Purpose

• Take advantage of the v4/v6 transition to think through changes in the ‘net architecture
• Provide a set of suggestions from providers to implementers around IPv6 support
Organization (1)

• Review of the Internet Architecture
  • Robustness principle, Complexity, Layered Structure, Routers
• Requirements related to device management and security
  • Programmable device access (YANG primary, SNMP secondary)
  • Human readable device access (SSH default)
  • Zero Touch Provisioning (SLAAC default, DHCP supported)
  • AAA (no text yet)
  • Protection against DDoS
Organization (2)

• Requirements related to telemetry
  • Device state and traceability (YANG, Syslog, gRPC)
  • Topology state and traceability (YANG, BGP-LS)
  • Flow Traceability (no text yet)

• Requirements related to IPv6 forwarding and addressing
  • The IPv6 address is not a host identifier
  • Router handling of IPv6 addresses
  • MTU and Jumbo Frames
  • ICMP Considerations
  • Machine access to the forwarding table (YANG)
  • Processing extension headers (no text yet)
  • IPv6 only operation
Organization (3)

• Future Considerations
  • Segment routing (no text yet)

• Security Considerations
  • Robustness and Security
  • Programmable device access and security
  • Zero touch provisioning and security

• Conclusion
Next Steps

• Discussion on mailing list about other documents in the same space, but for different kinds of networks
  • This document was designed to be generic
  • Is there enough material to have several documents?
  • Would it be helpful or confusing to have several documents?

• Accept as WG doc?
  • What path from here?