DHCPv6 Relay Source Configuration

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The Dynamic Host Configuration Protocol for IPv6 (DHCPv6) server sends its replies to the source address of relayed messages. Normally, a DHCPv6 relay uses the address of the server-facing interface used to send messages as the source. However, in some networks, it may be desirable to configure a more stable address (such as a loopback interface) and have the relay use that interface as the source address of relayed messages. The DHCPv6 relay source configuration feature provides this capability.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table at the end of this module.

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Information About DHCPv6 Relay Source Configuration

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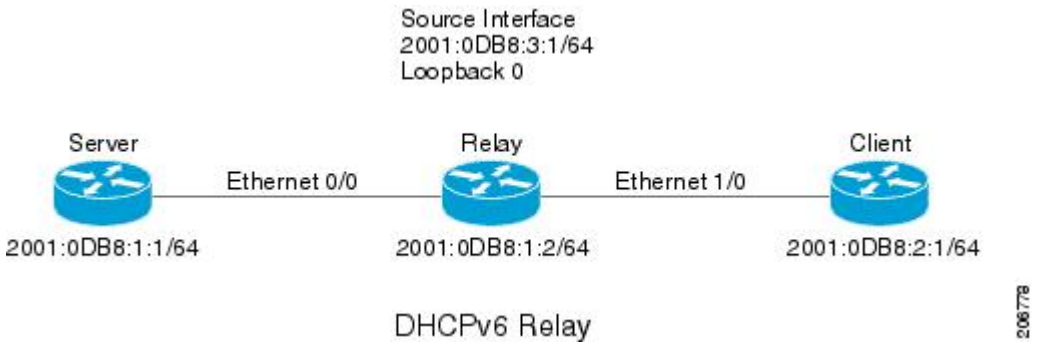
The DHCPv6 server sends its replies to the source address of relayed messages. Normally, a DHCPv6 relay uses the address of the server-facing interface used to send messages as the source. However, in some networks, it may be desirable to configure a more stable address (such as a loopback interface) and have the

relay use that interface as the source address of relayed messages. The DHCPv6 Relay Source Configuration feature provides this capability.

The figure below shows a simple network with a single client, relay, and server. The relay and server communicate over 2001:DB8:1::/64, and the relay has a client-facing interface on 2001:DB8:2::/64. The relay also has a loopback interface configured with address 2001:DB8:3:1/64.

Figure 1 DHCPv6 Relay Source Configuration—Simple Network



When the relay receives a request from the client, the relay includes an address from the client-facing interface (Ethernet 1/0) in the link-address field of a relay-forward message. This address is used by the server to select an address pool. The relay then sends the relay-forward message toward the server. By default, the address of the server-facing (Ethernet 0/0) interface is used as the IPv6 source, and the server will send any reply to that address.

If the relay source interface is explicitly configured, the relay will use that interface's primary IPv6 address as the IPv6 source for messages it forwards. For example, configuring Loopback 0 as the source would cause the relay to use 2001:DB8:3:1/64 as the IPv6 source address for messages relayed toward the server.

How to Configure DHCPv6 Relay Source Configuration

Configuring a DHCPv6 Relay Source

Perform the following tasks to configure a DHCPv6 relay source:

Restrictions for Configuring a DHCPv6 Relay Source

- If the configured interface is shut down, or if all of its IPv6 addresses are removed, the relay will revert to its standard behavior.
- The command line interface (CLI) will report an error if the user attempts to specify an interface that has no IPv6 addresses configured.

- The interface configuration takes precedence over the global configuration if both have been configured.

Configuring a DHCPv6 Relay Source on an Interface

Perform this task to configure an interface to use as the source when relaying messages.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface** *type number*
4. **ipv6 dhcp relay source-interface** *interface-type interface-number*
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**interface** *type number* **Example:** `Router(config)# interface loopback 0`	Specifies an interface type and number, and places the router in interface configuration mode.
Step 4	**ipv6 dhcp relay source-interface** *interface-type interface-number* **Example:** `Router(config-if)# ipv6 dhcp relay source-interface loopback 0`	Configures an interface to use as the source when relaying messages received on this interface.

	Command or Action	Purpose
Step 5	**end** **Example:** `Router(config-if)# end`	Returns to privileged EXEC mode.

Configuring a DHCPv6 Relay Source Globally

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ipv6 dhcp-relay source-interface** *interface-type interface-number*
4. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**ipv6 dhcp-relay source-interface** *interface-type interface-number* **Example:** `Router(config)# ipv6 dhcp-relay source-interface loopback 0`	Configures an interface to use as the source when relaying messages.
Step 4	**end** **Example:** `Router(config)# end`	Returns to privileged EXEC mode.

Configuration Examples for DHCPv6 Relay Source Configuration

Example: Configuring a DHCPv6 Relay Source on an Interface

The following example configures the Loopback 0 interface to be used as the relay source:

```
Router(config-if)# ipv6 dhcp relay source-interface loopback 0
```

Additional References

Related Documents

Related Topic	Document Title
IPv6 addressing and connectivity	*IPv6 Configuration Guide*
Cisco IOS commands	Cisco IOS Master Commands List, All Releases
IPv6 commands	Cisco IOS IPv6 Command Reference
Cisco IOS IPv6 features	Cisco IOS IPv6 Feature Mapping

Standards and RFCs

Standard/RFC	Title
RFCs for IPv6	IPv6 RFCs

MIBs

MIB	MIBs Link
	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

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.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for DHCPv6 Relay Source Configuration

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 1 Feature Information for DHCPv6 Relay Source Configuration

Feature Name	Releases	Feature Information
DHCPv6 Relay Source Configuration	12.2(33)SRE 12.2(58)SE	In some networks that use DHCPv6, it may be desirable to configure a stable address (such as a loopback interface) and have the relay use that interface as the source address of relayed messages. The DHCPv6 relay source configuration feature provides this capability. The following commands were introduced or modified: **ipv6 dhcp relay source configuration**.

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