Keep it Simple
The Cost of (too many) Standards

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Too Many Options

- Note: Opinions expressed here are the author's personal opinion
- We are seeing multiple options, multiple ways to do the same thing
  - Diversity in approaches is inevitable and valuable
  - Too many options damages interoperability
  - Beware of creating a "Tower of Babble"
- There are many examples, I will pick on one…

Example: VPNs and Encapsulations

- VPNs must support private addresses
  - Encapsulation is essential
- Connection oriented approach: MPLS
  - Control plane (LDP, RSVP, BGP), OAM (LSP Ping, BFD)
- Connectionless approaches
  - IP in IP; IP in UDP in IP; IP in GRE in IP; IP in GRE in UDP in IP; L2TP; IPsec; MPLS in IP; MPLS in UDP in IP; VXLAN; LISP; …
  - Result: lack of interoperability

A Perspective…

- The Internet is the largest "machine" ever made.
  - Billions of computers and billions of users
  - Perhaps hundreds of vendors
  - Still growing explosively
- No one vendor could have done this
- No one service provider could have done this

A Perspective, continued…

- The Internet exists because of multi-vendor and multi-service-provider interoperability
- This requires REAL, and EFFECTIVE standards
- Many companies and many individuals have done well due to the growth of The Internet
  - This would never of happened without standards
  - This would never of happened if we had too many choices for every standard

What about private nets?

- Do private networks and datacenters need standards?

- Internet technology has revolutionized private networks and data centers

  – Performance / cost (Internet scale has driven high performance)

  – Multivendor interoperability

- This requires effective standards

Summary

- The IETF needs to find a way to avoid frivolous standards

- This can't be imposed from the top
  - A few IESG and IAB members can't simplify encapsulations, OAM, security, routing, virtualization, SDN, web applications, …

- We all need to take up the challenge to do what is best for the Internet and its technologies