DHCPv6 Relay Source Configuration

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Restrictions for Configuring a DHCPv6 Relay Source

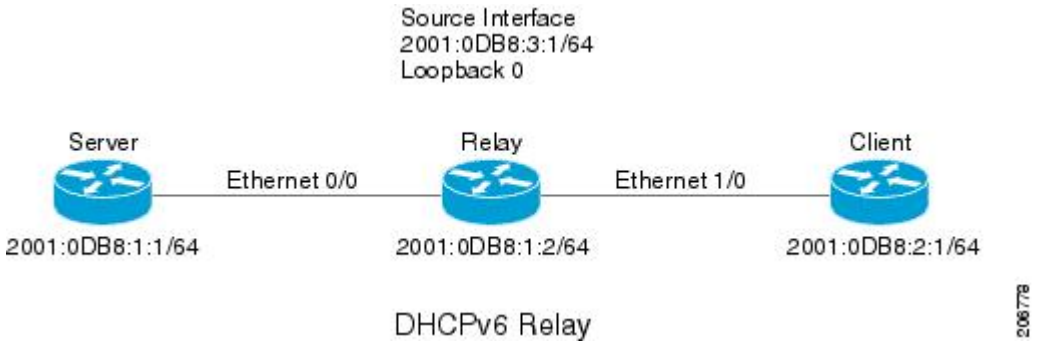
- If the configured interface is shut down, or if all of its IPv6 addresses are removed, the relay will revert to its standard behavior.
- The command line interface (CLI) will report an error if the user attempts to specify an interface that has no IPv6 addresses configured.
- The interface configuration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

Information About DHCPv6 Relay Source Configuration

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.

Configuring a DHCPv6 Relay Source

Perform the following tasks to configure a DHCPv6 relay source:

Configuring a DHCPv6 Relay Source on an Interface

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

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**interface** *type number* **Example:** `Device(config)# interface loopback 0`	Specifies an interface type and number, and enters interface configuration mode.

	Command or Action	Purpose
Step 4	**ipv6 dhcp relay source-interface** *interface-type interface-number* **Example:** `Device(config-if)# ipv6 dhcp relay source-interface loopback 0`	Configures an interface to use as the source when relaying messages received on this interface.
Step 5	**end** **Example:** `Device(config-if)# end`	Exits global configuration mode and returns to privileged EXEC mode.

Configuring a DHCPv6 Relay Source Globally

Procedure

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

Example: Configuring a DHCPv6 Relay Source on an Interface

The following example show how to configure the Loopback 0 interface to be used as the relay source:

```
Device> enable
Device# configure terminal
Device(config)# interface loopback 0
Device(config-if)# ipv6 dhcp relay source-interface loopback 0
Device(config-if)# end
```

Additional References for DHCPv6 Relay Source Configuration

Standards and RFCs

Standard/RFC	Title
RFCs for IPv6	*IPv6 RFCs*

Feature History for DHCPv6 Relay Source Configuration

This table provides release and related information for the features explained in this module.

These features are available in all the releases subsequent to the one they were introduced in, unless noted otherwise.

Release	Feature	Feature Information
Cisco IOS XE Fuji 16.8.1a	DHCPv6 Relay Source Configuration	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.
Cisco IOS XE Cupertino 17.7.1	DHCPv6 Relay Source Configuration	This feature was implemented on the C9500X-28C8D model.
Cisco IOS XE Dublin 17.10.1b	DHCPv6 Relay Source Configuration	This feature was implemented on the C9500X-60L4D model.

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