TCP Extended Data Offset Option
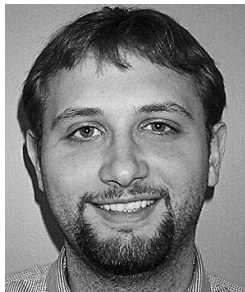
draft-ietf-tcpm-tcp-edo-03/04

IETF 94 - Yokohama

Joe Touch, USC/ISI

Wes Eddy, MTI Systems

USC Viterbi
School of Engineering

Information Sciences Institute

Status

- 04 update issued Nov 2015 (during IETF 94)
  - No changes from -03
- Two Linux implementations underway
  - USC/ISI student project
    - http://www.isi.edu/touch/tools
    - Linux 3.1.3 patches, tech. report available
    - Total of 272B space available
    - Not yet compatible with GRO (suspicious behavior detected)
    - 932 Mbps on 1GE (GROoff/EDOon vs. 940 GROon/EDOoff)
  - Pasi's code
    - https://github.com/PasiSa/linux
    - Tested using NOPs to exceed DO limit

Current issues

- Detect inappropriate merging (MPTCP)
  - Currently requires length variant for detection
  - Currently silent discard if length is wrong
    - MPTCP wants connection to proceed, but that requires a way to drop a currently active option
    - TCP options are negotiated **_at connection start_**
    - Recommend **_required_** configuration parameter – "silent discard" vs. "fail upon resegmentation" (i.e., drop and send RST -- default to fail?)

Issues…

- Blind echo of unknown options
  - Not currently addressed
  - Costly to fix in each option
  - TCP is not a measurement device (i.e., not clear we need to have an option to address this)

- TSO/LRO
  - In general, these are PART OF A TCP IMPLEMENTATION
  - They MUST NOT process segments with options they don't understand

10/30/15

4

Future path

- Wait for implementation results
  - Need to confirm GRO bug
  - Should be resolved this winter

- Proceed as a WG doc
  - After impl. results above