IPv6 Support Within IETF work
draft-george-ipv6-support-01

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Why this draft?

• IPv4 is mature (30+ years of development)
  – Mature = complete
  – Mature also = obsolete

• But...Declaring IPv4 formally historic is premature

• It is time to signal the industry that we are done “improving” IPv4
Why this draft?

• Formally declaring IPv4 “baked” allows IETF and the industry to focus on IPv6
  – Parallel development and maintenance (IPv4 + IPv6) requires more resources

• Reinforce the idea that:
  – IPv4-extension is a temporary solution
  – IPv6 is not optional
  – Eventually, new features might be IPv6-only
What does “done” with IPv4 mean?

• Requires a higher bar for additional IPv4-specific work in the IETF
  – Fixing **documented** problems experienced in **real** networks
    • **NOT** purely theoretical ones
  – Making it easier to decommission IPv4

Generally, the IETF should be focused on two goals as it relates to IP version support:
1. Transition technologies that enable IPv6
2. Complete support for IPv6-only operation
Open questions

• Are we actually done with IPv4 extension?
  – Defining protocols, not the actual transition
  – Question is of critical mass – do we have at least one viable solution for each major use case?
    • DS-Lite
    • NAT64
    • CGN
  – Is a reference to A+P needed in the draft?
    • A+P is an Experimental RFC (6346)
    • Multiple competing derivative works w/o consensus
      – MAP, 4rd- {E,T,U}, dIVI-PD, stateless 4over6, etc
Essence of the Draft

• IETF SHOULD continue to update IPv4-only protocols and features to address vital operational or security issues.
• IETF work SHOULD update existing IPv4 to IPv6 transition and interworking technologies as necessary to address operational problems encountered during the implementation phase.
• IETF work SHOULD continue to make updates to IPv4 protocols and features to facilitate IPv4 decommissioning
Essence of the Draft pt 2

• IETF work that is not related to the above exceptions MUST be IP version agnostic (because it is implemented above the network layer) or MUST explicitly support IPv6.

• IETF SHOULD NOT initiate new IPv4 extension technology development.

• IETF work MAY support IPv6-only applications and protocols, especially in cases where supporting the protocol or feature in IPv4 would be difficult or impossible.

• IETF work SHOULD continue to update IPv4-only protocols and applications to support IPv6 as necessary and appropriate.