



Implementing the Dynamic Host Configuration Protocol

This module describes the concepts and tasks you will use to configure Dynamic Host Configuration Protocol (DHCP).

Feature History for Implementing the Dynamic Host Configuration Protocol

Release	Modification
Release 3.2	This feature was introduced.
Release 3.4.0	The DHCP IPv6 Information Pool configuration procedure was added and DHCP relay information description was updated.
Release 3.7.0	The DHCP CLI was modified.

- [Prerequisites for Configuring DHCP Relay Agent](#), page 1
- [Information About DHCP Relay Agent](#), page 2
- [How to Configure and Enable DHCP Relay Agent](#), page 2
- [Information About Configuring DHCP IPv6 Information Pools](#), page 16
- [How to Configure DHCP IPv6 Information Pools](#), page 16
- [Configuration Examples for the DHCP Relay Agent](#), page 18
- [Additional References](#), page 20

Prerequisites for Configuring DHCP Relay Agent

The following prerequisites are required to configure a DHCP relay agent:

- You must be in a user group associated with a task group that includes the proper task IDs. The command reference guides include the task IDs required for each command. If you suspect user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

- A configured and running DHCP client and DHCP server
- Connectivity between the relay agent and DHCP server

Information About DHCP Relay Agent

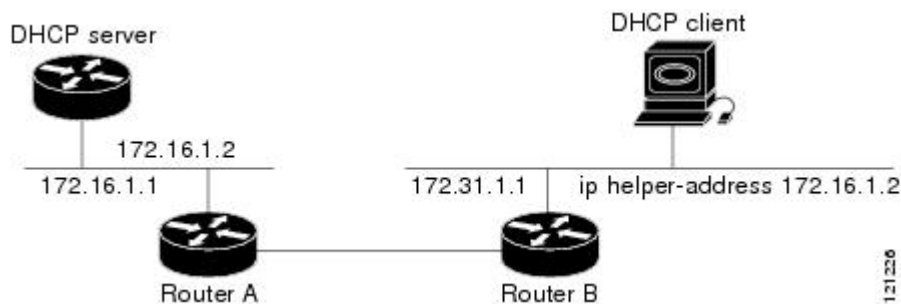
A DHCP relay agent is a host that forwards DHCP packets between clients and servers that do not reside on a shared physical subnet. Relay agent forwarding is distinct from the normal forwarding of an IP router where IP datagrams are switched between networks transparently.

DHCP clients use User Datagram Protocol (UDP) broadcasts to send DHCPDISCOVER messages when they lack information about the network to which they belong.

If a client is on a network segment that does not include a server, a relay agent is needed on that network segment to ensure that DHCP packets reach the servers on another network segment. UDP broadcast packets are not forwarded, because most routers are not configured to forward broadcast traffic. You can configure a DHCP relay profile and configure one or more helper addresses in it. You can assign the profile to an interface or a VRF.

[Figure 1: Forwarding UDP Broadcasts to a DHCP Server Using a Helper Address, page 2](#) demonstrates the process. The DHCP client broadcasts a request for an IP address and additional configuration parameters on its local LAN. Acting as a DHCP relay agent, Router B picks up the broadcast, changes the destination address to the DHCP server's address and sends the message out on another interface. The relay agent inserts the IP address of the interface, on which the relay profile into the gateway address (giaddr) field of the DHCP packet, which enables the DHCP server to determine which subnet should receive the offer and identify the appropriate IP address range. The relay agent unicasts the messages to the server address, in this case 172.16.1.2 (which is specified by the helper address in the relay profile).

Figure 1: Forwarding UDP Broadcasts to a DHCP Server Using a Helper Address



How to Configure and Enable DHCP Relay Agent

This section contains the following tasks:

Configuring and Enabling the DHCP Relay Agent

Configuring a DHCP Relay Profile

This task describes how to configure and enable the DHCP relay agent.

