

Overriding the Default DHCP Relay Configuration

You can override certain default DHCP relay agent configuration settings. You can override the settings at the global level and for a named group of interfaces.

To override global default DHCP relay agent configuration options, include the `overrides` statement and its subordinate statements at the `[edit forwarding-options dhcp-relay]` hierarchy level. To override DHCP local server configuration options for a named group of interfaces, include the statements at the `[edit forwarding-options dhcp-relay group group-name]` hierarchy level.

To remove all DHCP relay agent configuration overrides at a particular hierarchy level, include the `overrides` statement without any subordinate statements.

To override default DHCP relay agent configuration settings:

1. Specify that you want to configure override options.

```
[edit forwarding-options dhcp-relay]
user@host# edit overrides
```

2. (Optional) Overwrite the `giaddr` in DHCP packets the DHCP relay agent forwards.

See “Overwriting `giaddr` Information” on page 2.

3. (Optional) Override the DHCP relay agent information option (option 82) in DHCP packets.

See “Overriding Option 82 Information” on page 2.

4. (Optional) Override the setting of the broadcast bit in DHCP request packets and use the layer 2 unicast transmission method.

See “Using Layer 2 Unicast Transmission for DHCP Packets” on page 3.

5. (Optional) Trust DHCP client packets that have a `giaddr` of 0 and that contain option 82 information.

See “Trusting Option 82 Information” on page 3.

6. (Optional) Override ARP table population in distrusted environments.

See “Disabling ARP Table Population” on page 3.

7. (Optional) Override the maximum number of DHCP clients allowed per interface.

See “Specifying the Maximum Number of DHCP Clients Per Interface” on page 5.

8. (Optional) Disable DHCP relay agent on specific interfaces.

See “Disabling DHCP Relay” on page 5.

This topic contains the following sections:

- Overwriting `giaddr` Information on page 2
- Overriding Option 82 Information on page 2

- Using Layer 2 Unicast Transmission for DHCP Packets on page 3
- Trusting Option 82 Information on page 3
- Disabling ARP Table Population on page 3
- Specifying the Maximum Number of DHCP Clients Per Interface on page 5
- Disabling DHCP Relay on page 5

Overwriting giaddr Information

You can configure the DHCP relay agent to change the gateway IP address (giaddr) field in packets that it forwards between a DHCP client and a DHCP server.

To overwrite the giaddr of every DHCP packet with the giaddr of the DHCP relay agent before forwarding the packet to the DHCP server:

1. Specify that you want to configure override options.

```
[edit forwarding-options dhcp-relay]
user@host# edit overrides
```

2. Specify that the giaddr of DHCP packets is overwritten.

```
[edit forwarding-options dhcp-relay overrides]
user@host# set always-write-giaddr
```

Overriding Option 82 Information

You can configure the DHCP relay agent to add or remove the DHCP relay agent information option (option 82) in DHCP packets.

This feature causes the DHCP relay agent to perform one of the following actions, depending on the configuration:

- If the DHCP relay agent is configured to add option 82 information to DHCP packets, it clears the existing option 82 values from the DHCP packets and inserts the new values before forwarding the packets to the DHCP server.
- If the DHCP relay agent is not configured to add option 82 information to DHCP packets, it clears the existing option 82 values from the packets, but does not add any new values before forwarding the packets to the DHCP server.

To override the default option 82 information in DHCP packets destined for a DHCP server:

1. Specify that you want to configure override options.

```
[edit forwarding-options dhcp-relay]
user@host# edit overrides
```

2. Specify that the option 82 information in DHCP packets is overwritten.

```
[edit forwarding-options dhcp-relay overrides]
user@host# set always-write-option-82
```

Using Layer 2 Unicast Transmission for DHCP Packets

You can configure the DHCP relay agent to override the setting of the broadcast bit in DHCP request packets. DHCP relay agent then instead uses the layer 2 unicast transmission method to send DHCP Offer reply packets and DHCP ACK reply packets from the DHCP server to DHCP clients during the discovery process.

