Using Only Link-Local Address in Network Core

draft-behringer-lla-only-00

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V6OPS WG

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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

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

• Traceroute:
  – Cannot see specific link
  – Workaround: RFC 5837

• Hardware dependency:
  – LL by default
  – Workaround: Configure LL statically (ex: fe80::1)
Summary

let operators make a good choice whether to use LL or not.

• We request this to become a WG document.