



ISDN PRI-SLT

The ISDN PRI-SLT feature allows you to release the ISDN PRI signaling time slot for Redundant Link Manager (RLM) configurations, and for Signaling System 7 (SS7) applications in integrated Signaling Link Terminal (SLT) configurations. This feature supports the use of DS0 time slots for SS7 links, and allows the coexistence of SS7 links and PRI voice and data bearer channels on the same T1 or E1 controller span.

Feature Specifications for ISDN PRI-SLT

Feature History

Release	Modification
12.2(8)B	This feature was introduced.
12.2(15)T	This feature was integrated into Cisco IOS Release 12.2(15)T.

Supported Platforms

Cisco AS5300; Cisco AS5350; Cisco AS5400; Cisco AS5800; Cisco AS5850

Finding Support Information for Platforms and Cisco IOS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at <http://www.cisco.com/go/fn>. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

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Information About ISDN PRI-SLT

To configure the ISDN PRI-SLT feature, you need to understand the following concepts:

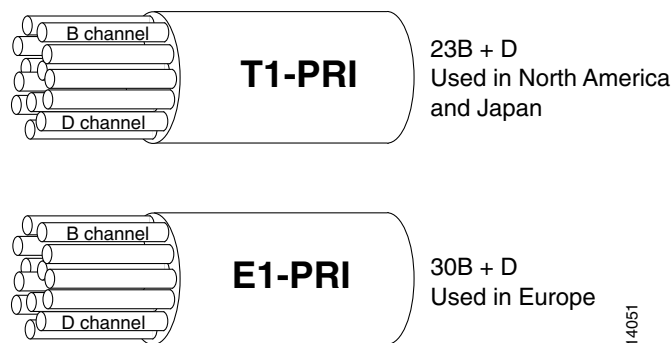
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ISDN Assumptions About the Location of the PRI D Channel

ISDN PRI is designed to carry large numbers of incoming ISDN calls at large central site locations. ISDN PRI has 23 B channels running at 64 kbps each and a shared 64-kbps D channel that carries signaling traffic. ISDN PRI is often referred to as “23 B + D” (North America and Japan) or “30 B + D” (Europe and the rest of the world).

[Figure 1](#) shows how many B channels and D channels are assigned to the ISDN media types.

Figure 1 BRI and PRI Channel Assignments



[Figure 2](#) shows the logical contents of a Cisco ISDN PRI interface used in a standard T1 network configuration.

Figure 2 Logical Relationship of ISDN PRI Components for T1

Channel Type	Time Slot Number	Virtual Serial Interface Number
B (data channel)	1	S0:0
B (data channel)	2	S0:1
B (data channel)	3	S0:2
B (data channel)	4	S0:3
•	•	•
•	•	•
•	•	•
•	•	•
•	•	•
B (data channel)	21	S0:20
B (data channel)	22	S0:21
B (data channel)	23	S0:22
Ⓚ (signaling channel)	24	S0:23

Logical contents of a PRI interface

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The software assumed that the 24th (or 16th for E1) slot in the controller is reserved for D-channel signaling. However, in environments that require SS7-enabled Voice over IP (VoIP) configurations, some applications needed to share all time slots in a PRI group but were not allowed to use the 24th (or 16th) time slot. The ISDN PRI-SLT Cisco IOS Release 12.2(8)B feature, and specifically, the **rlm-group** subkeyword introduced in the **pri-group timeslots** controller configuration command as part of this feature, *releases* the signaling time slots, thereby supporting SS7 applications in VoIP configurations.

