IPv6 Point-to-Point Links

draft-palet-v6ops-p2p-links-04

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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%)

• The Ping-Pong problem (new)
Summary (2)

- Prefix Size Choices
  - RFC7608 “IPv6 prefix length is a parameter”
    - /64 (added reference to mitigations)
    - /127 (added text, ensure both end-points match)
    - /126 and other choices (reference added)
    - Allocate /64 and use /127
Summary (3)

- Numbering Choices (addressing scopes)
  - GUA
  - ULA (added reference to RFC6752)
  - Link-Local (it was unnumbered, clarifications)

- Prefix Pool Choices
  - “IPv4 style” -> dedicated pool for p2p links
  - /64 from Customer prefix
    - Numbering interfaces
    - Routing aggregation
    - DHCPv6 Considerations
    - Router Considerations
Next steps

- Questions ?
- Become a WG item ?
- Inputs ?