Using Only Link-Local Address in Network Core
draft-behringer-lla-only-01

84th IETF, 1 Aug 2012
OPSEC WG

Michael Behringer
Eric Vyncke
Summary

- Discussion: No global nor ULA addresses on infrastructure links, **just link local**
- Describe pros and cons
- Goal: Help in decision process.
- Desired outcome: BCP **Informational**
Advantages of using link locals on infrastructure links

• Smaller routing table
  – Reduced memory consumption
  – Possibly decreased convergence time

• Reduced attack surface
  – Only need to protect loopbacks from outside

• Lower configuration complexity
  – Less errors

• Less address space required

• Simpler DNS
Caveats and Workarounds

• Interface ICMP:
  – Cannot ping specific link from remote
  – Workaround: RFC 5837 (i/f identifier in response)

• Traceroute:
  – Cannot see specific link
  – Workaround: RFC 5837 (i/f identifier in response)

• Hardware dependency:
  – LL by default EUI-64 based, changes w/ hardware
  – Workaround: Configure LL statically (ex: fe80::1)

• MPLS/RSVP-TE requires global link addresses
Feedback So Far

• “We are using such a setup for more than 6-8 years now.” - Janos Mohacsi
• “yes, it works. I've designed a network or two in this way over the years, and I'm sure I'm not the only one.” – Lorenzo Colitti
• General: Not a BCP
• “We *like* using global scoped IPv4 and IPv6 addresses everywhere, because it helps a lot with diagnostics” – Gert Doering
• “Seems brilliant when you design it less so afterwards.” - Jan H

Summary: Some like it, some don’t
Changes from -00

• Goal: Informational (was: BCP)
• Some clarifications on approach
• Link to ietf-grow-private-ip-sp-cores
• Clarified that RFC5837 not much implemented
• Clarified that NMS systems may not work as before
• Clarified that MPLS/RSVP-TE requires link addresses for FRR
Summary

• Goal: Document advantages and caveats, to let operators make a good choice whether to use LL or not.

• Pros and cons are not “weighed”. Network operator must decide how important to him.

• We request this to become a WG document.