SUMMARY STEPS

1. **configure**
2. **dhcp ipv4**
3. **profile *profile-name* relay**
4. **helper-address [vrf *vrf-name*] *address***
5. Use one of the following commands:
 - **end**
 - **commit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	configure Example: RP/0/0/CPU0:router# configure	Enters global configuration mode.
Step 2	dhcp ipv4 Example: RP/0/0/CPU0:router(config)# dhcp ipv4	Enters DHCP IPv4 configuration mode.
Step 3	profile <i>profile-name</i> relay Example: RP/0/0/CPU0:router(config-dhcpv4)# profile client relay	Enters DHCP IPv4 profile relay submode.
Step 4	helper-address [vrf <i>vrf-name</i>] <i>address</i> Example: RP/0/0/CPU0:router(config-dhcpv4-relay-profile)# helper-address vrf foo 10.10.1.1	Forwards UDP broadcasts, including BOOTP and DHCP. <ul style="list-style-type: none"> • The value of the <i>address</i> argument can be a specific DHCP server address or a network address (if other DHCP servers are on the destination network segment). Using the network address enables other servers to respond to DHCP requests.

	Command or Action	Purpose
		<ul style="list-style-type: none"> For multiple servers, configure one helper address for each server.
Step 5	<p>Use one of the following commands:</p> <ul style="list-style-type: none"> end commit <p>Example:</p> <pre>RP/0/0/CPU0:router(config)# end OR RP/0/0/CPU0:router(config)# commit</pre>	<p>Saves configuration changes.</p> <ul style="list-style-type: none"> When you issue the end command, the system prompts you to commit changes: <pre>Uncommitted changes found, commit them before exiting(yes/no/cancel)? [cancel]:</pre> <ul style="list-style-type: none"> Entering yes saves configuration changes to the running configuration file, exits the configuration session, and returns the router to EXEC mode. Entering no exits the configuration session and returns the router to EXEC mode without committing the configuration changes. Entering cancel leaves the router in the current configuration session without exiting or committing the configuration changes. Use the commit command to save the configuration changes to the running configuration file and remain within the configuration session.

Configuring the DHCPv6 (Stateless) Relay Agent

Perform this task to specify a destination address to which client messages are forwarded and to enable Dynamic Host Configuration Protocol (DHCP) for IPv6 relay service on the interface.

SUMMARY STEPS

1. **configure**
2. **dhcp ipv6**
3. **interface** *type interface-path-id* **relay**
4. **destination** *ipv6-address*
5. Use one of the following commands:
 - **end**
 - **commit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	configure Example: RP/0/0/CPU0:router# configure	Enters global configuration mode.
Step 2	dhcp ipv6 Example: RP/0/0/CPU0:router(config) # dhcp ipv6 RP/0/0/CPU0:router(config-dhcpv6) #	Enables DHCP for IPv6 and enters the DHCP IPv6 configuration mode.
Step 3	interface <i>type interface-path-id</i> relay Example: RP/0/0/CPU0:router(config-dhcpv6) # interface tenGigE 0/5/0/0 relay	Specifies an interface type and interface-path-id, places the router in interface configuration mode, and enables DHCPv6 relay service on the interface.
Step 4	destination <i>ipv6-address</i> Example: RP/0/0/CPU0:router(config-dhcpv6-if) # destination 10:10::10	<p>Specifies a destination address to which client packets are forwarded.</p> <p>When relay service is enabled on an interface, a DHCP for IPv6 message received on that interface is forwarded to all configured relay destinations. The incoming DHCP for IPv6 message may have come from a client on that interface, or it may have been relayed by another relay agent.</p>
Step 5	Use one of the following commands:	Saves configuration changes.

Command or Action	Purpose
<ul style="list-style-type: none"> • end • commit <p>Example:</p> <pre>RP/0/0/CPU0:router(config)# end OR RP/0/0/CPU0:router(config)# commit</pre>	<ul style="list-style-type: none"> • When you issue the end command, the system prompts you to commit changes: <ul style="list-style-type: none"> Uncommitted changes found, commit them before exiting(yes/no/cancel)? [cancel]: ◦ Entering yes saves configuration changes to the running configuration file, exits the configuration session, and returns the router to EXEC mode. ◦ Entering no exits the configuration session and returns the router to EXEC mode without committing the configuration changes. ◦ Entering cancel leaves the router in the current configuration session without exiting or committing the configuration changes. • Use the commit command to save the configuration changes to the running configuration file and remain within the configuration session.

