IPv6 Point-to-Point Links

draft-palet-v6ops-p2p-links-01

Jordi Palet
jordi.palet@theipv6company.com
History and Goal

• Work started in 2006
  – Focus: P2P links from customer prefix

• Now, many networks use it (69%)

• A DHCPv6-PD option (2012) supports this
  – “Prefix Exclude Option for DHCPv6-based Prefix Delegation” (RFC6603)

• In IETF 101 WG considered that should be broadened to all possible p2p link choices
Summary (1)

• Intro
  – RFC6164 describes /127, using a dedicated pool for p2p links
    • Doesn’t preclude other options:
      – “routers must support it recommendation”
    • In fact a big % of market uses /64 (62%)

• Prefix Size Choices
  – RFC7608 “IPv6 prefix length is a parameter”
    • /64
    • /127
    • /126 and other choices
    • Allocate /64 and use /127
Summary (2)

• Numbering Choices
  – GUA
  – ULA
  – Unnumbered (link-local)

• Prefix Pool Choices
  – “IPv4 style” -> dedicated pool for p2p links
  – /64 from Customer prefix
    • Numbering interfaces
    • Routing aggregation
    • DHCPv6 Considerations
    • Router Considerations
IPv6 Deployment Survey

- **WAN Prefix Size**
  - /112: 11%
  - /126: 11%
  - /127: 35%
  - /64: 307%
  - Other: 71%

- **WAN Addressing Type**
  - GUA: 279%
  - Link-local: 118%
  - ULA: 57%
  - Other: 9%

- **WAN /64 from customer prefix**
  - Yes: 59%
  - No: 26%
Changes from v00

- Reference to RFC7608

- Using GUA source address for ULA and LL p2p-links as per RFC4443 section 2.2

- Split Normative and Informative references
Next steps

• Questions ?

• Become a WG item ?

• Inputs ?