ISDN Commands Supported by ISDN PRI-SLT

The following ISDN commands are supported on the D-channel interface to configure ISDN data in SS7-enabled VoIP environments. Refer to the [Cisco IOS Dial Technologies Command Reference](#), Release 12.2 and the [Cisco IOS Voice, Video, and Fax Command Reference](#), Release 12.2 for full command syntax and usage guidelines.

isdn answer	isdn outgoing-voice info-transfer-capability
isdn bchan-number-order	isdn progress-instead-of-alerting
isdn block-progress	isdn reject
isdn busy	isdn send-alerting
isdn caller	isdn sending-complete
isdn disconnect-cause	isdn send-status-enquiry
isdn early-tdm-connection	isdn service
isdn guard-timer	isdn skip-analog-callerid-check
isdn incoming progress	isdn t203
isdn incoming-voice	isdn t300S
isdn k	isdn t303
isdn map	isdn t306

isdn max-restart-tries	isdn t307
isdn n200	isdn t309
isdn negotiate-bchan	isdn t309-enable
isdn network-failure-cause	isdn t310
isdn not-end-to-end	isdn t321

The D-Channel Interface and Cisco SS7 Interconnect for Voice Gateways

A new interface, D-channel, is introduced with the ISDN PRI-SLT feature for use specifically in VoIP applications, such as an SS7 Interconnect Voice Gateway that requires release of ISDN signaling time slots for RLM configurations.

A Cisco SLT is a key component of the Cisco SS7 Interconnect for Voice Gateways feature. In the Cisco SS7 Interconnect for Voice Gateways environment, the D channel will be on Ethernet, and the time slots on an E1 and T1 controller can be shared by other applications such as SS7.

How to Configure ISDN PRI-SLT

This section contains the following tasks. Each task is identified as either required or optional.

- [Release the PRI Signaling Time Slot, page 4](#) (required)
- [Verify ISDN PRI-SLT, page 6](#) (optional)

Release the PRI Signaling Time Slot

To release the ISDN PRI signaling time slot for environments that require SS7-enabled VoIP applications to share all available time slots in a PRI group, use the following commands:

SUMMARY STEPS

1. **enable**
2. **configure** {**terminal** | **memory** | **network**}
3. **controller** {**t1** | **e1**} *controller-number*
4. **pri-group timeslots** *timeslot-range* [**nfas_d** {**backup** | **none** | **primary** {**nfas_int** *number* | **nfas_group** *number* | **rlm-group** *number*}}] | **service**]
5. **channel-group** *channel-number* **timeslots** *range* [**speed** {**48** | **56** | **64**}]
6. **exit**
7. **interface Dchannel** *interface-number*
8. **isdn** *command parameter* (use the commands listed in [Table 1 on page 4](#) to configure the ISDN interface)
9. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	<p>enable</p> <p>Example: Router> enable</p>	<p>Enables higher privilege levels, such as privileged EXEC mode.</p> <ul style="list-style-type: none"> Enter your password if prompted.
Step 2	<p>configure terminal</p> <p>Example: Router# configure terminal</p>	<p>Enters global configuration mode.</p>
Step 3	<p>controller {t1 e1} <i>controller-number</i></p> <p>Example: Router(config)# controller t1 1</p>	<p>Configures a T1 or E1 controller and enters controller configuration mode.</p>
Step 4	<p>pri-group timeslots <i>timeslot-range</i> [nfas_d {backup none primary {nfas_int <i>number</i> nfas_group <i>number</i> rlm-group <i>number</i>}} service]</p> <p>Example: Router(config-controller)# pri-group timeslots 1-3 nfas_d primary nfas_int 0 nfas_group 0 rlm-group 1</p>	<p>Specifies an ISDN PRI group on a channelized T1 or E1 controller.</p> <p>The nfas_d keyword has the following options:</p> <ul style="list-style-type: none"> backup—The D-channel time slot is used as the Non-Facility Associated Signaling (NFAS) D-channel backup. none—The D-channel time slot is used as an additional B channel. primary—The D-channel time slot is used as the NFAS D primary. <p>The primary keyword requires further interface and group configuration:</p> <ul style="list-style-type: none"> nfas_int <i>number</i>—Specify the provisioned NFAS interface as a value; value is a number from 0 to 8. nfas_group <i>number</i>—Specify the NFAS group number. rlm-group <i>number</i>—Specify the RLM group and release the ISDN PRI signaling channel.
Step 5	<p>channel-group <i>channel-number</i> timeslots <i>range</i> [speed {48 56 64}]</p> <p>Example: Router(config-controller)# channel-group 23 timeslots 24</p>	<p>Defines the time slot or range of time slots that belong to each T1 or E1 circuit.</p>
Step 6	<p>exit</p> <p>Example: Router(config-controller)# exit</p>	<p>Returns to global configuration mode.</p>

