One-Way Active Measurement Protocol (OWAMP)

draft-ietf-ippm-owdp-09.txt

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RFC 3763

- RFC 3763, One-Way Active Measurement Protocol Require-
  ments, is out

- Sets the requirements that draft-ietf-ippm-owdp-09.txt must
  satisfy

- It is believed that the requirements are currently satisfied

Changes in draft-ietf-ippm-owdp-09.txt vs -07

- TTL

- Records representing lost packets

- Resource use limits

- Clarifications

Changes: TTL treatment

- Goal: enable those hosts that can count the hops between them

- Old: nothing special

- Sender SHOULD set to 255

- Receiver SHOULD read the actual value

- If receiver can't read the actual value, 255 MUST be used

- Packet record format for the purposes of Fetch-Session now includes TTL

Changes: Records representing lost packets

- Send error estimate was left unspecified (now Multiplier=1, Scale=64, S=0)

- Receive timestamp remains a string of all zeros

- Receive error estimate was Multiplier=1, Scale=64, and S=0 (now normal value)

- Makes records more uniform, simplifying implementation

- Preserves more information by exposing the error of the clock by which the timeout is judged

Resource use limits

- A brief (450 words) new subsection of Security Considerations

- "implementation [...] MUST include technical mechanisms to limit the use of network capacity and memory"

- "Mechanisms for managing the resources consumed by unauthenticated users and users authenticated with a username and passphrase SHOULD be separate"

- "The default configuration of an implementation MUST enable these mechanisms and set the resource use limits to conservatively low values"

- An optional way to achieve this is described, other ways not precluded

Clarifications

- Definition of MBZ (must be zero) − thanks to Henk for noticing

  − Sender MUST set to 0

  − Receiver MUST ignore

  − Suitable for future extension, if necessary

  − Different from integrity zero padding

- Clarification of the use of cryptography (prompted by questions by Roman Lapacz)

Potential pending changes

- Remove start-time-in-the-past feature

  - Schedule becomes ambiguous ($\pm$RTT)

  - Sender behavior at the start becomes ambiguous (am I behind in scheduling or was the feature used?)

- Specify behavior in case of scheduling delays on the sender (send with a delay if the delay is less than the timeout)

  - Would be considered lost if delay is larger

  - Limit protects against huge bursts (think a laptop suspended for the night)

Potential pending changes (cont.)

- Change the order of error estimates and timestamps to re-align on word boundaries better

  – No big deal if we were writing it from scratch

  – A protocol change that breaks compatibility

  – How much is gained? Packet itself isn't aligned anywhere good when placed into user space...

- Next steps for OWAMP specification

- Questions?

- Documents: RFC 3763, draft-ietf-ippm-owdp-09.txt

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