IPv6 Point-to-Point Links

draft-palet-v6ops-p2p-links

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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%)

• 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 (2%)
- /126: 11 (2%)
- /127: 35 (7%)
- /64: 307 (62%)
- unnumbered: 54 (13%)
- Other: 71 (14%)

WAN Addressing Type

- GUA: 279 (60%)
- link-local: 118 (26%)
- Other: 9 (2%)
- ULA: 57 (12%)
- unnumbered: 307 (62%)
- Other: 71 (14%)

WAN /64 from customer prefix

- No: 26 (31%)
- Yes: 59 (69%)

IETF 105, Montreal
Next steps

• Questions ?

• Become a WG item ?

• Inputs ?