	Command or Action	Purpose
Step 7	<code>interface Dchannel interface-number</code> Example: Router(config)# interface Dchannel 1	Configures the D-channel interface and enters interface configuration mode.
Step 8	<code>isdn command parameter</code> Example: Router(config-if)# isdn T309 4000	Configures ISDN parameters on the interface.
Step 9	<code>exit</code> Example: Router(config-if)# exit	Returns to global configuration mode.

Verify ISDN PRI-SLT

To verify that the ISDN PRI-SLT feature is working, perform the following optional steps:

SUMMARY STEPS

1. `enable`
2. `show isdn status`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>enable</code> Example: Router> enable	Enables higher privilege levels, such as privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	<code>show isdn status</code> Example: Router# show isdn status	(Optional) Displays status of the ISDN interface. <ul style="list-style-type: none"> • Look for the report about D-channel and RLM group status.

Troubleshooting Tips

Use the commands described in [Table 1](#) to troubleshoot the ISDN PRI-SLT feature.

Table 1 ISDN PRI-SLT Verification and Troubleshooting Commands

Command	Report
<code>debug isdn event</code>	ISDN events occurring on the user (local router) side of the ISDN interface.
<code>debug isdn q921</code>	Data link layer (ISDN Layer 2) access procedures taking place at the router on the D channel.
<code>debug isdn q931</code>	Information about call setup and teardown of network (ISDN Layer 3) connections between the user (local router) side and the network.

Configuration Examples for ISDN PRI-SLT

This section provides the following configuration examples to match the configuration tasks in the previous sections:

- [SS7-Enabled VoIP PRI Shared T1 Configuration Example, page 7](#)
- [Verify ISDN PRI-SLT Example, page 7](#)

SS7-Enabled VoIP PRI Shared T1 Configuration Example

The following example shows how to release the ISDN PRI signaling time slot for RLM configurations on a shared T1 link:

```

controller T1 1
 pri-group time slots 1-3 nfas_d primary nfas_int 0 nfas_group 0 rlm-group 0
 channel group 23 timeslot 24
 exit

! New Dchannel interface is created for configuration of ISDN parameters:
interface Dchannel1
 isdn T309 4000
 exit

```

Verify ISDN PRI-SLT Example

The following example output from the `show isdn status EXEC` command includes a report about D-channel and RLM group status:

```

Router# show isdn status

Global ISDN Switchtype = primary-ni
ISDN Dchannel0 interface  rlm-group = 1
  Transport Link Status:
  ACTIVE
  dsl 0, interface ISDN Switchtype = primary-ni : Primary D channel of nfas group 0
  Layer 1 Status:
  DEACTIVATED
  Layer 2 Status:
  TEI = 0, Ces = 1, SAPI = 0, State = MULTIPLE_FRAME_ESTABLISHED

