Configuring DHCP Proxy

DHCP Proxy Mode

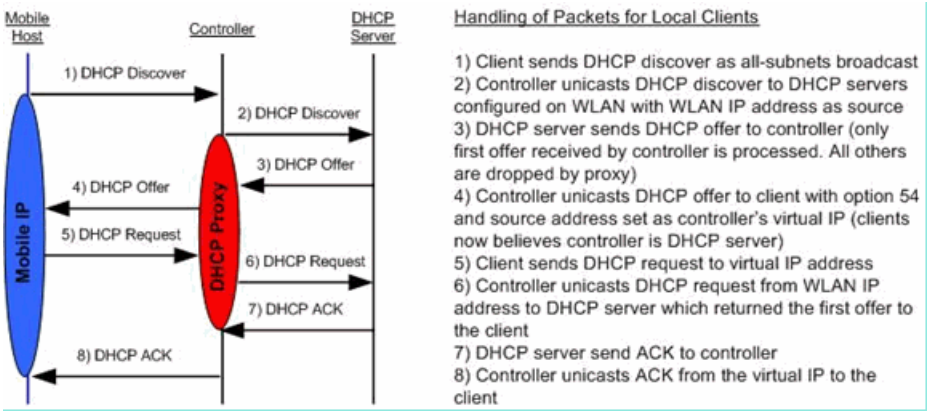
In DHCP Proxy Mode, the controller's virtual IP address is used as the source IP address of all DHCP transactions to the client. As a result, the real DHCP server IP address is not exposed in the air. This virtual IP is displayed in debug output for DHCP transactions on the controller. However, use of a virtual IP address can cause issues on certain types of clients.

When multiple offers come from external DHCP servers, the DHCP proxy normally selects the first one that comes in and sets the IP address of the server in the client data structure. As a result, all following transactions go through the same DHCP server until a transaction fails after retries. At this point, the proxy selects a different DHCP server for the client.

DHCP proxy is enabled by default. All controllers in a mobility list must have the same DHCP proxy setting.

Note DHCP proxy must be enabled in order for DHCP option 82 to operate correctly.

Proxy Mode Packet Flow



This section contains the following subsections:

Restrictions on Using DHCP Proxy

- DHCP proxy must be enabled in order for DHCP option 82 to operate correctly.
- All controllers that will communicate must have the same DHCP proxy setting.
- DHCP v6 Proxy is not supported.
- Suppose an interface in an interface group is marked as *dirty*. If a client is mapped to this interface through its association with a WLAN mapped to the interface group, the client does not get mapped to a new interface in the interface group because the controller DHCP proxy does not update the client interface VLAN to a new interface. This has been observed in conditions in which the interface group is assigned through AAA override and the DHCP mode is aggressive. The workaround is to use a non-aggressive DHCP mode.

  For more information, see CSCvv74634.

Configuring DHCP Proxy (GUI)

Step 1 Choose **Controller** > **Advanced** > **DHCP** to open the DHCP Parameters page.

Step 2 Select the **Enable DHCP Proxy** check box to enable DHCP proxy on a global basis. Otherwise, unselect the check box. The default value is selected.

Step 3 Click **Apply** to commit your changes.

Step 4 Click **Save Configuration** to save your changes.

Configuring DHCP Proxy (GUI)

Step 1 Choose **Controller > Interfaces**.

Step 2 Select the interface you want to configure the DHCP proxy.

You can configure the DHCP proxy on the management, virtual, ap manager, or dynamic interfaces in the controller.

The **Interfaces > Edit** page is displayed with DHCP information on the primary and secondary DHCP servers configured in the controller. If the primary and secondary servers are not listed, you must enter values for the IP address of the DHCP servers in the text boxes displayed in this window.

Step 3 Select from the following option of the proxy mode drop-down to enable DHCP proxy on the selected management interface:Global—Uses the global DHCP proxy mode on the controller.Enabled—Enables the DHCP proxy mode on the interface. When you enable DHCP proxy on the controller; the controller unicasts the DHCP requests from the client to the configured servers. You must configure at least one DHCP server on either the interface associated with the WLAN or on the WLAN.Disabled—Disables the DHCP proxy mode on the interface. When you disable the DHCP proxy on the controller, the DHCP packets transmitted to and from the clients are bridged by the controller without any modification to the IP portion of the packet. Packets received from the client are removed from the CAPWAP tunnel and transmitted on the upstream VLAN. DHCP packets directed to the client are received on the upstream VLAN, converted to 802.11, and transmitted through a CAPWAP tunnel toward the client. As a result, the internal DHCP server cannot be used when DHCP proxy is disabled.

Step 4 Check the Enable DHCP option 82 checkbox to ensure additional security when DHCP is used to allocate network addresses, check the Enable DHCP option 82 checkbox.

Step 5 Click **Apply** to save the configuration.

Configuring DHCP Proxy (CLI)

Step 1 Enable or disable DHCP proxy by entering this command:

config dhcp proxy {**enable** | **disable**}

Step 2 View the DHCP proxy configuration by entering this command:

show dhcp proxy

Information similar to the following appears:

```
DHCP Proxy Behavior: enabled
```

Configuring DHCP Proxy (CLI)

Step 1 Configure the DHCP primary and secondary servers on the interface. To do this, enter the following commands:

- **config interface dhcp management primary** *primary-server*
- **config interface dhcp dynamic-interface** *interface-name* **primary primary-s**

Step 2 Configure DHCP proxy on the management or dynamic interface of the controller. To do this, enter the following command:

- **config interface dhcp management proxy-mode** enableglobaldisable
- **config interface dhcp dynamic-interface** *interface-name* **proxy-mode** enableglobaldisable.

Note To ensure additional security when DHCP is configured, use the **config interface dhcp***interface type***option-82 enable** command.

Step 3 Enter the **save config** command.

Step 4 To view the proxy settings of the controller interface enter the **show dhcp proxy** command.

Configuring a DHCP Timeout (GUI)

For client associations to a WLAN that has DHCP required, the DHCP timeout controls how long the controller will wait, after a new association, for the client to complete DHCP. If the DHCP exchange is not completed within the timeout period, the controller deauthenticates the client. The default setting is the maximum of 120 seconds; we recommend that you do not reduce this value.

Step 1 Choose **Controller** > **Advanced** > **DHCP** to open the DHCP Parameters page.

Step 2 Select the **DHCP Timeout (5 - 120 seconds)** check box to enable a DHCP timeout on a global basis. Otherwise, unselect the check box. The valid range is 5 through 120 seconds.

Step 3 Click **Apply** to commit your changes.

Step 4 Click **Save Configuration** to save your changes.

Configuring a DHCP Timeout (CLI)

For client associations to a WLAN that has DHCP required, the DHCP timeout controls how long the controller will wait, after a new association, for the client to complete DHCP. If the DHCP exchange is not completed within the timeout period, the controller deauthenticates the client. The default setting is the maximum of 120 seconds; we recommend that you do not reduce this value.

Procedure

- Configure a DHCP timeout by entering this command:
  config dhcp timeout *seconds*