Proposal for RFC793bis
draft-eddy-rfc793bis-00

Wes Eddy
wes@mti-systems.com

Andre Oppermann
andre@freebsd.org
State of RFC 793

• Internet Standard
• Published: 1981
• Errata: 10 Verified (4 technical), 2 Reported (both technical), 13 Held (6 technical)
• Many RFCs updating 793
  – According to RFC editor: 1122, 3168, 6093, 6528
  – In actuality ... a few more
• No mention or reference to significant additional mechanisms that are important parts of TCP
  – Cong cont & loss Recovery, timestamps & PAWS, etc.
Time to Re-baseline TCP

• For such an important protocol, the spec should be more coherent
• The roadmap (4614/4614bis) is not enough
  – Informational
  – Does not attempt to trace all the dependencies and updates, nor errata
• Obsoleting 793 and straightening out the TCP base specification should:
  – Help new implementations to get things right
  – Help new extensions to be consistent
  – Reduce the amount of reading needed to understand TCP
Proposed Strategy

• Obsolete 793
  – Also, possibly some of the RFCs directly updating 793
• Leave out parts that are overcome by history:
  – API, security compartments, etc.
• Incorporate errata and updates in other RFCs on the standards track
• Only include ‘normative’ protocol definition, not examples or rationale
  – Segment format, state machine, processing rules, etc.
  – Include references to other RFCs where explanation and rational is needed
• Keep a descriptive changelog from 793 in an appendix
Example Changes

- incorporate 1122 additions
- point to major additional docs like 1323bis and 5681
- incorporate relevant parts of 3168 (ECN)
- incorporate 6093 (urgent pointer)
- incorporate 6528 (sequence number attacks)
- point to 5461 (soft errors)
- mention 5961 state machine option
- mention 6161 (reducing TIME-WAIT)
- incorporate 6429 (ZWP/persist)
- incorporate 6691 (MSS)
- Incorporate relevant parts of 2675 (IPv6 jumbograms)
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• Initial sketch of this proposal, in order to test the waters and get feedback
• So far, feedback *seems* generally positive …
• Want to make sure the idea is not dead-on-arrival before investing too much time