```

```

Layer 3 Status:
 0 Active Layer 3 Call(s)
Active dsl 0 CCBs = 0
The Free Channel Mask: 0x80000000
Number of L2 Discards = 0, L2 Session ID = 43
ISDN Dchannel1 interface
Transport Link Status : Not Applicable
dsl 1, interface ISDN Switchtype = primary-ni : Group member of nfas group 0
Layer 1 Status:
DEACTIVATED
Layer 2 Status: Not Applicable
Layer 3 Status:
 0 Active Layer 3 Call(s)
Active dsl 1 CCBs = 0
The Free Channel Mask: 0x80000000
Number of L2 Discards = 0, L2 Session ID = 0
ISDN Serial2:15 interface
dsl 2, interface ISDN Switchtype = primary-ni : Primary D channel of nfas group 1
Layer 1 Status:
DEACTIVATED
Layer 2 Status:
TEI = 0, Ces = 1, SAPI = 0, State = TEI_ASSIGNED
Layer 3 Status:
 0 Active Layer 3 Call(s)
Active dsl 2 CCBs = 0
The Free Channel Mask: 0x0
Number of L2 Discards = 0, L2 Session ID = 0
ISDN Serial3:15 interface
dsl 3, interface ISDN Switchtype = primary-ni : Group member of nfas group 1
Layer 1 Status:
ACTIVATING
Layer 2 Status: Not Applicable
Layer 3 Status:
 0 Active Layer 3 Call(s)
Active dsl 3 CCBs = 0
The Free Channel Mask: 0x0
Number of L2 Discards = 0, L2 Session ID = 0
Total Allocated ISDN CCBs = 0

```

Additional References

For additional information related to ISDN PRI-SLT, refer to the following references:

- [Related Documents, page 9](#)
- [Standards, page 9](#)
- [MIBs, page 9](#)
- [RFCs, page 10](#)
- [Technical Assistance, page 10](#)

Related Documents

Related Topic	Document Title
Dial ISDN commands	<i>Cisco IOS Dial Technologies Command Reference</i> , Release 12.2
ISDN PRI	<i>Cisco IOS Dial Technologies Configuration Guide</i> , Release 12.2; refer to “Configuring ISDN PRI” in the “Signaling Configuration” part
Voice ISDN commands	<i>Cisco IOS Voice, Video, and Fax Command Reference</i> , Release 12.2
Voice ISDN interfaces	<i>Cisco IOS Voice, Video, and Fax Configuration Guide</i> , Release 12.2; refer to the chapter “Configuring ISDN Interfaces for Voice”

Standards

Standards	Title
None	—

MIBs

MIBs	MIBs Link
None	To obtain lists of supported MIBs by platform and Cisco IOS release, and to download MIB modules, go to the Cisco MIB website on Cisco.com at the following URL: http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL:

<http://tools.cisco.com/ITDIT/MIBS/servlet/index>

If Cisco MIB Locator does not support the MIB information that you need, you can also obtain a list of supported MIBs and download MIBs from the Cisco MIBs page at the following URL:

<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>

To access Cisco MIB Locator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions found at this URL:

<http://www.cisco.com/register>

RFCs

RFCs	Title
None	—

Technical Assistance

Description	Link
Technical Assistance Center (TAC) home page, containing 30,000 pages of searchable technical content, including links to products, technologies, solutions, technical tips, tools, and lots more. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/public/support/tac/home.shtml

Command Reference

This section documents new and modified commands. All other commands used with this feature are documented in the Cisco IOS Release 12.2 command reference publications.

New Command

- [interface Dchannel](#)

Modified Commands

- [pri-group timeslots](#)
- [show isdn](#)

interface Dchannel

To specify an ISDN D-channel interface and enter interface configuration mode, use the **interface Dchannel** command in global configuration mode.

interface Dchannel *interface-number*

Syntax Description

interface-number

Specifies the ISDN interface number.



Note

The *interface-number* argument depends on which controller the **rlm-group** subkeyword in the **pri-group timeslots** controller configuration command uses. For example, if the Redundant Link Manager (RLM) group is configured using the **controller e1 2/3** command, the D-channel interface command will be **interface Dchannel 2/3**.

Defaults

No D-channel interface is specified.

Command Modes

Global configuration

Command History

Release	Modification
12.2(8)B	This command was introduced.
12.2(15)T	This command was integrated into Cisco IOS Release 12.2(15)T.

Usage Guidelines

This command is used specifically in Voice over IP (VoIP) applications that require release of the ISDN PRI signaling time slot for RLM configurations.

