



# DHCP Relay Agent Support for Unnumbered Interfaces

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Relay agents are used to forward requests and replies between clients and servers when they are not on the same physical subnet. Relay agent forwarding is distinct from the normal forwarding of a device, where IP datagrams are switched between networks somewhat transparently. Relay Agents receive Dynamic Host Configuration Protocol (DHCP) messages and then generate a new DHCP message to send out on another interface.

The Cisco DHCP relay agent supports unnumbered interfaces. The DHCP relay agent automatically adds a static host route specifying the unnumbered interface as the outbound interface.

This concept module describes how the Cisco DHCP Relay Agent supports Unnumbered Interfaces and includes the following sections:

- [Prerequisites for DHCP Relay Agent Support for Unnumbered Interfaces, page 1](#)
- [Information About DHCP Relay Agent Support for Unnumbered Interfaces, page 2](#)
- [Additional References for DHCP Relay Agent Support for Unnumbered Interfaces, page 2](#)

## Prerequisites for DHCP Relay Agent Support for Unnumbered Interfaces

- The interface must be configured to be unnumbered with a helper address.
- The interface must be configured with an IP helper address pointing to the destination Dynamic Host Configuration Protocol (DHCP) server.

# Information About DHCP Relay Agent Support for Unnumbered Interfaces

## Overview of DHCP Relay Agent Support for Unnumbered Interfaces

The Cisco Dynamic Host Configuration Protocol (DHCP) relay agent now supports unnumbered interfaces. The DHCP relay agent automatically adds a static host route specifying the unnumbered interface as the outbound interface.

When the interfaces are configured as unnumbered with IP helper addresses, the DHCP Relay Agent support for those interfaces gets automatically enabled.

## Benefits of DHCP Relay Agent Support for Unnumbered Interfaces

The Cisco Dynamic Host Configuration Protocol (DHCP) Relay Agent Support for Unnumbered Interfaces feature reduces configuration tasks and costs. In most cases, whenever an unnumbered interface is configured, a static route for any host beyond the unnumbered interface must be manually configured by a network administrator. For DHCP relay, this static route is automatically maintained.

The ability to support unnumbered interfaces provides the following benefits:

- Allows DHCP clients across multiple unnumbered interfaces to share IP addresses.
- Eliminates wastage of IP addresses configured to subnets for numbered interfaces.
- Removes the requirement for static host route information, which now is handled dynamically by DHCP relay.

## Additional References for DHCP Relay Agent Support for Unnumbered Interfaces

### Related Documents

Related Topic	Document Title
Cisco IOS commands	<a href="#">Cisco IOS Master Command List, All Releases</a>
IP addressing commands	<a href="#">Cisco IOS IP Addressing Services Command Reference</a>
DHCP conceptual information	<i>DHCP Overview</i>
DHCP server configuration tasks, examples, and conceptual information	<i>Configuring the Cisco IOS DHCP Server</i>

Related Topic	Document Title
DHCP relay agent configuration tasks, examples, and conceptual information	<i>Configuring the Cisco IOS DHCP Relay Agent</i>

**Technical Assistance**

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	<a href="http://www.cisco.com/cisco/web/support/index.html">http://www.cisco.com/cisco/web/support/index.html</a>