Enabling DHCP Relay Agent on an Interface

This task describes how to enable the Cisco IOS XR DHCP relay agent on an interface.



Note

On Cisco IOS XR software, the DHCP relay agent is disabled by default.

SUMMARY STEPS

1. **configure**
2. **dhcp ipv4**
3. **interface type name relay profile** *profile-name*
4. Use one of the following commands:
 - **end**
 - **commit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	<p>configure</p> <p>Example:</p> <pre>RP/0/0/CPU0:router# configure</pre>	Enters global configuration mode.
Step 2	<p>dhcp ipv4</p> <p>Example:</p> <pre>RP/0/0/CPU0:router(config-if)# dhcp ipv4</pre>	Enters DHCP IPv4 configuration submode.
Step 3	<p>interface type name relay profile profile-name</p> <p>Example:</p> <pre>RP/0/0/CPU0:router(config-dhcpv4)# interface FastEthernet0/0 relay profile client</pre>	Attaches a relay profile to an interface.
Step 4	<p>Use one of the following commands:</p> <ul style="list-style-type: none"> • end • commit <p>Example:</p> <pre>RP/0/0/CPU0:router(config)# end OR RP/0/0/CPU0:router(config)# commit</pre>	<p>Saves configuration changes.</p> <ul style="list-style-type: none"> • When you issue the end command, the system prompts you to commit changes: <pre>Uncommitted changes found, commit them before exiting(yes/no/cancel)? [cancel]:</pre> <ul style="list-style-type: none"> ◦ Entering yes saves configuration changes to the running configuration file, exits the configuration session, and returns the router to EXEC mode. ◦ Entering no exits the configuration session and returns the router to EXEC mode without committing the configuration changes. ◦ Entering cancel leaves the router in the current configuration session without exiting or committing the configuration changes. • Use the commit command to save the configuration changes to the running configuration file and remain within the configuration session.

Disabling DHCP Relay on an Interface

This task describes how to disable the DHCP relay on an interface by assigning the none profile to the interface.

SUMMARY STEPS

1. **configure**
2. **dhcp ipv4**
3. **interface type name none**
4. Use one of the following commands:
 - **end**
 - **commit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	configure Example: RP/0/0/CPU0:router# configure	Enters global configuration mode.
Step 2	dhcp ipv4 Example: RP/0/0/CPU0:router(config)# dhcp ipv4	Enters DHCP IPv4 configuration submode.
Step 3	interface type name none Example: RP/0/0/CPU0:router(config-dhcpv4-relay-profile)# interface pos 0/1/4/1 none	Disables the DHCP relay on the interface.
Step 4	Use one of the following commands: <ul style="list-style-type: none"> • end • commit Example: RP/0/0/CPU0:router(config)# end or RP/0/0/CPU0:router(config)# commit	Saves configuration changes. <ul style="list-style-type: none"> • When you issue the end command, the system prompts you to commit changes: <pre>Uncommitted changes found, commit them before exiting(yes/no/cancel)? [cancel]:</pre> <ul style="list-style-type: none"> ◦ Entering yes saves configuration changes to the running configuration file, exits the configuration session, and returns the router to EXEC mode. ◦ Entering no exits the configuration session and returns the router to EXEC mode without committing the configuration changes.

	Command or Action	Purpose
		<ul style="list-style-type: none"> ◦ Entering cancel leaves the router in the current configuration session without exiting or committing the configuration changes. • Use the commit command to save the configuration changes to the running configuration file and remain within the configuration session.

Enabling DHCP Relay on a VRF

This task describes how to enable DHCP relay on a VRF.

SUMMARY STEPS

1. **configure**
2. **dhcp ipv4**
3. **vrf** *vrf-name* **relay profile** *profile-name*
4. Use one of the following commands:
 - **end**
 - **commit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	configure Example: RP/0/0/CPU0:router# configure	Enters global configuration mode.
Step 2	dhcp ipv4 Example: RP/0/0/CPU0:router(config)# dhcp ipv4	Enters DHCP IPv4 configuration submenu.
Step 3	vrf <i>vrf-name</i> relay profile <i>profile-name</i> Example: RP/0/0/CPU0:router(config-dhcpv4) #vrf default relay profile client	Enables DHCP relay on a VRF.

