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Performance Benchmarking BOF

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Overview

❑ What is Performance Benchmarking?

❑ Why ATM Forum should work on it?

❑ Initial goals

Dictionary Definition

❑ **Benchmark** *v. trans*. To subject (a system) to a series of tests in order to obtain prearranged results not available on competitive systems.

From: The Devil's DP Dictionary

S. Kelly-Bootle

Networking Benchmarks

❑ Benchmarking Methodology Working group (BMWG) formed in January 1990

❑ RFC 1242 "Benchmarking Methodology for Network Interconnection Devices" written in July 1991.

❑ Defined a number of terms that are commonly (mis)used by vendors

Terms Defined in RFC 1242

❑ Back-to-back

❑ Frame Size

❑ Frame Loss Rate

❑ Latency

❑ Throughput

Throughput

155 Mbps   ⟶   100 Mbps

- ❏ Is the throughput 100 Mbps?
- ❏ NO!
- ❏ Correct definition: The maximum rate at which none of the offered frames are dropped by the device
- ❏ Issues: Must specify the frame size, path

Why not QoS Group?

❑ Quality of Service definitions:

    ❑ Cell error ratio

    ❑ Cell misinsertion ratio

    ❑ Cell loss ratio

❑ QoS parameters may be OK for VC setup but not for customer buying the equipment.

❑ Benchmarks allow customers to compare different products and make an apple-to-apple comparison.

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Why not Testing Group?

❏ Testing group is working on conformance testing.

❏ Conformance $\neq$ Performance

❏ Conformance is mostly "Yes-No"

❏ Performance is mostly quantitative.

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Can we use BMWG?

❑ Yes, we can. The terms and methodology have to be extended for ATM.

❑ ATM provides many variations of many services not provided by traditional networks

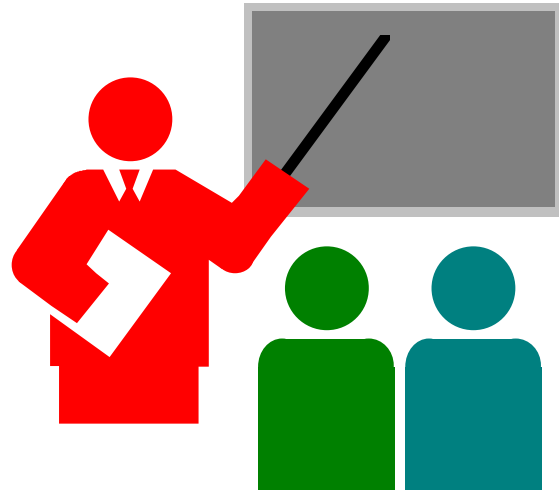❑ We need to identify meaningful combinations and their measurement conditions.

Why Do This at ATM Forum?

- ATM Forum has the most interest of making ATM successful (compared to IETF)

- Confusion caused by differing terminology and differing benchmarks will eventually lead to customer dis-satisfaction

- Better customer information will contribute to more customer satisfaction and more sales and hence success of ATM.

Initial Goals of Performance Benchmarking BOF

❏ Identify performance terms used by vendors

❏ Define these terms consistently

❏ Define measurement methodology

    ❏ Define key configurations

    ❏ Identify key issues and declarations

❏ Define scripts or benchmark that can be used by vendors and independent test labs to compare product offerings

Summary

- Performance benchmarking is important to avoid customer confusion

- It would work only if there is a majority agreement among the vendors/users.

- Benchmark $\neq$ QoS $\neq$ Conformance