
ATM Forum Document Number: ATM Forum/95-1347

Title: Performance Benchmarking BOF

Abstract:
We would like to form a new "birds of a feather" group on Performance Benchmarking of ATM products.

Source:
Raj Jain
The Ohio State University

Raj Jain is now at Washington University in Saint Louis, jain@cse.wustl.edu <http://www.cse.wustl.edu/~jain/>

The presentation of this contribution at the ATM Forum is sponsored by NASA.

Date: October 1995, Honolulu

Distribution: ATM Forum Technical Working Group Members
(Plenary, Traffic Management, and Testing)

Notice: This contribution has been prepared to assist the ATM Forum. It is offered to the Forum as a basis for discussion and is not a binding proposal on the part of any of the contributing organizations. The statements are subject to change in form and content after further study. Specifically, the contributors reserve the right to add to, amend or modify the statements contained herein.

Performance benchmarking is the issue of developing (or agreeing on) representative workloads for comparing the performance of various ATM Switches, NICs, and other products. While this area is somewhat related to testing and QoS (and therefore to traffic management). None of the two group are working on performance benchmarking.

Testing is mostly concerned with "Conformance" which is different from "performance." Although, there is a section on "performance" in the testing document, it does not deal with the benchmarking issue.

Traffic management document specifies several QoS metric but many of these metrics may or may not be what the user eventually may

use to compare different products alternatives. For example, a user running an ATM application may simply see increased response time when a switch has a high "Cell misinsertion ratio." Thus, the user may simply want to use the response time for a particular benchmark as the goodness metric for different switches.

The goal of the performance benchmarking BOF would be to identify workloads and metrics for various ATM products that a user can justifiably use to compare various products. Although, it is upto the group to decide how to proceed on this, we would probably start with ATM Switches as the first set of products to work on. An industry-wide agreement about what are meaningful workloads and metric would certainly help the user and the industry.

A good example of performance benchmarking group from TCP/IP community is the "Benchmarking Working Group" of the Internet Engineering Task Force (IETF). They started back in 1991 and have developed a set of metrics for comparing routers and now several LAN switching products. The metrics and workloads are used by Scott Bradner at Harvard University to publish performance results on various router and LAN switching products. The networking industry also uses these same benchmarks, metrics, and results to compare their products. We, at ATM Forum, need to develop a similar set of metrics and benchmark for ATM products.