	Command or Action	Purpose
Step 4	<p>Use one of the following commands:</p> <ul style="list-style-type: none"> • end • commit <p>Example:</p> <pre>RP/0/0/CPU0:router(config)# end OR RP/0/0/CPU0:router(config)# commit</pre>	<p>Saves configuration changes.</p> <ul style="list-style-type: none"> • When you issue the end command, the system prompts you to commit changes: <ul style="list-style-type: none"> Uncommitted changes found, commit them before exiting(yes/no/cancel)? [cancel]: ◦ Entering yes saves configuration changes to the running configuration file, exits the configuration session, and returns the router to EXEC mode. ◦ Entering no exits the configuration session and returns the router to EXEC mode without committing the configuration changes. ◦ Entering cancel leaves the router in the current configuration session without exiting or committing the configuration changes. • Use the commit command to save the configuration changes to the running configuration file and remain within the configuration session.

Configuring the Relay Agent Information Feature

This task describes how to configure the DHCP relay agent information option processing capabilities.

A DHCP relay agent may receive a message from another DHCP relay agent that already contains relay information. By default, the relay information from the previous relay agent is replaced (using the replace option).

SUMMARY STEPS

1. **configure**
2. **dhcp ipv4**
3. **profile *profile-name* relay**
4. **relay information option**
5. **relay information check**
6. **relay information policy {drop | keep}**
7. **relay information option allow-untrusted**
8. Use one of the following commands:
 - **end**
 - **commit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	<p>configure</p> <p>Example:</p> <pre>RP/0/0/CPU0:router# configure</pre>	Enters global configuration mode.
Step 2	<p>dhcp ipv4</p> <p>Example:</p> <pre>RP/0/0/CPU0:router(config)# dhcp ipv4</pre>	Enters DHCP IPv4 configuration mode.
Step 3	<p>profile <i>profile-name</i> relay</p> <p>Example:</p> <pre>RP/0/0/CPU0:router(config-dhcpv4)# profile client relay</pre>	Enters DHCP IPv4 profile relay mode.
Step 4	<p>relay information option</p> <p>Example:</p> <pre>RP/0/0/CPU0:router(config-dhcpv4-relay-profile)# relay information option</pre>	<p>Enables the system to insert the DHCP relay agent information option (option-82 field) in forwarded BOOTREQUEST messages to a DHCP server.</p> <ul style="list-style-type: none"> • This option is injected by the relay agent while forwarding client-originated DHCP packets to the server. Servers recognizing this option can use the information to implement IP address or other parameter assignment policies. When replying, the DHCP server echoes the option back to the relay agent. The relay agent removes the option before forwarding the reply to the client. • The relay agent information is organized as a single DHCP option that contains one or more suboptions. These options contain the information known by the relay agent. <p>The supported suboptions are:</p> <ul style="list-style-type: none"> ◦ Remote ID ◦ Circuit ID <p>Note This function is disabled by default.</p>
Step 5	<p>relay information check</p> <p>Example:</p> <pre>RP/0/0/CPU0:router(config-dhcpv4-relay-profile)# relay information check</pre>	<p>(Optional) Configures DHCP to check that the relay agent information option in forwarded BOOTREPLY messages is valid.</p> <ul style="list-style-type: none"> • By default, DHCP checks that the option-82 field in DHCP reply packets, received from the DHCP server,

