

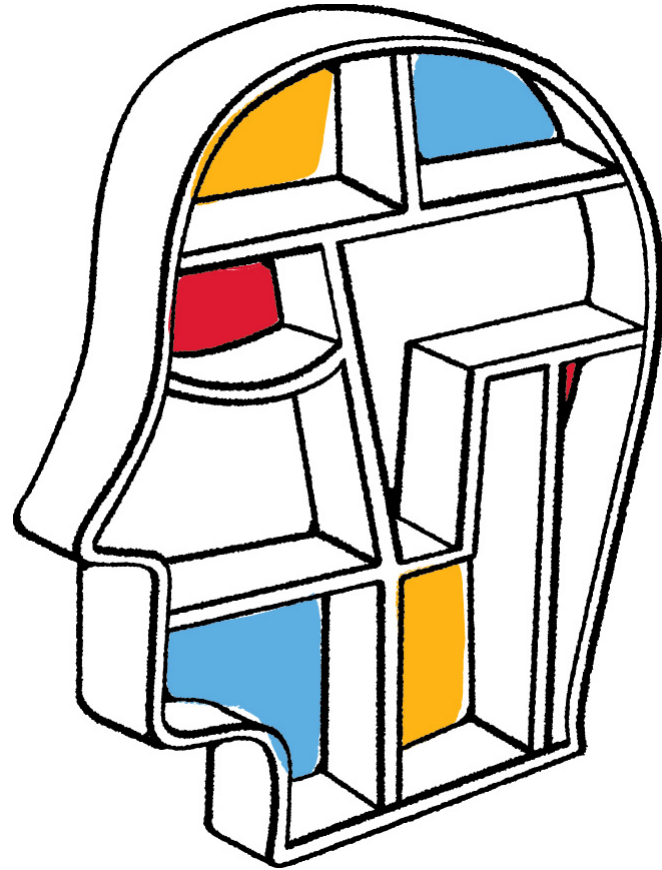
RFC1323bis – TCP Extensions for High Performance

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<http://tools.ietf.org/html/draft-ietf-tcpm-1323bis-14>

RFC1323bis – delta to RFC1323 (content)

- Window Scale option:
 - Clear guidance to implementers for corner cases (Window Reduction – Section 3.4)
- Timestamp option:
 - Consensus not to allow late TS negotiation
 - Clear guidance which TS values can update RTT
 - Edge cases in receiver TS processing
 - Removed text to discuss SACK interaction
 - Recommend TS in <RST>, but exclude from PAWS test
 - Consensus that PAWS more relevant than RTTM
 - Section order different - keep order from RFC1323

RFC1323bis – delta to RFC1323 (editorial)

- Formatting updated (using xml2rfc instead of noff)
 - Errata of 1323 addressed
 - Indentation of RFC1323 fixed
- Use of RFC2119 wording in normative sections
- New appendices
 - Window reduction example
 - RTO calculation modification
- Addressing lots of Nits mentioned over the years
- Expanded text around middlebox issues in Security section

RFC1323bis – since IETF86

- WGLC - draft-ietf-tcpm-1323bis-11
 - legacy introduction text from RFC1323 significantly updated after feedback

- Lots of discussion about different points
 - RFC2119 wording updates
 - Word smiting

Changes -11 to -12

- Timestamp option:
 - Addressed major WGLC comments
 - No longer declare RTTM to be a major issue
 - Added RTO update interval discussion
 - 3 suggestions

- Window scale option:
 - A Window Scale option in a segment without a SYN bit ~~SHOULD~~ **MUST** be ignored.
 - $WS > 14$: the TCP SHOULD log the error but **MUST** use 14 instead of the specified value.

Changes -12 to -13

- Editorial
 - Consistent naming
 - Typos

- Timestamp option:
 - One specific RTO update interval guidance in new Appendix

Changes -13 to -14 (-15)

- Timestamp option:
 - Revolves around the question, if PAWS is
 - Guarantee, or
 - Best-effort

If a non-<RST> segment is received without a TSopt, a TCP ~~MAY~~ **MUST** (SHOULD) drop the segment and **MAY** | (SHOULD NOT) send an <ACK> for the last in-sequence segment.

- Current deployed TS is often best-effort only

Outstanding

- Consensus on exact RFC2119 wording in normative sections for TS semantics

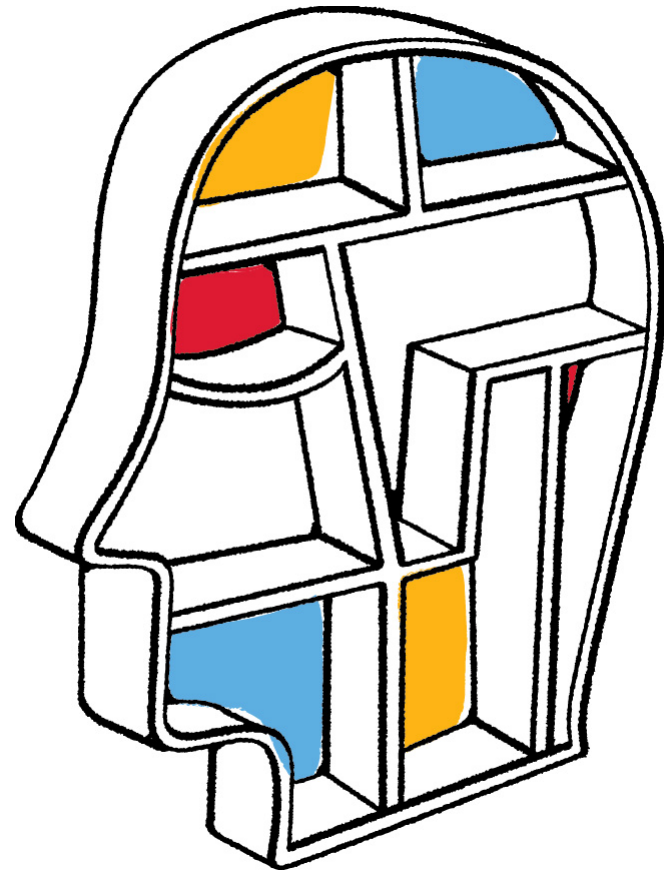
Once TSopt has been successfully negotiated (sent and received) during the <SYN>, <SYN,ACK> exchange, TSopt MUST be sent in every non-<RST> segment for the duration of the connection, and SHOULD be sent in an <RST> segment (see Section 4.2 for details). If a non-<RST> segment is received without a TSopt, a TCP MAY ~~MAY~~ **MUST** (SHOULD) drop the segment and **MAY** (SHOULD NOT) also send an <ACK> for the last in-sequence segment.

A TCP MUST NOT abort a TCP connection because any segment lacks an expected TSopt.

Next steps

- Major objections against 1323 (1323bis)?
- Ready for WGLC?

Discussion



Thank you