Examples

The following example configures a D-channel interface for a Signaling System 7 (SS7)-enabled shared T1 link:

```
controller T1 1
  pri-group timeslots 1-3 nfas_d primary nfas_int 0 nfas_group 0 rlm-group 0
  channel group 23 timeslot 24
end

! D-channel interface is created for configuration of ISDN parameters:
interface Dchannel1
  isdn T309 4000
end
```

Related Commands

Command	Description
pri-group timeslots	Specifies an ISDN PRI group on a channelized T1 or E1 controller, and releases the ISDN PRI signaling time slot for environments that require that SS7-enabled VoIP applications share all slots in a PRI group.


pri-group timeslots

To specify an ISDN PRI group on a channelized T1 or E1 controller, and to release the ISDN PRI signaling time slot, use the **pri-group timeslots** command in controller configuration mode. To remove or change the ISDN PRI configuration, use the **no** form of this command.

```
pri-group timeslots timeslot-range [nfas_d {backup | none | primary {nfas_int number | nfas_group number | rlm-group number}}] | service]
```

```
no pri-group timeslots timeslot-range [nfas_d {backup | none | primary {nfas_int number | nfas_group number | rlm-group number}}] | service]
```

Syntax Description

<i>timeslot-range</i>	Specifies a value or range of values for time slots on a T1 or E1 controller that comprise an ISDN PRI group. Use a hyphen to indicate a range.
	
Note	Groups of time slot ranges separated by commas (1–4,8–23 for example) are also accepted.
nfas_d { backup none primary }	(Optional) Configures the operation of the ISDN PRI D channel. <ul style="list-style-type: none"> • backup—The D-channel time slot is used as the Non-Facility Associated Signaling (NFAS) D backup. • none—The D-channel time slot is used as an additional B channel. • primary—The D-channel time slot is used as the NFAS D primary. The primary keyword requires further interface and group configuration: <ul style="list-style-type: none"> – nfas_int <i>number</i>—Specify the provisioned NFAS interface as a value; value is a number from 0 to 8. – nfas_group <i>number</i>—Specify the NFAS group. – rlm-group <i>number</i>—Specify the Redundant Link Manager (RLM) group and release the ISDN PRI signaling channel
primary { nfas_int <i>number</i> nfas_group <i>number</i> rlm-group <i>number</i> }	
service	(Optional) Configures service type mgcp for Media Gateway Control Protocol service.

Defaults

There is no ISDN PRI group configured. The switch type is automatically set to the National ISDN switch type (**primary-ni** keyword) when the **pri-group timeslots** command is configured with the **rlm-group** subkeyword.

Command Modes

Controller configuration

Command History

Release	Modification
11.0	This command was introduced.
12.0(2)T	This command was introduced for the Cisco MC3810 multiservice concentrator.
12.0(7)XK	This command was introduced for the Cisco 2600 and Cisco 3600 series routers.
12.1(2)T	The modifications in Cisco IOS Release 12.0(7)XK were integrated into Cisco IOS Release 12.1(2)T.
12.2(8)B	This command was modified with the rlm-group subkeyword to support release of the ISDN PRI signaling channels.
12.2(15)T	This command was integrated into Cisco IOS Release 12.2(15)T.

Usage Guidelines

The **pri-group** command supports the use of DS0 time slots for Signaling System 7 (SS7) links, and therefore the coexistence of SS7 links and PRI voice and data bearer channels on the same T1 or E1 span. The command applies to configuration of voice applications.

In SS7-enabled Voice over IP (VoIP) configurations when an RLM group is configured, high-level data link control (HDLC) resources allocated for ISDN signaling on a digital subscriber line (DSL) interface are released and the signaling slot is converted to a bearer channel (B24). D channel will be running on IP. The chosen D-channel time slot can still be used as a B channel by using the **isdn rlm-group** interface configuration command to configure the NFAS groups.

