NAT64 Deployment Guidelines in Operator and Enterprise Networks

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History

• Discussion in IETF regarding using only NAT64 in our network
• Suggested deploying 464XLAT instead
• Discussion: DNS64 breaks DNSSEC
• 464XLAT can be used w/o DNS64, which is not possible for (only) NAT64
  – Document presented in IETF 100

• WG suggested to be an “overall” NAT64 deployment guidelines document
Summary (1)

• Introduction
  – 3 issues
    • DNS64 breaks DNSSEC
    • NAT64/DNS64 don’t work with literals and older APIs
    • NAT64 doesn’t work for IPv4-only hosts or apps

• DNSSEC Considerations

• NAT64 Deployment scenarios
  – Network should work in all the cases
  – 6 possible cases, depending on location of NAT64, DNS64 and availability of CLAT
Summary (2)

• Possible DNSSEC workarounds:
  – Not using DNS64
  – DNSSEC validator aware of DNS64
  – Stub validator
  – CLAT with DNS proxy and validator
  – ACL of clients
  – Mapping-out IPv4 addresses

• DNS64 reverse mapping considerations
Summary (3)

- Issue with IPv4 literals and old APIs
- Issue with IPv4-only hosts or apps
- Using 464XLAT with/without DNS64
- Manual configuration of “foreign” DNS
- CLAT translation considerations
- Summary of deployment considerations for NAT64
- IANA considerations
Next steps

• Questions?

• Become a WG item?

• Inputs?