UDP Zero Checksum with IPv6

draft-ietf-6man-udpchecksums-05

draft-ietf-6man-udpzero-07

Outline

- IESG Review
  - Discussion of major issues
- Current Status
- Next Steps

IESG Review Issues

- Document structure and status
  - Including question of beyond tunnels
- Experience from current non-checksummed tunnel protocols
  - No reported issues with GRE/MPLS/Pseudo-Wires
  - Reliance on non-verified field in protocols
- Clear discussion and example of analysis of impact
- What is meant with signaling support or usage of zero checksum?
- Some clarifications requested regarding security considerations
- A Number of clarifications requested in the text

Document Structure

- Barry Lieba had a discuss regarding two issues
  - Duplication of text as both normative and non-normative
  - What about future users of non-zero checksum:
    - No rules applies on them
- Proposed change
  - draft-ietf-6man-udpzero-07 will be standards track Applicability statement
    - Provides the general rules and considerations for using zero checksum
    - Add reference to the Node Requirements (RFC 6343)
  - draft-ietf-6man-udpchecksums-05 will reference the limitations:
    - Motivate why some is less or not applicable to the tunnel use case

Experience from Other Tunnels

- Stewart Bryant has a discuss regarding experience with non-verified tunnel protocols
  - MPLS VPN Identifier, Pseudo-Wire (PWE) are all used without checksums commonly
  - No reported issues and these are not discussed in document
  - At least in service provider tunnels the limitations appears to be to unnecessarily strict
- Also questions limitation on using non-checksummed header fields

Experience from Other Tunnels Proposal

- IPv6 specification update must take heterogeneous usage of UDP tunnels into account
  - We have evidence of corruption rates quite high
- However, for tunnels that carries checksummed packets; like anything over IP
  - The experience is that this is safe
- Reliance on unverified header fields are often fine as long as error has limited impact
    - Preferably only on the corrupted packet
- The above will result in some wording changes

Example analysis

- The analysis on what impact corruption has
  - an example case would be good in an appendix
- We propose to update the analysis in draft-ietf-6man-udpchecksums-05

Status

- Both drafts were updated to address the general structure discuss
  - These changes only the major structural work
  - They need more work to ensure consistent changes
- Allowing people to see the changes before spending time on them.

Next Step

- Ensure Agreement with discussing ADs
- Both drafts will need new versions
  - Verify consistency of retargeting of UDPzero
  - Edit in additional comments from
    - Ads
    - Gen-Art
    - SecDir
    - Individuals
- Presenting in TSVWG also on Friday
- Then we need new WG and IETF last call
  - WG must approve of these changes
  - Required due to intended status change

Significant comments

- Make clear benefits of keep-alives with and without checksums.
- APIs for handling packets must support per packet choice of using checksum or not.
- Middleboxes must treat packets with and without as being the same flow.
- The usage of non-checksummed packets vs with can affect resource consumption and thus admission control.
- Usage of a mix of non-checksummed and checksummed packets can aid traffic analysis