Examples

The following example specifies ISDN PRI on T1 slot 1, port 0, and configures voice and data bearer capability on time slots 2 through 6:

```
isdn switch-type primary-4ess
controller t1 1/0
  framing esf
  linecode b8zs
  pri-group timeslots 2-6
```

The following example configures a standard ISDN PRI interface:

```
! Standard PRI configuration:
controller t1 1
  pri-group time slots 1-23 nfas_d primary nfas_int 0 nfas_group 0
  exit

! Standard ISDN serial configuration:
interface serial1:23
! Set ISDN parameters:
  isdn T309 4000
  exit
```

The following example configures a dedicated T1 link for SS7-enabled VoIP:

```
controller T1 1
  pri-group time slots 1-23 nfas_d primary nfas_int 0 nfas_group 0
  exit
```

```

! In a dedicated configuration, we assume the 24th timeslot will be used by ISDN.
! Serial interface 0:23 is created for configuring ISDN parameters.
interface Serial:24
! The D channel is on the RLM.
  isdn rlm 0
  isdn T309 4000
exit

```

The following example configures a shared T1 link for SS7-enabled VoIP. The **rlm-group 0** portion of the **pri-group timeslots** command releases the ISDN PRI signaling channel.

```

controller T1 1
  pri-group timeslots 1-3 nfas_d primary nfas_int 0 nfas_group 0 rlm-group 0
  channel group 23 timeslot 24
end

! D-channel interface is created for configuration of ISDN parameters:
interface Dchannel1
  isdn T309 4000
end

```

Related Commands

Command	Description
controller	Configures a T1 or E1 controller and enters controller configuration mode.
interface serial	Specifies a serial interface created on a channelized E1 or channelized T1 controller for ISDN PRI signaling.
isdn switch-type	Specifies the central office switch type on the ISDN PRI interface.

show isdn

To display the information about memory, Layer 2 and Layer 3 timers, and the status of PRI channels, use the **show isdn** command in EXEC mode.

```
show isdn { active [dsl | serial-number] | history [dsl | serial-number] | memory | service [dsl | serial-number] | status [dsl | serial-number] | timers [dsl | serial-number]} 
```

Syntax Description

active [<i>dsl</i> <i>serial-number</i>]	Displays current call information of all ISDN interfaces or, optionally, a specific digital subscriber line (DSL) or a specific ISDN PRI interface (created and configured as a serial interface). Values of <i>dsl</i> range from 0 to 15. Information displayed includes the called number, the remote node name, the seconds of connect time, the seconds of connect time remaining, the seconds idle, and Advice of Charge (AOC) charging time units used during the call.
history [<i>dsl</i> <i>serial-number</i>]	Displays historic and current call information of all ISDN interfaces or, optionally, a specific DSL or a specific ISDN PRI interface (created and configured as a serial interface). Values of <i>dsl</i> range from 0 to 15. Information displayed includes the called number, the remote node name, the seconds of connect time, the seconds of connect time remaining, the seconds idle, and AOC charging time units used during the call.
memory	Displays ISDN memory pool statistics. This keyword is for use by technical development staff only.
service [<i>dsl</i> <i>serial-number</i>]	Displays the service status of all ISDN interfaces or, optionally, a specific DSL or a specific ISDN PRI interface (created and configured as a serial interface). Values of <i>dsl</i> range from 0 to 15.
status [<i>dsl</i> <i>serial-number</i>]	Displays the status of all ISDN interfaces or, optionally, a specific DSL or a specific ISDN PRI interface (created and configured as a serial interface). Values of <i>dsl</i> range from 0 to 15.
timers [<i>dsl</i> <i>serial-number</i>]	Displays the values of Layer 2 and Layer 3 timers for all ISDN interfaces or, optionally, a specific DSL or a specific ISDN PRI interface (created and configured as a serial interface). Values of <i>dsl</i> range from 0 to 15.

Command Modes

EXEC

Command History

Release	Modification
11.1	This command was introduced.
12.2(8)B	This command was modified to display a report about D-channel and Redundant Link Manager (RLM) group status.
12.2(15)T	This command was integrated into Cisco IOS Release 12.2(15)T.

