

IPv6 Host Configuration in 6rd

**draft-guo-softwire-6rd-ipv6-
config-02**

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Scenario

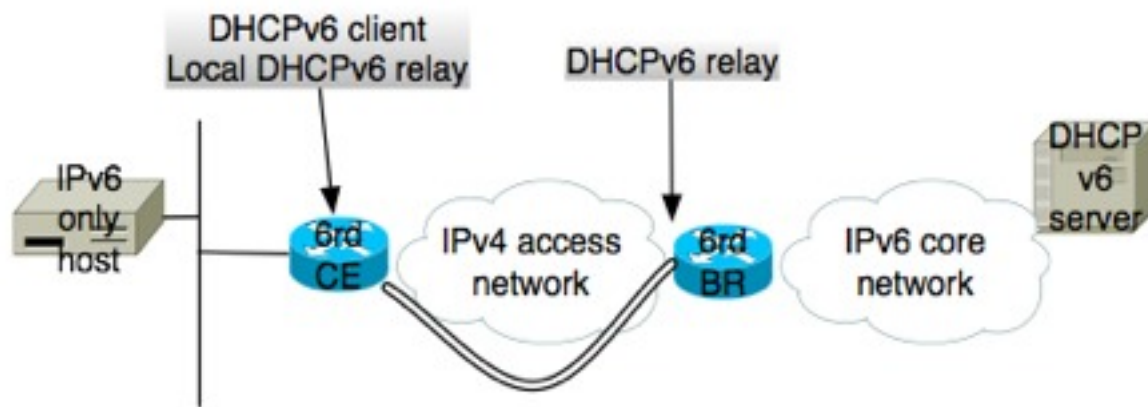
- **Besides IPv6 addresses, IPv6-only hosts in 6rd residential sites may also need to obtain other configuration information (e.g., DNS servers, NTP servers etc.).**
 - If only DNS configuration is required on IPv6-only hosts, DNS Proxy [RFC5625] mechanism implemented on the 6rd CE would be enough.
 - Otherwise, stateless DHCPv6 [RFC3736] should be supported in 6rd.

Problems

- **How to send a DHCPv6 packet over a link that doesn't support link-local addressing?**
- **How to send a DHCPv6 packet over a link that doesn't support multicast?**

How to Run DHCPv6 in 6rd

- As stated in the DHCPv6 specification [RFC3315], "...The client **MUST** use a **link-local address** assigned to the interface for which it is requesting configuration information as the source address in the header of the IP datagram."
- Since the link-local address can not travel through the 6rd domain, 6rd CE **SHOULD** act as a DHCPv6 relay agent for its own local DHCPv6 clients.



Choices of Destination Address

- Relay DHCP request messages to **All_DHCP_Servers_Or_Relays multicast address.**
 - Tunnel such packets towards the BR -> **However, multicast is not supported now in 6rd.**
- Relay DHCP request messages to the **unicast** address of a DHCP server or relay agent.
 - 6rd CE relays DHCP request messages to the **IPv6 anycast address** of a 6rd BR (acting as a DHCP server or relay agent).-> **Available Now!**
 - In fact, this solution can work for any type of tunnel/link-layer that doesn't support link-local addressing.

Next Steps

- **Solicit more comments from the WG.**
- **Ask for WG adoption.**