Advanced Requirements for IPv6 Customer Edge Routers

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v6ops Working Group

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Recap

- Recap: The Phase I IPv6 CE Router document that is in AUTH48 supports a single router in the home.
- The bis/Phase II document extends the operational scenario to two routers in the home connected back-to-back (LAN of one router is connected to WAN of the other router).
  - Basic use-case is Wireless Access Point standalone router (managed by the user) behind a modem with built-in embedded router functionality (managed by the service provider).
- The Basic document was used at an IPv6 CE router Interop in cable broadband network during mid-February 2011 at the UNH-IOL.

Features in draft

- Draft includes requirements for Transition mechanisms of DS-Lite and 6rd.
- Draft also includes state machine for Coexistence of Transition mechanisms such as DS-Lite and 6rd with native IPv4 and IPv6 address acquisition and routing.
- Draft includes IPv6 Multicast requirements.
- DNS section needs work.
- Routed Network behavior.

Routing

- Draft is converging for the routed network section for text such as this:

  "IF a vendor chooses to implement a routing protocol in the CE router, the CE router SHOULD implement RIPng as described in RFC 2080, and MAY implement other routing protocols."

- Others have asked to replace RIPng with OSPFv3 for default IGP because OSPFv3 is a link-state routing protocol that can provide a network map for prefix delegation in the LAN of the CE Router.

Updates since Beijing

- Submitted WG document.
- Fixed DLW-4 requirement in DS-Lite section to define private IPv4 space as RFC 1918 + the specific subnet defined by DS-Lite.
- Removed some TBD sections such a Zeroconf.

Next Steps

- Publish another version that completes the DNS section and any other work needed after presentation at IETF 80. More advanced features in a third document?

OR

- Cater to power grid router coexistence and use cases, support multi-homing in a graphed network, and anything else the WG and design team ask for in this document?