Examples



The following sample output from the **show isdn status** command shows a report about D-channel and RLM group status for RLM configurations, and applications like Signaling System 7 (SS7) in integrated Signaling Link Terminal (SLT) configurations:

```
Router# show isdn status

Global ISDN Switchtype = primary-ni
ISDN Dchannel0 interface  rlm-group = 1
  Transport Link Status:
  ACTIVE
  dsl 0, interface ISDN Switchtype = primary-ni : Primary D channel of nfas group 0
  Layer 1 Status:
  DEACTIVATED
  Layer 2 Status:
  TEI = 0, Ces = 1, SAPI = 0, State = MULTIPLE_FRAME_ESTABLISHED
  Layer 3 Status:
  0 Active Layer 3 Call(s)
  Active dsl 0 CCBs = 0
  The Free Channel Mask:  0x80000000
  Number of L2 Discards = 0, L2 Session ID = 43
ISDN Dchannel1 interface
  Transport Link Status :  Not Applicable
  dsl 1, interface ISDN Switchtype = primary-ni : Group member of nfas group 0
  Layer 1 Status:
  DEACTIVATED
  Layer 2 Status: Not Applicable
  Layer 3 Status:
  0 Active Layer 3 Call(s)
  Active dsl 1 CCBs = 0
  The Free Channel Mask:  0x80000000
  Number of L2 Discards = 0, L2 Session ID = 0
ISDN Serial2:15 interface
  dsl 2, interface ISDN Switchtype = primary-ni : Primary D channel of nfas group 1
  Layer 1 Status:
  DEACTIVATED
  Layer 2 Status:
  TEI = 0, Ces = 1, SAPI = 0, State = TEI_ASSIGNED
  Layer 3 Status:
  0 Active Layer 3 Call(s)
  Active dsl 2 CCBs = 0
  The Free Channel Mask:  0x0
  Number of L2 Discards = 0, L2 Session ID = 0
ISDN Serial3:15 interface
  dsl 3, interface ISDN Switchtype = primary-ni : Group member of nfas group 1
  Layer 1 Status:
  ACTIVATING
  Layer 2 Status: Not Applicable
  Layer 3 Status:
  0 Active Layer 3 Call(s)
  Active dsl 3 CCBs = 0
  The Free Channel Mask:  0x0
  Number of L2 Discards = 0, L2 Session ID = 0
  Total Allocated ISDN CCBs = 0
```

[Table 2](#) describes the significant fields shown in the display.

Table 2 *show isdn status Field Descriptions*

Field	Description
ISDN Dchannel0 interface rlm-group = 1	Status of D-channel interface and RLM group for RLM configurations and SS7 applications in integrated SLT configurations.
Transport Layer Status:	
ACTIVE, DOWN	Status of ISDN Transport Layer.
Layer 1 Status:	
ACTIVE, DEACTIVATED, ACTIVATING	Status of ISDN Layer 1.
Layer 2 Status:	
TEI = 65, State = MULTIPLE_FRAME_ESTABLISHED	Status of ISDN Layer 2. Terminal endpoint identifier (TEI) number and multiframe structure state.
	 Note This value will always be 0 for a D-channel interface.
SPID Status:	
TEI 65, ces = 1, state = 5(init)	Terminal endpoint identifier number and state.
spid1 configured, no LDN, spid1 sent, spid1 valid	Service profile identifier (SPID) configuration information. For example, local directory number is defined.
	 Note There is no SPID report for a D-channel interface.
Endpoint ID Info: epsf = 0, usid = 3, tid = 7F	Endpoint identifier information.
Layer 3 Status:	
1 Active Layer 3 Call(s)	Number of active calls.
Activated dsl 0 CCBs =	Number of the DSL activated. Number of call control blocks in use.
CCB:callid=8003, callref=0, sapi=0, ces=1, B-chan=1	Information about the active call.
Number of active calls =	Number of active calls.
Number of available B-channels =	Number of B channels that are not being used.
Total Allocated ISDN CCBs =	Number of ISDN call control blocks that are allocated.