Learning the IPv6 Prefixes of an IPv6/IPv4 Translator

draft-wing-behave-learn-prefix-03

IETF 75 – Stockholm
July, 2009

Dan Wing, Xuewei Wang, Xiaohu Xu

Why Learning Prefix is Necessary

- **Some** IPv6 applications need to know translator's prefix
  - Host-based, translation-aware DNSSEC validation ("DNS64 on the host")
  - Multicast (e.g., RTSP signaled)
  - URI schemes with IPv4 address literals
    - http://1.2.3.4
- Several BEHAVE scenarios cannot use IANA Well-Known Prefix
  - So the prefix cannot be hard-coded into applications

Types of Prefixes to Learn

- Unicast
- Any-Source Multicast (ASM)
- Source-Specific Multicast (SSM)

Mechanisms to Learn

1. DNS
   - Using NAPTR (RFC4848) resource record
2. DHCP
   - New DHCP option
3. IPv6 Router Advertisement (RA)
   - New RA option type

Issues & Comments

- Need to reduce number of mechanisms
  - DNS, DHCP, IPv6 RA
  - Feedback so far: keep DNS
- NAPTR deployability concern
  - Maybe consider a “_translator” TXT record?
    - Similar to DKIM’s “_domainkey” TXT record
- Add support for multiple prefixes

Questions

draft-wing-behave-learn-prefix-03