The state of implementation of TCP control block interdependence
draft-welzl-tcpm-tcb-sharing-00

Abstract

This document provides an overview of the state of implementation of
RFC 2140, in preparation for a possible future RFC2140bis document.

Status of This Memo

This Internet-Draft is submitted in full conformance with the
provisions of BCP 78 and BCP 79.

Internet-Drafts are working documents of the Internet Engineering
Task Force (IETF). Note that other groups may also distribute
working documents as Internet-Drafts. The list of current Internet-
Drafts is at http://datatracker.ietf.org/drafts/current/.

Internet-Drafts are draft documents valid for a maximum of six months
and may be updated, replaced, or obsoleted by other documents at any
time. It is inappropriate to use Internet-Drafts as reference
material or to cite them other than as "work in progress."

This Internet-Draft will expire on April 21, 2016.

Copyright Notice

Copyright (c) 2015 IETF Trust and the persons identified as the
document authors. All rights reserved.

This document is subject to BCP 78 and the IETF Trust’s Legal
Provisions Relating to IETF Documents
(http://trustee.ietf.org/license-info) in effect on the date of
publication of this document. Please review these documents
carefully, as they describe your rights and restrictions with respect
to this document. Code Components extracted from this document must
include Simplified BSD License text as described in Section 4.e of
1. State of Implementation

* L = Linux, F = FreeBSD

Table 1: State of implementation of RFC 2140 in Linux and FreeBSD

<table>
<thead>
<tr>
<th>RFC 2140</th>
<th>Description</th>
<th>Implementation</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old-MSS</td>
<td>Maximum Segment Size</td>
<td>F:rmx_mtu</td>
<td>This is being cached and shared in FreeBSD.</td>
</tr>
<tr>
<td></td>
<td>Estimated Round-Trip Time</td>
<td>L:TCP_METRIC_RTT</td>
<td>Cached in both FreeBSD and Linux, however it is being used by a new connection in FreeBSD only.</td>
</tr>
<tr>
<td></td>
<td>Estimated Round-Trip Time</td>
<td>L:TCP_METRIC_RTTVAR</td>
<td>Cached in both FreeBSD and Linux, however it is being used by a new connection in FreeBSD only.</td>
</tr>
<tr>
<td></td>
<td>Congestion Window</td>
<td>L:TCP_METRIC_CWND</td>
<td>Cached in both FreeBSD and Linux, however it is not being used by a new connection.</td>
</tr>
<tr>
<td></td>
<td>Slow Start Threshold</td>
<td>L:TCP_METRIC_SSTHRESH</td>
<td>This is being cached and shared in both FreeBSD and Linux. In Linux, it is set to max(cwnd/2, ssthresh) in most cases. In</td>
</tr>
</tbody>
</table>
FreeBSD, however, it is set to either the current ssthresh if not set previously, or to the arithmetic ssthresh and previously cached metric.

- Metric related to the extent of reordering.
  - L:TCP_METRIC_REORDERING
    - This is being cached and shared in Linux.

- Estimated Bandwidth
  - F:rmx_bandwidth
    - Not in the specification. It is not set before caching when a connection is closed.

- Outbound Delay - Bandwidth Product
  - F:rmx_sendpipe
    - Not in the specification. This is used for socket buffer in FreeBSD. The value is set to 0 before caching when a connection is closed.

- Inbound Delay - Bandwidth Product
  - F:rmx_recvpipe
    - Not in the specification. This is used for socket buffer in FreeBSD. The value is set to 0 before caching when a connection is closed.

2. IANA Considerations

This memo includes no request to IANA.

3. Security Considerations

To be added
Authors’ Addresses

Michael Welzl
University of Oslo
PO Box 1080 Blindern
Oslo N-0316
Norway

Phone: +47 22 85 24 20
Email: michawe@ifi.uio.no

Safiqul Islam
University of Oslo
PO Box 1080 Blindern
Oslo N-0316
Norway

Phone: +47 22 84 08 37
Email: safiquli@ifi.uio.no

Joe Touch
USC/ISI
4676 Admiralty Way, Marina del Rey
CA 90292-6695
USA

Phone: +1 (310) 448-9151
Email: touch@isi.edu

Jianjie You
Huawei
101 Software Avenue, Yuhua District
Nanjing 210012
China

Email: youjianjie@huawei.com