

# IPv6-Mostly Networks Deployment and Operations Considerations

draft-link-v6ops-6mops-01

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# Quick Recap

- IPv6-Mostly deployment guidelines
  - What, how, why
  - What could possibly go wrong
- IETF119 [presentation](#)

Key Changes since -00

# Security Considerations

- Any IPv6 attacks would be much more visible
- New attack vector: spoofing NAT64 presence
  - DoS and/or MitM
  - Mitigation
    - Disable CLAT as soon as IPv4 is available
    - Use RFC8781 for PREF64 discovery (+RA Guard)

# (More) Known Issues

- IPv4-Dependencies in Network Admission Control
  - Smart L2 devices: "no network access until I know your IPv4 address!"
- Representing IPv6-only hops in traceroute
  - See [draft-equinox-intarea-icmpext-xlat-source](#)

# Open Issues

# Issue#1: Document Focus

- Currently: operational
- Recommendations from the network operator perspective
- Assumed limited/no control over applications

Would more application requirements be useful?

# Issue#2: DNS vs DNS64

- DNS64 serves two purposes
  - PREF64 detection for clat and local synthesis
    - Can be done via RFC8781
    - Using RFC7050 also requires implementing RFC8880
  - Providing AAAA for IPv4-only names
    - Application requirements (no IPv4 literals etc)
    - DNSSEC implications



# Recommendations

- Local DNS(64) synthesis (using PREF64 discovered via RFC8781)
  - applications which use DNS
- CLAT (or some local NAT46 magic) for other cases
  - Raw sockets
  - IPv4 literals (think WebRTC/STUN)

Network-provided DNS64 only needed if

- No clat
- RFC8781 not supported

# Globally-Unique Link-Local (draft-link-v6ops-gulla)

Unique link-local per the "mobility domain"

*vrrp vip: 2001:db8:1::1*

*vrrp link-local: fe80::2001:db8:1*

- Can stay in draft-link-v6ops-gulla
- Can be merged with this draft
  - Is it too much of content?

# Next Steps

Adoption call?

Question? Comments?