Data Center Benchmarking Drafts

draft-bmwg-dcbench-terminology-05(8th revision)
draft-bmwg-dcbench-methodology-02(6th revision)

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Data Center Benchmarking Drafts Overview

Terminology
draft-ietf-bmwg-dcbench-terminology-04

Latency
Redefine how latency calculations are used
Update usage of FIFO, FILO, LIFO and LILO

Jitter
Define the application Jitter RFC 3393 and packet size
requirement and histogram for DC devices

Physical Layer Calibration
Cable test calibrations and documentation

Line Rate
Consequences of PPM: 99.98%

Buffering
Define Buffering and Buffer Efficiency, Burst, Intensity of
Microburst
Define Incast [many-one, many-many]

Application Throughput
Goodput definition and how to measure it

Methodology
draft-bmwg-dcbench-methodology-02

Line Rate Testing
Test all ports at 99.98% including latency, jitter histogram
for min/max/avg and drops

Buffering Testing
Buffer highest efficiency
Maximum port buffer size
Maximum port pair buffer size
Maximum DUT buffer size
Microburst

MicroBurst Testing
Use all ports, at 100% intensity of microburst

Head of Line Blocking Testing
Measure two groups (8 ports) of DUT, up to all ports
Reports provides percent of traffic loss during HOLB

Incast Stateful and Stateless Traffic
measure TCP goodput while measuring UDP latency

Changes 1

Added discussion on cut-through vs. store-and-forward switches

Changes 2

Added in note on RFC 2647 and goodput definition – (removed "bits lost" wording)

skipping to change at *page 13, line 39*	skipping to change at *page 13, line 46*
a MUST to have a non null percentage of synchronization, which MUST be specified.	a MUST to have a non null percentage of synchronization, which MUST be specified.
7 Application Throughput: Data Center Goodput	7 Application Throughput: Data Center Goodput
7.1. Definition	7.1. Definition
In Data Center Networking, a balanced network is a function of maximal throughput 'and' minimal loss at any given time. This is defined by the Goodput. Goodput is the application-level throughput. It is measured in bytes / second. Goodput is the measurement of the actual application payload of the packet being sent.	In Data Center Networking, a balanced network is a function of maximal throughput 'and' minimal loss at any given time. This is defined by the Goodput. Goodput is the application-level throughput. The definition used is a variance of the definition in RFC 2647. Goodput is the number of bits per unit of time forwarded to the correct destination interface of the DUT/SUT, minus any bits retransmitted.
7.2. Discussion	7.2. Discussion
In data center benchmarking, the goodput is a value that SHOULD be measured. It provides a realistic idea of the usage of the available bandwidth. A goal in data center environments is to maximize the goodput while minimizing the loss.	In data center benchmarking, the goodput is a value that SHOULD be measured. It provides a realistic idea of the usage of the available bandwidth. A goal in data center environments is to maximize the goodput while minimizing the loss.
7.3. Measurement Units	7.3. Measurement Units

Changes 3

Big thanks to Al & Scott!

Next Steps

What's needed next?

- Currently Last Call
- "looks good to me

    Scott"