

Using Only Link-Local Address in Network Core

draft-behringer-lla-only-00

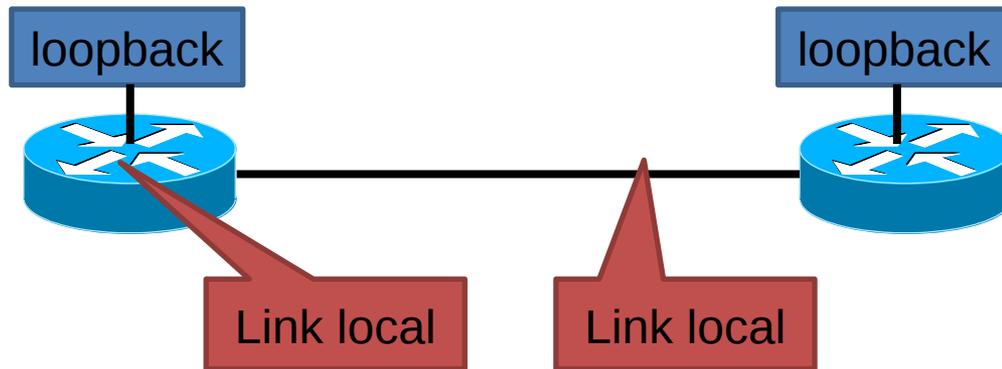
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Michael Behringer
Eric Vyncke

Summary

- We propose to use only IPv6 link-local addresses on infrastructure links wherever possible.
- We discuss 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.