

# Proposal for RFC793bis draft-eddy-rfc793bis-00

Wes Eddy

[wes@mti-systems.com](mailto:wes@mti-systems.com)

Andre Oppermann

[andre@freebsd.org](mailto: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 rationale 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)

# draft-eddy-rfc793bis-00

- 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