Using Only Link-Local Address in Network Core
draft-behringer-lla-only-00

83rd IETF, 26-30 Mar 2012
V6OPS / OPSEC WG

Michael Behringer
Eric Vyncke
Summary

• We propose to use only IPv6 link-local addresses on infrastructure links wherever possible.
• We discusses advantages and disadvantages.
• Goal: Help in decision process.
• Desired outcome: BCP
Approach

- No global nor ULA addresses on infrastructure links
- Just link local
- Proven to work
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)
Summary

• We believe there are advantages in using link locals on infrastructure links.

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

• We request this to become a WG document.