	Command or Action	Purpose
		<p>is valid. If an invalid message is received, the relay agent drops the message. If a valid message is received, the relay agent removes the option-82 field and forwards the packet.</p> <p>Note Use the relay information check command to reenables this functionality if the functionality has been disabled.</p>
Step 6	<p>relay information policy {drop keep}</p> <p>Example:</p> <pre>RP/0/0/CPU0:router(config)# dhcp relay information policy drop</pre>	(Optional) Configures the reforwarding policy for a DHCP relay agent; that is, whether the relay agent will drop or keep the relay information.
Step 7	<p>relay information option allow-untrusted</p> <p>Example:</p> <pre>RP/0/0/CPU0:router(config-dhcpv4-relay-profile)# relay information check</pre>	(Optional) Configures the DHCP IPv4 Relay not to discard BOOTPREQUEST packets that have an existing relay information option and the giaddr set to zero.
Step 8	<p>Use one of the following commands:</p> <ul style="list-style-type: none"> • end • commit <p>Example:</p> <pre>RP/0/0/CPU0:router(config)# end or RP/0/0/CPU0:router(config)# commit</pre>	<p>Saves configuration changes.</p> <ul style="list-style-type: none"> • When you issue the end command, the system prompts you to commit changes: <pre>Uncommitted changes found, commit them before exiting(yes/no/cancel)? [cancel]:</pre> <ul style="list-style-type: none"> ◦ Entering yes saves configuration changes to the running configuration file, exits the configuration session, and returns the router to EXEC mode. ◦ Entering no exits the configuration session and returns the router to EXEC mode without committing the configuration changes. ◦ Entering cancel leaves the router in the current configuration session without exiting or committing the configuration changes. • Use the commit command to save the configuration changes to the running configuration file and remain within the configuration session.

Configuring Relay Agent Giaddr Policy

This task describes how to configure BOOTPREQUEST packets for Dynamic Host Configuration Protocol (DHCP) IPv4 Relay processes, that already contain a nonzero giaddr attribute.

SUMMARY STEPS

1. **configure**
2. **dhcp ipv4**
3. **profile *profile-name* relay**
4. **giaddr policy {replace | drop}**
5. Use one of the following commands:
 - **end**
 - **commit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	configure Example: RP/0/0/CPU0:router# configure	Enters global configuration mode.
Step 2	dhcp ipv4 Example: RP/0/0/CPU0:router(config)# dhcp ipv4	Enables the DHCP IPv4 configuration submode.
Step 3	profile <i>profile-name</i> relay Example: RP/0/0/CPU0:router(config-dhcpv4) # profile client relay	Enables profile relay submode.
Step 4	giaddr policy {replace drop} Example: RP/0/0/CPU0:router(config-dhcpv4-relay-profile) # giaddr policy drop	Specifies the giaddr policy. <ul style="list-style-type: none"> • replace—Replaces the existing giaddr value with a value that it generates. • drop—Drops the packet that has an existing nonzero giaddr value. •
Step 5	Use one of the following commands:	Saves configuration changes.

	Command or Action	Purpose
	<ul style="list-style-type: none"> • end • commit <p>Example:</p> <pre>RP/0/0/CPU0:router(config)# end OR RP/0/0/CPU0:router(config)# commit</pre>	<ul style="list-style-type: none"> • When you issue the end command, the system prompts you to commit changes: <ul style="list-style-type: none"> Uncommitted changes found, commit them before exiting(yes/no/cancel)? [cancel]: <ul style="list-style-type: none"> ◦ Entering yes saves configuration changes to the running configuration file, exits the configuration session, and returns the router to EXEC mode. ◦ Entering no exits the configuration session and returns the router to EXEC mode without committing the configuration changes. ◦ Entering cancel leaves the router in the current configuration session without exiting or committing the configuration changes. • Use the commit command to save the configuration changes to the running configuration file and remain within the configuration session.

Configuring the Broadcast Flag Policy

This task describes how to configure DHCP IPv4 Relay to broadcast BOOTPREPLY packets only if the DHCP IPv4 broadcast flag is set in the DHCP IPv4 header.



Note

By default, the DHCP IPv4 Relay always broadcasts BOOTPREPLY packets.

