



Distributed GRE Tunneling Support

This feature module describes the Distributed GRE Tunneling Support feature in Cisco IOS Release 12.2(14)S.

History for the Distributed GRE Tunneling Support Feature

Release	Modification
12.2(14)S	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.

Contents

- [Prerequisites for Distributed GRE Tunneling Support, page 1](#)
- [Restrictions for Distributed GRE Tunneling Support, page 2](#)
- [Information About Distributed GRE Tunneling Support, page 2](#)
- [How to Configure Distributed GRE Tunneling Support, page 2](#)
- [Configuration Examples for Distributed GRE Tunneling Support, page 2](#)
- [Additional References, page 3](#)
- [Command Reference, page 4](#)
- [Glossary, page 4](#)

Prerequisites for Distributed GRE Tunneling Support

dCEF must be explicitly enabled on the router.



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Restrictions for Distributed GRE Tunneling Support

- dCEF must be enabled before generic routing encapsulation (GRE) tunneling.
- dCEF and CEF GRE tunnels do not support packet sequencing or check summing as defined in RFC 1721.
- At the tunnel exit point, dCEF and CEF GRE tunnels do not support reassembly of fragmented packets.

Information About Distributed GRE Tunneling Support

To implement distributed GRE tunneling support, you must understand the following concept:

- [Distributed GRE Tunnels, page 2](#)

Distributed GRE Tunnels

Distributed GRE Tunneling allows Cisco IOS software to switch packets into and out of the GRE tunnels using distributed Cisco Express Forwarding (dCEF). The tunneling is performed using recursive or “double” switching techniques that are currently deployed on existing nondistributed platforms. The relevant bits are ported into this development.

Double switching is performed by the handling of the received IP packet in the existing code path until it is determined that the packet needs encapsulation or de-encapsulation. Recursively forwarding the IP packet through the IP switching path again explains the “double” aspect of the switching.

The GRE tunneling allows service providers to support a large number of tunnels by forwarding distributed tunneled packets. This feature is an extension of the nondistributed forwarding information base (FIB) forwarding paths.

How to Configure Distributed GRE Tunneling Support

There are no tasks for the Distributed GRE Tunneling Support feature.

**Note**

See the “Configuring a GRE Tunnel” section of the “Implementing Tunnels” chapter in the [Cisco IOS Interface and Hardware Component Configuration Guide](#), Release 12.4.

Configuration Examples for Distributed GRE Tunneling Support

There are no configuration examples for the Distributed GRE Tunneling Support feature.

**Note**

See the “Configuration Examples for Implementing Tunnels” section of the “Implementing Tunnels” chapter in the [Cisco IOS Interface and Hardware Component Configuration Guide](#), Release 12.4.

Additional References

The following sections provide references related to Distributed GRE Tunneling Support.

Related Documents

Related Topic	Document Title
dCEF configuration tasks	“Configuring Cisco Express Forwarding” chapter in the <i>Cisco IOS Switching Services Configuration Guide</i> , Release 12.2

Standards

Standards	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

MIBs

MIBs	MIBs Link
None	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFCs ¹	Title
RFC 1701	<i>Generic Routing Encapsulation (GRE)</i>
RFC 1702	<i>Generic Routing Encapsulation over IPv4 Networks</i>

1. Not all supported RFCs are listed.

Technical Assistance

Description	Link
The Cisco Technical Support website contains thousands of 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/techsupport

Command Reference

None

Glossary

CEF—A mode of packet switching in Cisco IOS Software. Also known as FIB-switching.



Note

See the [Internetworking Terms and Acronyms](#) for terms not included in this glossary.

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