Support for HNCP in IPv6 CE routers

Jordi Palet

jordi.palet@theipv6company.com

History

- IETF98, Chicago, draft-ietf-v6ops-rfc7084-bis was accepted as WG item
  - Included RFC7084+new transition+HNCP
- 4 versions before IETF99, Prague
  - Push back from the WG
- In Prague presented several alternative choices

Pending Decision

- Informal talk with several v6ops participants and one of the RFC7084 co-authors
  - Don’t change RFC7084

- Seeking consensus (this week) for a complementary document to RFC7084, only for the transition part (draft-palet-v6ops-rfc7084-bis-transition-01)
  - NO HNCP support
    - Automatic provisioning of more complex topology than a single router with multiple LAN interfaces may be handled by means of HNCP ([RFC7788]), which is out of the scope of this document.

IPv6 CE Vendors Panel

IPv6 CE Vendors Panel

- September 2017, Taichung (Taiwan), APNIC44
  - D-Link - Hans Liu (D. of Strategic Technology)
  - NEC - Masanobu Kawashima (Assist. Mgr., P. Planning)
  - Zyxel (Senior Programmer)

- Discussion included Homenet support

- https://blog.apnic.net/2017/11/09/ce-vendors-share-thoughts-ipv6-support/

Some Thoughts

- CE support IPv6, but not always DHCPv6-PD in order to correctly allow multiple /64 inside customer LANs
  - even “guest” SSID
- Some do, and allow “downstream” routers, but no dynamic routing
  - reduce risk of calls to customer support
- Is too early to implement Homenet?
- Big trend in implementing new WiFi technologies (WiFi mesh)
  - Big opportunity to introduce Homenet
- Market for this kind of router is growing (price and margin up from 70 USD to 200 USD)
- Device discovery spanning multiple routers within a Homenet still an issue

Recent List Discussion (1)

- Missing opportunity for Homenet to have a single RFC requiring Homenet for CEs
  - v6ops or homenet?

- Homenet CE behind ISP CE, unsatisfactory

Recent List Discussion (2)

- Two possible models:
  1. “My friendly ISP” model
     - ISP has info of the Homenet (including other external links)
  2. “My home, my castle” model
     - External links untrusted by HNCP, CE has no Homenet topology info
       - DHCPv6-PD used to ”connect” both devices
- It is 1 a matter of price or lack of information?
- 2 is killing homenet, some believe is on the other way around
- What do WE want Homenet to be?
- Some people use the ISP CE as L2
  - And have their own router – which works also if we have 1
- Actual people is smarter that what we think …
  - Even if not, homenet will sort out automatically most of the issues
  - CE serviceable by the ISP only?

Recent List Discussion (3)

- Is not getting more common to have a “dumb” CE, such an GPON-ONT, then the router, both provided by the ISP?
  - If so, the router is the one that requires Homenet
  - If you have multiple operators, will use only 1 of them
- What about hybrid routers
  - Main link wired, even multiple wired links
  - Secondary link LTE (may be backup, may be an additional ISP)
- Is Homenet only for retail high-end routers (those of 200 USD)?
- All-connected “IoT world”, will required multihoming …

Recent List Discussion (4)

- Document a standard that supports both 1 and 2
  - So we don’t depend on the ISP model

Next steps

- Questions ?
- Inputs ?