SUMMARY STEPS

1. **configure**
2. **dhcp ipv4**
3. **profile *profile-name* relay**
4. **broadcast-flag policy check**
5. Use one of the following commands:
 - **end**
 - **commit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	<p>configure</p> <p>Example:</p> <pre>RP/0/0/CPU0:router# configure</pre>	Enters global configuration mode.
Step 2	<p>dhcp ipv4</p> <p>Example:</p> <pre>RP/0/0/CPU0:router(config)# dhcp ipv4</pre>	Configures DHCP IPv4 mode.
Step 3	<p>profile <i>profile-name</i> relay</p> <p>Example:</p> <pre>RP/0/0/CPU0:router(config-dhcpv4)# profile client relay</pre>	Enables profile relay mode.
Step 4	<p>broadcast-flag policy check</p> <p>Example:</p> <pre>RP/0/0/CPU0:router(config-dhcpv4-relay-profile)# broadcast-flag policy check</pre>	Enables checking of the broadcast flag in packets.
Step 5	<p>Use one of the following commands:</p> <ul style="list-style-type: none"> • end • commit <p>Example:</p> <pre>RP/0/0/CPU0:router(config)# end or RP/0/0/CPU0:router(config)# commit</pre>	<p>Saves configuration changes.</p> <ul style="list-style-type: none"> • When you issue the end command, the system prompts you to commit changes: <pre>Uncommitted changes found, commit them before exiting(yes/no/cancel)? [cancel]:</pre> <ul style="list-style-type: none"> ◦ Entering yes saves configuration changes to the running configuration file, exits the configuration session, and returns the router to EXEC mode. ◦ Entering no exits the configuration session and returns the router to EXEC mode without committing the configuration changes. ◦ Entering cancel leaves the router in the current configuration session without exiting or committing the configuration changes.

	Command or Action	Purpose
		<ul style="list-style-type: none"> • Use the commit command to save the configuration changes to the running configuration file and remain within the configuration session.

Information About Configuring DHCP IPv6 Information Pools

A *DHCP IPv6 configuration information pool* is a named entity that includes information about available configuration parameters and policies that control assignment of the parameters to clients from the pool. A pool is configured independently of the DHCP service and is associated with the DHCP service through the command line interface.

Each configuration pool can contain the following configuration parameters and operational information:

- Prefix delegation information, which could include a list of available prefixes for a particular client and associated preferred and valid lifetimes
- Domain name service (DNS) servers—List of IPv6 addresses of DNS servers
- Domain search list—String containing domain names for DNS resolution
- SIP server address—List of IPv6 addresses of SIP server
- SIP server domain list—String containing domain names for SIP server

How to Configure DHCP IPv6 Information Pools

This section contains the following task:

Configuring Cisco IOS XR DHCP IPv6 Information Pool Option

This task describes how to enable support for the DHCP IPv6 information pool option with the name pool1.

SUMMARY STEPS

1. **configure**
2. **dhcp ipv6**
3. **pool *pool-name***
4. Use one of the following commands:
 - **end**
 - **commit**
5. **show dhcp ipv6 pool [*pool-name*]**

DETAILED STEPS

	Command or Action	Purpose
Step 1	<p>configure</p> <p>Example:</p> <pre>RP/0/0/CPU0:router# configure</pre>	Enters global configuration mode.
Step 2	<p>dhcp ipv6</p> <p>Example:</p> <pre>RP/0/0/CPU0:router (config)# dhcp ipv6</pre>	Enables the DHCP IPv6 configuration mode.
Step 3	<p>pool <i>pool-name</i></p> <p>Example:</p> <pre>RP/0/0/CPU0:router (config-dhcp ipv6)# pool pool1</pre>	Creates a DHCP pool specified by the <i>pool-name</i> argument for the prefix delegation and the other configurations on the interface.
Step 4	<p>Use one of the following commands:</p> <ul style="list-style-type: none"> • end • commit <p>Example:</p> <pre>RP/0/0/CPU0:router(config)# end OR RP/0/0/CPU0:router(config)# commit</pre>	<p>Saves configuration changes.</p> <ul style="list-style-type: none"> • When you issue the end command, the system prompts you to commit changes: <pre>Uncommitted changes found, commit them before exiting(yes/no/cancel)? [cancel]:</pre> <ul style="list-style-type: none"> ◦ Entering yes saves configuration changes to the running configuration file, exits the configuration session, and returns the router to EXEC mode. ◦ Entering no exits the configuration session and returns the router to EXEC mode without committing the configuration changes. ◦ Entering cancel leaves the router in the current configuration session without exiting or committing the configuration changes. • Use the commit command to save the configuration changes to the running configuration file and remain within the configuration session.
Step 5	<p>show dhcp ipv6 pool [<i>pool-name</i>]</p> <p>Example:</p> <pre>RP/0/0/CPU0:router# show dhcp ipv6 pool pool1</pre>	(Optional) Displays the DHCP IPv6 pool name.