To override the default setting of the broadcast bit in DHCP request packets:

1. Specify that you want to configure override options.

```
[edit forwarding-options dhcp-relay]
user@host# edit overrides
```

2. Specify that the DHCP relay agent uses the layer 2 unicast transmission method.

```
[edit forwarding-options dhcp-relay overrides]
user@host# set "Using Layer 2 Unicast Transmission for DHCP Packets"
```

Trusting Option 82 Information

By default, the DHCP relay agent treats client packets with a giaddr of 0 (zero) and option 82 information as if the packets originated at an untrusted source, and drops them without further processing. You can override this behavior and specify that the DHCP relay agent process DHCP client packets that have a giaddr of 0 (zero) and contain option 82 information.

To configure DHCP relay agent to trust option 82 information:

1. Specify that you want to configure override options.

```
[edit forwarding-options dhcp-relay]
user@host# edit overrides
```

2. Specify that the DHCP relay agent process DHCP client packets with a giaddr of 0 and that contain option 82 information.

```
[edit forwarding-options dhcp-relay overrides]
user@host# set "Trusting Option 82 Information"
```

Disabling ARP Table Population

By default, DHCP populates the ARP table with the MAC address of a client when the client binding is established. However, you may choose to use the DHCP **no-arp** statement to hide the subscriber MAC address information, as it appears in ARP table entries.

When running in a trusted environment (that is, when not using the **no-arp** statement), DHCP populates the ARP table with unique MAC addresses contained within the DHCP PDU for each DHCP client:

Table 1: ARP Table in Trusted Environment

IP Address	MAC Address
Client 1 IP Address	MAC A
Client 2 IP Address	MAC B
Client 3 IP Address	MAC C

In distrusted environments, you can specify the `no-arp` statement to hide the MAC addresses of clients. When you specify the `no-arp` statement, DHCP does not automatically populate the ARP table with MAC address information from the DHCP PDU for each client. Instead, the system performs an ARP to obtain the MAC address of each client and obtains the MAC address of the immediately-attached device (for example, a DSLAM). DHCP populates the ARP table with the same interface MAC address (for example, MAC X from a DSLAM interface) for each client:

Table 2: ARP Table in Distrusted Environment

IP Address	MAC Address
Client 1 IP Address	MAC X
Client 2 IP Address	MAC X
Client 3 IP Address	MAC X

To disable ARP table population:

1. Specify that you want to configure override options.
 - For DHCP local server:

```
[edit system services dhcp-local-server]
user@host# edit overrides
```
 - For DHCP relay:

```
[edit forwarding-options dhcp-relay]
user@host# edit overrides
```
2. Disable ARP table population with client-specific information. (DHCP local server and DHCP relay agent both support the `no-arp` statement.)
 - For DHCP local server:

```
[edit system services dhcp-local-server overrides]
user@host# set no-arp
```
 - For DHCP relay:

```
[edit forwarding-options dhcp-relay overrides]
user@host# set no-arp
```

Specifying the Maximum Number of DHCP Clients Per Interface

By default, there is no limit to the number of DHCP local server or DHCP relay clients allowed on an interface. However, you can override the default setting and specify the maximum number of clients allowed per interface, in the range 1 to 500,000. When the number of clients on the interface reaches the specified limit, no additional DHCP Discover PDUs are accepted. When the number of clients subsequently drops below the limit, new clients are again accepted.



NOTE: The maximum number of DHCP local server clients or DHCP relay clients can also be specified by Juniper Networks VSA 26-143 during client login. The VSA-specified value always takes precedence if the interface-client-limit number statement specifies a different number.

If the VSA-specified value differs with each client login, DHCP uses the largest limit set by the VSA until there are no clients on the interface.

To configure the maximum number of DHCP clients allowed per interface:

1. Specify that you want to configure override options.

- For DHCP local server:

```
[edit system services dhcp-local-server]
user@host# edit overrides
```

- For DHCP relay agent:

```
[edit forwarding-options dhcp-relay]
user@host# edit overrides
```

2. Configure the maximum number of clients allowed per interface. (DHCP local server and DHCP relay agent both support the `interface-client-limit` statement.)

```
[edit system services dhcp-local-server overrides]
user@host# set interface-client-limit number
```

Disabling DHCP Relay

You can disable DHCP relay on all interfaces or a group of interfaces.

To disable DHCP relay agent:

1. Specify that you want to configure override options.

```
[edit forwarding-options dhcp-relay]
user@host# edit overrides
```

2. Disable the DHCP relay agent.

```
[edit forwarding-options dhcp-relay overrides]
user@host# set "Disabling DHCP Relay"
```

