Limits on Sending and Processing IPv6 Extensions Headers

draft-ietf-6man-eh-limits-01

Tom Herbert <tom@sipanda.io>

Status

- Working group item in 6man
- List discussion (mostly from Brian Carpenter)
- Would like to go to WGLC soon
- Please read and provide feedback on the list!

Changes in -01

- May limit padding to no more than seven (not eight bytes)
- Properly reference RFC8504 as setting limits on host processing of options
- Default limits at intermediate destinations for options is 16
- Edits

Comparing with draft-ietf-6man-hbh-processing

hbh-processing	eh-limits	Recommendation
Focus on processing HBH options	Limits for all extensions header types, HBH and destination options	Need requirements for all EH, hbh-processing should reference eh-limits
Nodes MUST process first HBH option	Intermediate and destination nodes MAY process up to a configurable limit (0 to N) of contiguous HBH or DestOpts options	MUST requirement for intermediate nodes to process >0 options isn't practical (reverts RFC8200 requirement)
Node MAY process more than one option, and MAY skip the rest	Intermediate nodes ignores HBH options after limit, destination node drops if HBH or DestOpts options beyond the limit count	Drop at destination since receiving host cannot accept malformed packets

Comparing with draft-ietf-6man-hbh-processing

hbh-processing	eh-limits	Recommendation
Source nodes SHOULD by default include a single HBH Option and could be more based on configuration	A host MUST NOT send more than 8 non-padding HBH or DestOpts options in a packet unless it has explicit knowledge that the path and destination	Assume eh-limits requirement. Limiting one option isn't needed for intermediate nodes due to other requirements, OSes aren't designed to enforce this, and may limit extensibility
Any new Hop-by-Hop options should not be variable size that could extend beyond what can be executed in the Fast Path	An intermediate node MUST be able to correctly forward packets that contain an IPv6 header chain of 104 or fewer bytes (equivalent to 64 bytes of EH)	Adopt requirements of eh-limits. Give specific requirements with numbers to vendors

Thank you!