MPTCP – Multipath TCP

WG Meeting

16nd July 2018

Montreal, Canada

Philip Eardley

Yoshifumi Nishida

- Note taker
- Jabber
- Please say your name at the mike
- Please include “-mptcp-” in your draft names
- Blue Sheet!

Note Well

This is a reminder of IETF policies in effect on various topics such as patents or code of conduct. It is only meant to point you in the right direction. Exceptions may apply. The IETF's patent policy and the definition of an IETF "contribution" and "participation" are set forth in BCP 79; please read it carefully.

As a reminder:

- By participating in the IETF, you agree to follow IETF processes and policies.
- If you are aware that any IETF contribution is covered by patents or patent applications that are owned or controlled by you or your sponsor, you must disclose that fact, or not participate in the discussion.
- As a participant in or attendee to any IETF activity you acknowledge that written, audio, video, and photographic records of meetings may be made public.
- Personal information that you provide to IETF will be handled in accordance with the IETF Privacy Statement.
- As a participant or attendee, you agree to work respectfully with other participants; please contact the ombudsteam (https://www.ietf.org/contact/ombudsteam/) if you have questions or concerns about this.

Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:

- BCP 9 (Internet Standards Process)
- BCP 25 (Working Group processes)
- BCP 25 (Anti-Harassment Procedures)
- BCP 54 (Code of Conduct)
- BCP 78 (Copyright)
- BCP 79 (Patents, Participation)
- https://www.ietf.org/privacy-policy/ (Privacy Policy)

IETF-102 Agenda

- Chairs – WG Status, Implementation news, etc
- RFC6824bis Updates – Christoph Paasch
- Potential work items discussion
- Considerations for MPTCP operation in 5G - Xavier de Foy

WG status (1) - Completing the bis

- From charter:
  - The working group now re-charters to progress various aspects of MPTCP. The primary goal of the working group is to create a bis version of the protocol document on the Standards track.
  - This develops the current Experimental document (item d above), incorporating experience from (for example) implementations, interoperability events, experiments, usage scenarios, protocol corner cases, and feedback from TCPM. There already exists a reference Linux implementation and other implementation and experimental activity is on-going and will continue during 2012, with the objective of progressing the protocol to Standards Track during 2013.
  - Mar 2018: MPTCP standards track protocol to IESG
- Need to have implementation before standards track:-
  - Various options discussed at IETF-98, decided to Wait for implementation
  - We now have one implementation of everything except SHA-256
    - No prospect of further implementation in near term
    - All ‘live’ suggestions have been included
- WG Chairs proposal for discussion:-
  - WG Last call now
    - Send request to Security ADs to find security reviewer
  - Standards track
    - comments & justification appreciated in WGLC
    - Reminder: version -01 – obsoletes RFC6824
    - Shepherd’s write-up to justify

WG Status (2) - MPTCP Proxy activity

- From Charter:
  - Finally, the working group will explore whether an MPTCP-aware middlebox would be useful, where at least one end host is MPTCP-enabled. For example, potentially helping MPTCP's incremental deployment by allowing only one end host to be MPTCP-enabled and the middlebox acts as an MPTCP proxy for the other end host, which runs TCP; and potentially helping some mobility scenarios, where the middlebox acts as an anchor between two MPTCP-enabled hosts. The working group will detail what real problems an MPTCP-enabled middlebox might solve, how it would impact the Multipath TCP architecture (RFC6182), what proxy approach might be justified as compared against alternative solutions to the problems, and the likely feasibility of solving the technical and security issues.
- Before IETF-101, TCPM has added a WG item on 0-RTT Converter
  - Dec 2018 - Submit document on TCP converters to the IESG for publication as an Experimental RFC
  - Presented on Monday
  - Approach reflects conclusion after discussion across several IETFs about best approach
  - Approach applies beyond MPTCP – hence in TCPM
  - MPTCP WG encouraged to help, will WGLC

WG Status (3) – Enhanced API activity

- From Charter:
  - RFC6897 defined an optional, basic application interface for MPTCP-aware applications as well as requirements for future extensions. There is now more experience of how MPTCP is being used - in particular by the Siri application, and limited take-up by other end hosts. The WG will re-visit this work, with the aim of allowing applications to make better use of MPTCP's capabilities via enhanced APIs, and hence promote wider MPTCP deployment in end hosts. The document will be informational, and build on the work in RFC6897 in the light of the implementation and operational experience so far.
  - November 2017 – enhanced API (INFO)
  - No WG document for this item, so far

Possible Work Items

- APIs
- Feature extensions
  - Security enhancement
    - Use of TLS, TCPINC, etc
  - Performance enhancement
    - Happy eyeball, robust setup, packet scheduling, etc
- Interactions with other WGs
  - dmm (5g), v6ops, rtgwg, etc