How to Configure the DHCP Relay Agent

https://campus.barracuda.com/doc/43846893/

The DHCP relay service allows to pass DHCP broadcast messages to network segments a client computer is not directly attached to. DHCP relaying can be used to share a single DHCP server across logical network segments that are separated by a firewall. The DHCP relay service does not handle IP addresses. It sends unicast messages instead of broadcast messages.

In this article:

Figure 1. DHCP relay agent between two LANs.

Before You Begin

If you are using both a DHCP and a DHCP Relay service on the same Barracuda NG Firewall, verify that both services are not using the same interface.

Configure the DHCP Relay Agent for IPv4

1. Go to **CONFIGURATION** > **Configuration Tree > Box** > **Virtual Servers** > ***your virtual server*** > **Assigned Services > DHCP-Relay**.
2. Click **Lock**.
3. Select **Enable Relay for IPv4**.
4. Enter the **UDP Port** the relay agent is listening on (default: 67).
5. In the **Relay Interfaces** section, click **+** and add the network interfaces that are used by the DHCP relay agent to connect to the DHCP server and client networks. To specify an explicit interface (e.g., a virtual interface), enter its name in the **Other** field.

If you must configure multiple relay agents in a cascaded environment, do not specify the server-side interface of the cascaded ('border') relay agent. For more information, read the following section.

6. In the **DHCP Server IPs** field, enter the IP addresses of the DHCP servers.
7. Enable **Add Agent ID (AID)** if you want the DHCP relay agent to add an Agent ID (AID) to the transmitted packets. An AID indicates that the data has been relayed.
8. Enter the maximum **DHCP Packet Size** in bytes (default: 1400).
9. From the **AID Relay Policy** list, select how your DHCP relay agent handles DHCP packets that are already flagged by an AID from another agent:
   - **Append** (default) - Attaches your AID to the existing AID.
   - **Replace** - Replaces the existing AID with your AID.
   - **Forward** - Passes DHCP packets without any modification.
   - **Discard** - Discards DHCP packets that are already flagged by an AID.
10. From the **Reply AID Mismatch Policy** list, select how your DHCP relay agent handles DHCP server replies that do not contain its AID:
    - **Discard** - Default. Discards the DHCP packet.
    - **Forward** - Forwards the DHCP packet to the DHCP client.

    The **Reply AID Mismatch Policy** setting is important when multiple relay agents serve the DHCP server.
11. Specify the maximum **Packet Hop Count** to avoid infinite packet loops (default: 10).
12. Select **Forward unicast packets** if Bootstrap/BOOTP unicast messages should be forwarded by the DHCP relay.
13. Click **OK**.
14. Click **Send Changes** and **Activate**.

Configure the DHCP Relay Agent for IPv6

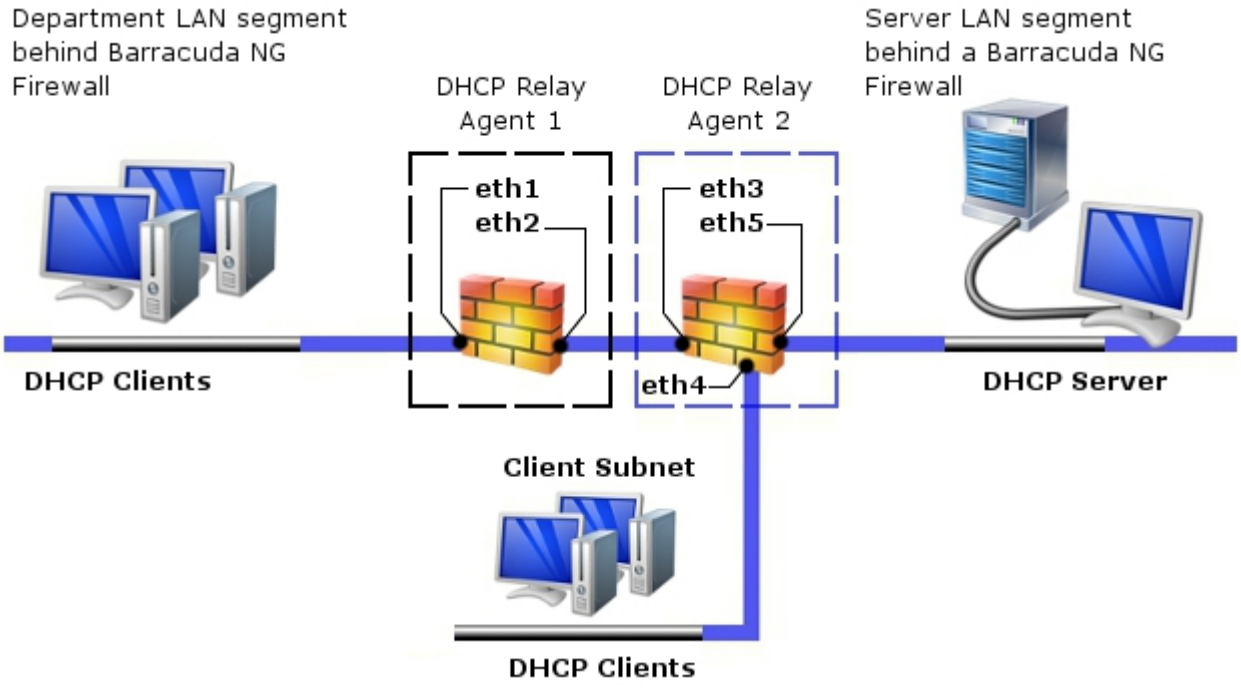
1. Go to **CONFIGURATION** > **Configuration Tree > Box** > **Virtual Servers** > ***your virtual server*** > **Assigned Services > DHCP-Relay > DHCP-Relay Settings**.
2. Click **Lock**.
3. Select **Enable Relay for IPv6**
4. Enter the **UDP Port** the relay agent is listening on (default: 547).
5. Specify the maximum **Packet Hop Count** to avoid infinite packet loops (default: 10).
6. Select **Interface ID** to force use of the DHCPv6 Interface-ID option. This option is automatically sent when there are two or more downstream interfaces in use, to disambiguate between them.
7. In the **Lower Network Interfaces** list, specify the network interface and link address on which queries will be received from clients or other relay agents. If no link address is specified, the first non-link-local address is used.
8. In the **Upper Network Interfaces** list, specify the network interface and destination unicast or multicast address to which queries will be forwarded. If no destination address is specified, requests are forwarded to the *FF02::1:2* multicast address (All_DHCP_Relay_Agents_and_Servers)
9. Click **OK**.
10. Click **Send Changes** and **Activate**.

Cascading DHCP Relay Agents

Only use cascading DHCP relay agents if a client subnet is connected to the server-side DHCP relay agent.

The DHCP Relay Agent is not designed for cascaded use. If you must configure multiple relay agents in a cascaded environment, do not specify the server-side interface of the cascaded ("border") relay agent in the configuration or this will lead to conflicts. In Figure 2, two client subnets are connected to DHCP relay agents 1 and 2. When you configure the relay agents, the interfaces listening to broadcast requests from the clients (eth1 and eth4) must be specified as relay interfaces. The server-side interface of relay agent 2 (eth5), which is connected to the DHCP server, must NOT be specified.

Figure 2. Cascading DHCP relay agents with interfaces to be configured.



Figures

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