



ISDN Backup in MPLS Core

When a primary link is down in the Multiprotocol Label Switching (MPLS) core network, the ISDN Backup in MPLS Core feature allows a backup ISDN link on a dialer interface to be brought up to restore network connectivity. This feature ensures high availability of the link between two routers in the MPLS core by providing a backup mechanism.

Feature Specifications for the ISDN Backup in MPLS Core feature

Feature History

Release	Modification
12.3(2)T	This feature was introduced.

Supported Platforms

Cisco 3640 series, Cisco 7200 series

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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Prerequisites for ISDN Backup in MPLS Core

You need to first configure the Dialer Persistent feature.

Restrictions for ISDN Backup in MPLS Core

- The ISDN Backup in MPLS Core feature works only with dialer profile configuration.
- The ISDN Backup in MPLS Core feature is available only for PPP encapsulation.

Information About ISDN Backup in MPLS Core

Before configuring and implementing the ISDN Backup for MPLS Core feature, you should understand the following concepts:

- [How ISDN Backup in MPLS Core Works, page 2](#)
- [Benefits of ISDN Backup in MPLS Core Feature, page 2](#)

How ISDN Backup in MPLS Core Works

The dialer profile interface is configured as backup to the primary interface. The dialer interface should have the Dialer Persistent feature configured and MPLS IP should be enabled with encapsulation PPP. For more information on the Dialer Persistent feature refer to the *Cisco IOS Dial Technologies Configuration Guide*, Release 12.3.

When the primary interface goes down, the dialer profile that is acting as the backup will bring up the backup interface without waiting for any interesting traffic because Dialer Persistent has been configured. Once the link to the destination is established, tagged packets will flow via the dialer interface.

Benefits of ISDN Backup in MPLS Core Feature

The ISDN Backup in MPLS Core feature provides MPLS switching support on dialer interfaces for ISDN backup in MPLS core networks. When you configure a backup ISDN link on a dialer interface, the dialer interface can be brought up to restore network connectivity when a primary link goes down in an MPLS core network.

How to Configure ISDN Backup in MPLS Core

This section contains the following procedures:

- [Configuring Primary Interface for Backup, page 3](#)
- [Configuring the Dialer Profile as Backup Interface, page 3](#)
- [Verifying the ISDN Backup for MPLS Feature, page 4](#)

Configuring Primary Interface for Backup

Perform this task to configure a primary interface backup.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface** *type slot/port.subinterface-number* [**multipoint** | **point-to-point**]
4. **backup interface dialer** *number*
5. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	interface <i>type slot/port.subinterface-number</i> [multipoint point-to-point] Example: Router(config)# interface serial 1	Configures an interface type and enters interface configuration mode.
Step 4	backup interface dialer <i>number</i> Example: Router(config-if)# backup interface dialer 1	Configures an interface as a secondary or dial backup interface.
Step 5	exit Example: Router(config-if)# exit	Returns to global configuration mode.

Configuring the Dialer Profile as Backup Interface

Perform this task to configure the Dialer Persistent feature on the backup interface.

SUMMARY STEPS

1. **enable**
2. **configure terminal**

3. **interface dialer** *number*
4. *encapsulation type*
5. **dialer persistent** [**delay** [**initial**] *seconds* | **max-attempts** *number*]
6. **tag-switching ip** (interface configuration)
7. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none">• Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	interface dialer <i>number</i> Example: Router(config)# interface dialer 1	Creates a dialer interface and enters interface configuration mode.
Step 4	encapsulation <i>type</i> Example: Router(config-if)# encapsulation ppp	Specifies the encapsulation type.
Step 5	dialer persistent [delay [initial] <i>seconds</i> max-attempts <i>number</i>] Example: Router(config-if)# dialer persistent delay initial 20	Forces a dialer interface to be connected at all times, even in the absence of interesting traffic.
Step 6	tag-switching ip Example: Router(config-if)# tag-switching ip	Enables label switching of IPv4 packets on an interface.
Step 7	exit Example: Router(config-if)# exit	Returns to global configuration mode.

Verifying the ISDN Backup for MPLS Feature

Perform this task to verify that you have correctly configured the ISDN Backup for MPLS feature.

SUMMARY STEPS

1. `enable`
2. `show mpls forwarding-table`
3. `show mpls interfaces [interface] [detail]`
4. `exit`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>enable</code> Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	<code>show mpls forwarding-table</code> Example: Router# show mpls forwarding-table	Displays the contents of the MPLS FIB.
Step 3	<code>show mpls interfaces [interface] [detail]</code> Example: Router(config)# show mpls interfaces dialer detail	Displays the contents of the Multiprotocol Label Switching (MPLS) label forwarding information base (LFIB).
Step 4	<code>exit</code> Example: Router(config)# exit	Returns to global configuration mode.

Configuration Examples for ISDN Backup in MPLS Core

This section provides the following configuration example:

- [ISDN Backup for MPLS Example, page 5](#)

ISDN Backup for MPLS Example

The following example shows the interface Dialer 1 being configured as the backup interface.

```
interface Serial1
  backup interface Dialer1
  ip address 172.16.1.1 255.0.0.0
  mpls ip
  encapsulation ppp
!
interface Serial0:23
  no ip address
  encapsulation ppp
  dialer pool-member 1
```

```

ppp authentication chap
!
interface Dialer1
 ip address 172.16.1.3 255.0.0.0
 encapsulation ppp
 dialer pool 1
 dialer remote-name P1
 dialer string 1114
 dialer persistent
 dialer-group 1
 mpls ip
 ppp authentication chap
!
```

Additional References

The following sections provide additional references related to the ISDN Backup in MPLS Core feature.

Related Documents

Related Topic	Document Title
Dialer Persistent feature	<i>"Dialer Persistent Feature"</i>
Dial-Backup Configuration	<i>"Configuring Dial Backup with Dialer Profiles"</i> chapter of the <i>Cisco IOS Dial Technologies Configuration Guide</i> .

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

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, and tools. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/public/support/tac/home.shtml

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