Configuration Examples for the DHCP Relay Agent

This section provides the following configuration examples:

DHCP Relay Profile: Example

The following example shows how to configure the Cisco IOS XR relay profile:

```
dhcp ipv4
  profile client relay
    helper-address vrf foo 10.10.1.1
  !
  ! ...
```

DHCP Relay on an Interface: Example

The following example shows how to enable the DHCP relay agent on an interface:

```
dhcp ipv4
  interface gigabitethernet 0/1/1/0 relay profile client
  !
```

DHCP Relay on a VRF: Example

The following example shows how to enable the DHCP relay agent on a VRF:

```
dhcp ipv4
  vrf default relay profile client
  !
```

Relay Agent Information Option Support: Example

The following example shows how to enable the relay agent and the insertion and removal of the DHCP relay information option:

```
dhcp ipv4
  profile client relay
  relay information
  check
  !
  !
```

Relay Agent Giaddr Policy: Example

The following example shows how to configure relay agent giaddr policy:

```
dhcp ipv4
  profile client relay
  giaddr policy drop
```

!

!

Cisco IOS XR Broadcast Flag Policy: Example

This task describes how to configure DHCP IPv4 Relay to broadcast BOOTPREPLY packets only if the DHCP IPv4 broadcast flag is set in the DHCP IPv4 header.



Note

By default, the DHCP IPv4 Relay always broadcasts BOOTPREPLY packets.

SUMMARY STEPS

1. **configure**
2. **dhcp ipv4**
3. **profile *profile name* relay**
4. **broadcast-flag policy check**
5. Use one of the following commands:
 - **end**
 - **commit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	configure Example: RP/0/0/CPU0:router# configure	Enters global configuration mode.
Step 2	dhcp ipv4 Example: RP/0/0/CPU0:router(config)# dhcp ipv4	Configures DHCP IPv4 mode.
Step 3	profile <i>profile name</i> relay Example: RP/0/0/CPU0:router(config-dhcpv4)# profile client relay	Enables profile relay mode.
Step 4	broadcast-flag policy check Example: RP/0/0/CPU0:router(config-dhcpv4-relay-profile)# broadcast-flag policy check	Enables checking of the broadcast flag in packets.

	Command or Action	Purpose
Step 5	Use one of the following commands: <ul style="list-style-type: none"> • end • commit <p>Example:</p> <pre>RP/0/0/CPU0:router(config)# end or RP/0/0/CPU0:router(config)# commit</pre>	Saves configuration changes. <ul style="list-style-type: none"> • When you issue the end command, the system prompts you to commit changes: <pre>Uncommitted changes found, commit them before exiting(yes/no/cancel)? [cancel]:</pre> <ul style="list-style-type: none"> ◦ Entering yes saves configuration changes to the running configuration file, exits the configuration session, and returns the router to EXEC mode. ◦ Entering no exits the configuration session and returns the router to EXEC mode without committing the configuration changes. ◦ Entering cancel leaves the router in the current configuration session without exiting or committing the configuration changes. • Use the commit command to save the configuration changes to the running configuration file and remain within the configuration session.

Additional References

The following sections provide references related to implementing the Cisco IOS XR DHCP relay agent.

Related Documents

Related Topic	Document Title
Cisco IOS XR DHCP commands	<i>DHCP Commands</i> module in the <i>Cisco IOS XR IP Addresses and Services Command Reference for the Cisco XR 12000 Series Router</i>
Getting started material	<i>Cisco IOS XR Getting Started Guide for the Cisco XR 12000 Series Router</i>

Related Topic	Document Title
Information about user groups and task IDs	<i>Configuring AAA Services</i> module in the <i>Cisco IOS XR System Security Configuration Guide for the Cisco XR 12000 Series Router</i>

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
—	To locate and download MIBs, use the Cisco MIB Locator found at the following URL and choose a platform under the Cisco Access Products menu: http://cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

RFCs

RFC	Title
RFC 2131	<i>Dynamic Host Configuration Protocol</i>
RFC 3315	<i>Dynamic Host Configuration Protocol for IPv6 (DHCPv6)</i>

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

