Stateless Reconfiguration in DHCPv6

draft-jiang-dhc-stateless-reconfiguration-00

IETF 88 DHC WG

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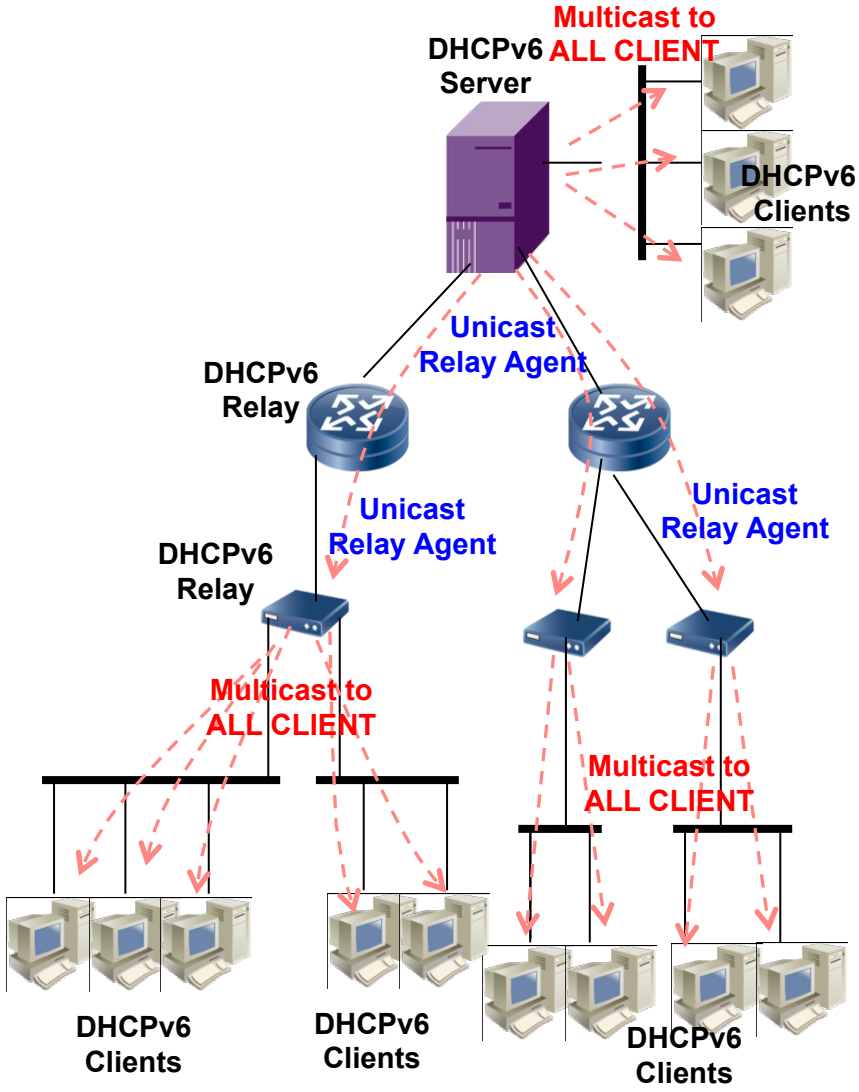
Problem

- **DHCPv6 stateless configuration allows network configuration information ti be propagated to nodes**
  - IPv6 addresses are obtained through some other mechanism
- **There is no mechanism to inform these configured clients if some configuration information is changed**
- **Unsuitable approaches**
  - Transplanting Reconfigure message of RFC3315 into stateless DHCPv6 does not work, because in stateful DHCPv6, servers send Reconfigure messages to clients using their *UNICAST* addresses
  - Information Refresh Time Option of RFC4242 assigns a lifetime to configuration information. Unfortunately, the minimum of refresh time is 10 minutes. It is also not suitable for unplanned configuration changes

Proposed Stateless Reconfiguration

- A mechanism for the DHCPv6 server to be aware of all relay agent destinations
- Link-local scope well-known all-client multicast
- DHCPv6 server propagates Stateless Reconfigure Message to all known relay agents by unicast. Then, the message is broadcasted to all on-link clients by link-scope multicast. Clients response Information-Request Message after random delay



Design Choices to be confirmed by WG

- **{Question to WG No.1} There are three potential mechanisms to create relay agent destinations on the DHCPv6 server**
  - a) network administrators manually configure static unicast addresses of all relay agents on the DHCPv6 server
  - b) define an ALL_RELAY_AGENT multicast address, for which network administrators need to maintain an all-relay-agent multicast group.
  - c) the DHCPv6 server dynamically records unicast addresses of all relay agents from client Information-request messages. The dynamic records need a keepalive mechanism between relay agents and servers
- **{Question to WG No.2} directly advertise new configuration or trigger client information-request?**
  - The authors prefer latter, which is similar with stateful reconfiguration, and also provide the potential possibility that the server response to information-request differently according to various user policies

Design Choices to be confirmed by WG (2)

- **{Question to WG No.3} direct Stateless-Reconfigure message or encapsulated Relay-Reply message**
  - the current form of this document is based on latter, which is similar with stateful DHCPv6 reconfiguration and have minimum impact to relay behavior
- Upon receipt of a valid Stateless-Reconfigure message, after a **random delay time**, the client responds with an Information-request message. **{Question to WG No.4} Should we define a maximum time of random delay time? If yes, should it come from server by a new option?**

Comments are welcomed!

Is that a real issue

that DHC WG should work on?

Thank You!