



Expanded Scope for Cause-Code-Initiated Call-Establishment Retries

This chapter describes how to implement the Expanded Scope for Cause-Code-Initiated Call Establishment Retries feature. This feature enables a gateway to reattempt calls when a disconnect message is received from the PSTN without maintaining extra dial peers.

Feature History for Expanded Scope for Cause-Code-Initiated Call Establishment Retries

Release	Modification
12.2(15)T	This feature was introduced.

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.



Note

For more information about related Cisco IOS voice features, see the following:

- “[Overview of ISDN Voice Interfaces](#)” on page 3
- Entire Cisco IOS Voice Configuration Library—including library preface and glossary, other feature documents, and troubleshooting documentation—at http://www.cisco.com/en/US/products/ps6441/prod_configuration_guide09186a0080565f8a.html

For a list of references cited in this chapter, see the “[Additional References](#)” section on page 69.

Contents

- [Prerequisites for Expanded Scope for Cause-Code-Initiated Call Establishment Retries](#), page 66
- [Restrictions for Expanded Scope for Cause-Code-Initiated Call Establishment Retries](#), page 66
- [Information About Expanded Scope for Cause-Code-Initiated Call-Establishment Retries](#), page 66
- [How to Configure Expanded Scope for Cause-Code-Initiated Call-Establishment Retries](#), page 66

- [Configuration Examples for Expanded Scope for Cause-Code-Initiated Call Establishment Retries](#), page 68
- [Additional References](#), page 69

Prerequisites for Expanded Scope for Cause-Code-Initiated Call Establishment Retries

- Perform the prerequisites that are listed in the “[Prerequisites for Configuring ISDN Voice Interfaces](#)” section on page 3.
- Configure ISDN (trunks) or the Cisco Signaling System 7 (SS7) on the gateway.

Restrictions for Expanded Scope for Cause-Code-Initiated Call Establishment Retries

Restrictions are described in the “[Restrictions for Configuring ISDN Voice Interfaces](#)” section on page 4. In addition, the following applies:

- This feature must be used with ISDN Net5 PRI or NI2 PRI switch types.

Information About Expanded Scope for Cause-Code-Initiated Call-Establishment Retries



Note

General information about ISDN voice interfaces is presented in the “[Information About ISDN Voice Interfaces](#)” section on page 4.

Before this feature was available, there was no easy way to reattempt most calls when a disconnect was received from the PSTN. Only cause code 44 reattempted a call—and only if multiple dial peers to the same destination were configured.

This feature enables you to configure a gateway to reattempt a call when a disconnect message is received from the PSTN. You can configure up to 16 arguments (specifying values from 1 to 127 in each argument) for cause codes.



Note

For a list of cause codes, see [ISDN Switch Types, Codes, and Values](#).

How to Configure Expanded Scope for Cause-Code-Initiated Call-Establishment Retries

This section contains the following procedures:

- [Configuring Expanded Scope for Cause-Code-Initiated Call-Establishment Retries](#), page 67

- [Verifying Expanded Scope for Cause-Code-Initiated Call-Establishment Retries, page 68](#)
- [Troubleshooting Tips, page 68](#)

Configuring Expanded Scope for Cause-Code-Initiated Call-Establishment Retries

To configure expanded scope for cause-code-initiated call-establishment retries, perform the following steps.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface**
4. **isdn negotiate-bchan**
5. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enters privileged EXEC mode. Enter your password when prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	interface <i>type slot/port</i> Example: Router(config)# interface serial 0/4	Configures an interface type and enters interface configuration mode for the specified slot/port.
Step 4	isdn negotiate-bchan [resend-setup] [cause-codes { <i>cause-code1</i> <i>cause-code2</i> ... <i>cause-code16</i> }] Example: Router(interface)# isdn negotiate-bchan resend-setup cause-codes 34 44 63	Enables the router to accept a B channel that is different from the B channel requested in the outgoing call-setup message and specifies the cause codes for which the call is reattempted. Note You must have ISDN trunks configured on your router before you can configure the cause codes.
Step 5	exit Example: Router(interface)# exit	Exits the current mode.

Verifying Expanded Scope for Cause-Code-Initiated Call-Establishment Retries

To verify expanded scope for cause-code-initiated call-establishment retries, perform the following steps (listed alphabetically).

SUMMARY STEPS

1. **show isdn status**
2. **show running-config**

DETAILED STEPS

Step 1 **show isdn status**

Use this command to display the status of all ISDN interfaces, including active layers, timer information, and switch-type settings.

Step 2 **show running-config**

Use this command to display basic router configuration, including cause codes and values entered to verify that the gateway can reattempt disconnect calls received from the PSTN.

Troubleshooting Tips

- Use the **debug isdn q931** command to display calls that the router has attempted or reattempted.

Configuration Examples for Expanded Scope for Cause-Code-Initiated Call Establishment Retries

This section provides the following configuration examples:

- [ISDN Interface: Example, page 68](#)
- [Cause Codes: Example, page 69](#)

ISDN Interface: Example

The following output shows that the ISDN interface is configured on the gateway and that the gateway is configured to reattempt disconnect calls received from the PSTN when the disconnect cause code is 18.

```
Router# show running-config
!
interface Serial7/0:0
  no ip address
  isdn switch-type primary-ni
  isdn incoming-voice modem
  isdn T306 30000
  isdn rlm-group 0
  no isdn send-status-inquiry
```

```
isdn negotiate-bchan resend-setup cause-code 18 ==> Cause-code 18 is configured.  
no cdp enable  
!  
end
```

Cause Codes: Example

The following sample configuration shows that cause codes 34, 44, and 63 are set on serial slot 0 and port 23:

```
Router# show running-config  
!  
interface serial0:23  
  isdn negotiate-bchan resend-setup cause-codes 34 44 63  
end
```

Additional References

General ISDN References

- “[ISDN Features Roadmap](#)” on page 1—Describes how to access Cisco Feature Navigator; also lists and describes, by Cisco IOS release, ISDN features for that release
- “[Overview of ISDN Voice Interfaces](#)” on page 3—Describes relevant underlying technology; lists related documents, standards, MIBs, and RFCs; and describes how to obtain technical assistance
- “[Additional References](#)” section on page 64—Lists additional ISDN references

References Mentioned in This Chapter

- *ISDN Switch Types, Codes, and Values* at http://www.cisco.com/univercd/cc/td/doc/product/software/ios123/123sup/123debug/dbg_ap2g.htm

■ Additional References