ICMPv6 errors for discarding packets due to processing limits

draft-ietf-6man-icmp-limits-03

Tom Herbert <tom@quantonium.net>
Overview

ICMP error hosts and middleboxes can send when dropping packets

- Four new parameter problem codes
- Extend applicability of one parameter problem code
- One new destination unreachable
ICMPv6 Parameter problems code

- 1 - Parameter problem
- 4 - Extension header too big
- 5 - Extension header chain too long
- 6 - Too many options in extension header
- 7 - Options too big (new in -02)
  - Length of option exceeds limit
  - # consecutive padding options exceed limit (seven)
Other ICMPv6 changes

- Extend applicability of Parameter problem code
  - 1 - Unrecognized Next Header type
    - allow intermediate nodes to send this
  - New Destination Unreachable code
    - 8 - Headers too long applicability of Parameter
Drafts

- **-01**
  - WG draft

- **-02**
  - Added Option too big (parameter problem code 7)

- **-03 changes**
  - Clarify security section
Implementation

● Linux patch
  ○ https://marc.info/?l=linux-netdev&m=155957688615285&w=2

● Send ICMP error for RFC8504 limits
  ○ ICMPV6_TOOBIG_OPTION (sysctl length)
  ○ ICMPV6_TOOMANY_OPTIONS (sysctl count)
  ○ ICMPV6_EXTHDR_TOOBIG (padding, sysctl length)
  ○ ICMPV6_HDR_FIELD (non-zero padding)

● Need IANA assignment to upstream
Next step

Is this ready for WGLC?
Thank you!