

Benchmarking Methodology WG (bmwg)

IETF 110

- **Thursday, March 11, 2021**
- **10:00-12:00 US CST (UTC+0600) and
1600-1800 UTC**
- **Chairs:**
 - Al Morton ([acm\(at\)research.att.com](mailto:acm(at)research.att.com))
 - Sarah Banks ([sbanks\(at\)encrypted.net](mailto:sbanks(at)encrypted.net))
- *If you are not subscribed to the BMWG mailing list and would like to be, please go to <https://www.ietf.org/mailman/listinfo/bmwg>*

Note Well

We work as Individuals, and try to be nice to each other.

(as of March 2018)

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.

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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)

BMWG Agenda (Any Bashing needed?)

Note-Taker(s), Jabber, IPR,

WG Status (Chairs)

- **Back-to-Back Frame (Update to RFC2544)**

<https://tools.ietf.org/html/draft-ietf-bmwg-b2b-frame-03.txt>

WG Drafts:

- **EVPN - status: IESG processing (WGLC)**

<https://tools.ietf.org/html/draft-ietf-bmwg-evpntest-07>

- **Next Generation Firewall Benchmarking**

<https://tools.ietf.org/html/draft-ietf-bmwg-ngfw-performance-06>

- **Multiple Loss Ratio Search**

[draft-ietf-bmwg-mlrsearch-00.txt](#)

<https://datatracker.ietf.org/doc/draft-ietf-bmwg-mlrsearch/>

Proposals:

- **A YANG Data Model for Network Interconnect Tester Management**

<https://tools.ietf.org/html/draft-vassilev-bmwg-network-interconnect-tester-04>

AOB:

Quick WG Status

- EVPN Draft back to the WG (post-AD Rev)
 - WG Last Call, return to Publication Requested?
- B2B Frame draft Approved – Some interesting comments and implications
- Next Gen Firewall Benchmarking
 - WGLC on 05, revised 06, confirmation LC
 - Status: Updates RFC 3511 ?? Or ??
- Proposals keep coming:
 - Shall we make-way for new work?
 - Most of the proposals are **very familiar** now...

Milestones (for Review)

Aug 2020 - Methodology for Next-Gen Firewall Benchmarking to IESG Review

DONE - Update to RFC2544 Back-to-back Frame Benchmarking to IESG Review

Aug 2020 - Methodology for EVPN Benchmarking to IESG Review

Dec 2020 - Draft on Selecting and Applying Model(s) for Benchmarking to IESG Review

Dec 2020 - Draft on General VNF Benchmarking Automation to IESG Review

Dec 2020 - Considerations for Benchmarking Network Virtualization Platforms to IESG Review

Transport Area & AD Review of draft-ietf-bmwg-b2b-frame

- RFC 2544 specifies a simple waiting time for DUT queues to empty after transmissions cease: 2 seconds
- Comment: DUT could include buffer-bloat-size buffers! Could be 1.5 seconds long! Might need to wait 30 seconds or more for all frames to exit the DUT.

Transport Area & AD Review of draft-ietf-bmwg-b2b-frame (contd.)

5.2. Test for a Single Frame Size

Each trial in the test requires the tester to send a burst of frames (after idle time) with the minimum inter-frame gap, and to count the corresponding frames forwarded by the DUT.

The duration of the trial includes three REQUIRED components:

1. The **time to send the burst of frames** (at the back-to-back rate), determined by the search algorithm.
2. The **time to receive the transferred burst of frames** (at the [RFC2544] Throughput rate), possibly truncated by buffer overflow, and certainly including the latency of the DUT.
3. **At least 2 seconds not overlapping the time to receive the burst (2.)**, to ensure that DUT buffers have depleted. **Longer times MUST be used when conditions warrant, such as when buffer times >2 seconds** are measured or when burst sending times are >2 seconds, but care is needed since this time component directly **increases trial duration and many trials and tests comprise a complete benchmarking study.**

The upper search limit for the time to send each burst MUST be configurable, to values as high as 30 seconds (buffer time results reported at or near the configured upper limit are likely invalid, and the test MUST be repeated with a higher search limit).

BACKUP

BMWG Activity

- **New RFCs:**
 - None!
- **Charter Update**
 - DONE!
- **Supplementary BMWG Page**
 - <http://bmwg.encrypted.net/>

Standard “Paragraph” (intro/security)

Benchmarking activities as described in this memo are limited to technology characterization using controlled stimuli in a laboratory environment, with dedicated address space and the constraints specified in the sections above.

The benchmarking network topology will be an independent test setup and **MUST NOT** be connected to devices that may forward the test traffic into a production network, or misroute traffic to the test management network.

Further, benchmarking is performed on a "black-box" basis, relying solely on measurements observable external to the DUT/SUT.

Special capabilities **SHOULD NOT** exist in the DUT/SUT specifically for benchmarking purposes. Any implications for network security arising from the DUT/SUT **SHOULD** be identical in the lab and in production networks.

Work Proposal Summary Matrix

Work Area > Criteria √	EVPN & PBB EVPN	VNF (was VBaaS)	Virtualized Platforms	SFC	Back-to- back Frame	Network Service Layer Abs Model	Next-Gen Firewalls
Proposal	Y	Y	Y	Y	Y	Y	Y
In Scope of Charter? (acm)	Y	Y	Y	Y	Y	Y	Y
Draft(s)	Y	Y	Y	Y	Y	Y	Y
Sig. Support at meetings	Y		IETF-98, many comments	Revised draft	Discuss @ IETF-103		Y
Sig. Support on List	Y				Comments & Testing		Y
Dependencies/Notes	Reviewers & charter			expired		expired	