

TCP Maintenance and Minor Extensions (TCPM) Working Group Status

IETF 81 - Quebec City
July 2011

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Agenda

- WG status
- WG items
 - Initial window discussion (draft-ietf-tcpm-initcwnd-01)
- Non-WG Items
 - draft-mathis-tcpm-proportional-rate-reduction-01
 - draft-cheng-tcpm-fastopen-00

Recent RFCs

- RFC 6093 - On the Implementation of the TCP Urgent Mechanism (January 2011)
- RFC 6191 - Reducing the TIME-WAIT State Using TCP Timestamps (April 2011)
- RFC 6247 - Moving the Undeployed TCP Extensions RFC1072, RFC1106, RFC1110, RFC1145, RFC1146, RFC1379, RFC1644 and RFC1693 to Historic Status (May 2011)
- RFC 6298 - Computing TCP's Retransmission Timer (June 2011)

WG Items Nearing RFC Publication

- Clarification of sender behavior in persist condition
draft-ietf-tcpm-persist
Milestone Target: Informational
Status: Revised ID needed after IESG evaluation

WG Items in WGLC or Being Revised Following WGLC

- MSS Option
draft-ietf-tcpm-tcpmss
Milestone Target: Proposed Standard in July 2009
Status: Action with David Borman
- 1948bis
draft-ietf-tcpm-rfc1948bis
Milestone Target: Proposed Standard until September 2011
Status: WGLC completed
Action: Next step is PROTO writeup
- The NewReno Modification to TCP's Fast Recovery Algorithm
draft-ietf-tcpm-rfc3782-bis
Milestone Target: Proposed Standard in April 2011
Status: Ongoing WGLC
Action: **WGLC until August 5, 2011**

Active WG Items

- 1323bis
draft-ietf-tcpm-1323bis
Milestone Target: Proposed Standard in July 2009
Status: Needs revision
Action: Revise & WGLC (action with David Borman)
- TCP Security
draft-ietf-tcpm-tcp-security
Milestone Target: BCP in August 2010
Status: Content needs work, draft expired
Action: **Action with author to address review comments**

Active WG Items

- SACK Entry / RFC 3517bis
draft-blanton-tcpm-3517bis
Milestone Target: Proposed Standard in October 2010
Status: Probably ready for WGLC
Action: WGLC soon?
- Increasing the Initial Window
draft-ietf-tcpm-initcwnd
Milestone Target: August 2011 to determine intended status; September 2011 to publish document
Status: Under active discussion / review
Action: **Determine intended status (next presentation)**

Under Poll to Become a WG Item

- Proportional Rate Reduction for TCP
draft-mathis-tcpm-proportional-rate-reduction
Status: Presented at IETF 80, discussion on the list
Action: **WG adoption? (see later)**
- Automating the Initial Window in TCP
draft-touch-tcpm-automatic-iw
Status: Discussion on the list
Action: **WG adoption? (see later)**

Many other documents are under discussion, see WG status posted to the mailing list for a summary

Initial Window Increase

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(TCPM co-chairs)

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There Are Many Choices ...

- Value (precisely: allowed maximum)
 - Fixed value vs. function $f(x)$ vs. auto-tuning
 - Most experimental data for IW of 10 MSS
- Publication track
 - Proposed standard, obsoletes/updates RFC 3390
 - Experimental, later “upgrade” to PS possible
Example: RFC 4138 / RFC 5682
- One vs. multiple experimental approaches
 - No solution will work well in all cases
 - Example: RFC 3522 / RFC 4138

... And Some Further Aspects

- Open issues in draft-ietf-tcpm-initcwnd
 - Upper limit for MTU other than 1500 byte
 - Reaction to loss from larger IW
- Other potentially relevant aspects
 - Handling for restart window after idle
 - Client/server applications vs. general use
 - etc.
- But: We have to move forward!

1) Track for draft-ietf-tcpm-initcwnd

- **A: Fixed upper limit to proposed standard**
 - Obsolete/update RFC 3390, even if IW 3 might still be useful
 - draft-ietf-tcpm-initcwnd is already partly used
- **B: Fixed upper limit to experimental**
 - Scope can be for general use on the Internet
 - Later proposed standard possible
- **C: Something else**
 - Substantial change of draft-ietf-tcpm-initcwnd
 - Examples: Adaptive scheme, or no change at all
- Mailing list feedback so far: 2 for A, 3 for B, 0 for C

2) What Maximum Value?

- **A: Upper limit of 10 MSS**
 - For MTU of 1500 byte
 - Other MTUs still to be worked out
- **B: Another value**
 - Less experimental data
 - Suggestions: “doubling”, “socket option”
- Mailing list feedback so far: 2 for A, 2 for B

3) Adaptive Scheme as Alternative

- **A: Adopt draft-touch-tcpm-automatic-iw as WG item**
 - Heading towards experimental
 - Could also apply to SCTP and some CCIDs of DCCP
- **B: No adoption**
- Mailing list feedback so far: 3 for A, 1 for B