id in the Backhaul Set table. VARCHAR(16): 1–16 ASCII characters.
* CALL-AGENT-BACKHAUL-PORT	Specifies the Call Agent port connected to the MGW backhaul port. Only applicable if the MGW supports ISDN. SMALLINT: 1–65536.
* CALL-AGENT-TSAP-ADDR	DNS or IP address of the Call Agent. Domain names cannot begin with a number. VARCHAR(64): 1–64 ASCII characters.

* GROUP-NAME	Primary key. Name for a collection of sessions. VARCHAR(16): 1–16 ASCII characters.
* MGW-BACKHAUL-PORT	Media gateway port number is used to backhaul ISDN signaling. Used only if the MGW supports ISDN. SMALLINT: 1–65535.
* MGW-TSAP-ADDR	DNS or IP address of the media gateway. Domain names cannot begin with a number. VARCHAR(64): 1–64 ASCII characters.
* SESSION-NAME	Primary key. Name of the connection between a media gateway and the Call Agent. Usually specified as Session1, Session2, Session3, and Session4. 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.
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).