UDP Usage Guidelines for Application Designers

draft-ietf-tsvwg-udp-guidelines-04

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Content & History

• Guidelines to the designers of applications and application-layer protocols that use unicast UDP

• List discussion and feedback from out-of-area reviews has resulted in two revisions since IETF-69

• Contents
  • 3.1 Congestion Control Guidelines
  • 3.2 Message Size Guidelines
  • 3.3 Reliability Guidelines
  • 3.4 Checksum Guidelines
  • 3.5 Middlebox Traversal Guidelines
  • 3.6 Programming Guidelines
  • 3.7 ICMP Guidelines

changed since IETF-69

new since IETF-69
Quick Rundown of Changes (1)

• 3.1 Congestion Control Guidelines
  • new section 3.1.3 on UDP as a tunneling protocol needs review!
  • clarifications and editorial fixes to other sections

• 3.2 Message Size Guidelines
  • clarify IPv4 vs. IPv6 and payload size calculation

• 3.3 Reliability Guidelines
  • delay spikes and their impact on duplication detection
Quick Rundown of Changes (2)

- 3.4 Checksum Guidelines
  - clarifications on the purpose of the checksum

- 3.5 Middlebox Traversal Guidelines
  - align keep-alive interval with ICE
  - clarify that keep-alives are only recommended for applications where loss of middlebox state interferes with primary purpose
3.6 Programming Guidelines

- new section
- summarizes key differences between TCP and UDP sockets API
- not intended to be a complete reference
- section is getting long-ish; should not at much additional text
3.7 ICMP Guidelines

• new section

• notes that applications can utilize ICMP messages delivered for their communication sessions

• if they do, SHOULD be robust to transient reachability failures
Status

• need to incorporate some further off-list feedback on -04
  • security considerations need to make some stronger recommendation on what solutions are preferred
  • clarify wording on why the MSL is appropriate to use as assumption for max. UDP packet lifetimes

• should result in -05, probably after the holidays

• what then?

• thank you, reviewers!
  Paul Aitken, Mark Allman, Francois Audet, Stewart Bryant, Remi Denis-Courmont, Wesley Eddy, Sally Floyd, Jeffrey Hutzelman, Tero Kivinen, Philip Matthews, Joerg Ott, Colin Perkins, Tom Petch, Carlos Pignataro, Pasi Sarolahti, Joe Touch and Magnus Westerlund