Requirements for IPv6 Routers
draft-ietf-v6ops-ipv6rtr-reqs-00

Russ White, LinkedIn
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
Outline (changes in bold)

• Lots of SHOULD/MUST changes
• 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)
  • Ethernet console support
• Zero Touch Provisioning
  • DHCPv6 MUST be supported
  • SLAAC MUST be supported and enabled by default
  • Lots of new text here
Organization (2)

- Protection against DDoS
- 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

• Accepted as WG doc
  • Please look and suggest text for empty sections
  • Please read and give us suggestions on anything else