# Netfinity Leads in Web Server Performance

February 9, 1999 ... Powered by leading-edge hardware and Web software technologies, IBM's Netfinity* 7000 M10 enterprise server achieved the highest SPECweb96** performance results recorded for one-, two-, and four-way, Windows NT-based Web servers.

The Netfinity 7000 M10 server achieved *39 percent better performance* than Hewlett-Packard's one-way NetServer** Lxr 8000. Configured with one 450MHz[1] Pentium** II Xeon** processor with 2MB L2 cache and 2GB of memory, running Windows NT** Server 4.0 and IBM's HTTP Server 1.3.3, which integrates IBM's patented Web server accelerator with Apache Web server technology, the Netfinity 7000 M10 achieved peak results of 4,579 Web page requests per second[2] -- the best result on *any* hardware/software platform to date.

One-Way Competitive Results
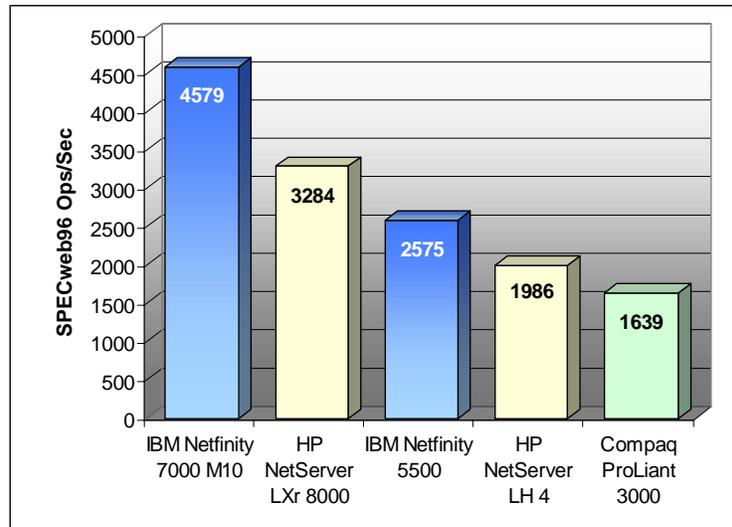
The Netfinity 7000 M10 also achieved the highest SPECweb96 results published to date for a two-way server on any hardware/software platform, and the highest results on a four-way NT-based Web server. Configured with two 450MHz Pentium II Xeon processors with 2MB L2 cache and 2GB of memory, and, alternately, with four 450MHz Pentium II Xeon processors with 2MB L2 cache and 2GB of memory, the Netfinity 7000 M10 achieved peak results of 5,996 Web page requests per second, and 7,818 Web page requests per second, respectively.

Two-Way and Four-Way Competitive Results
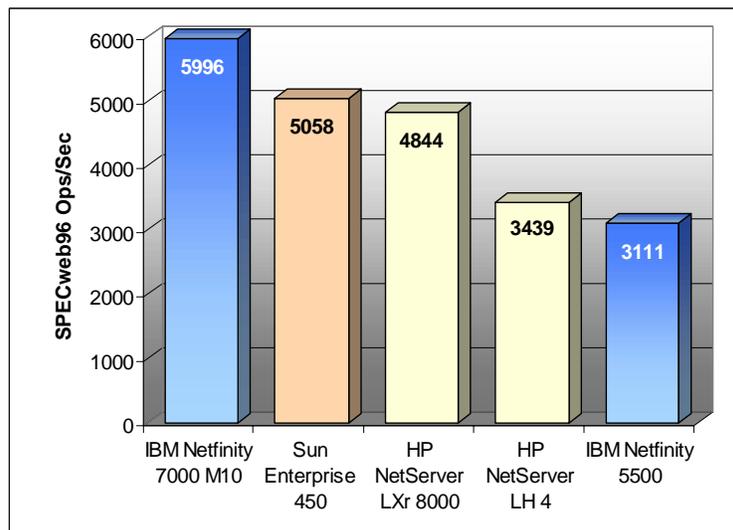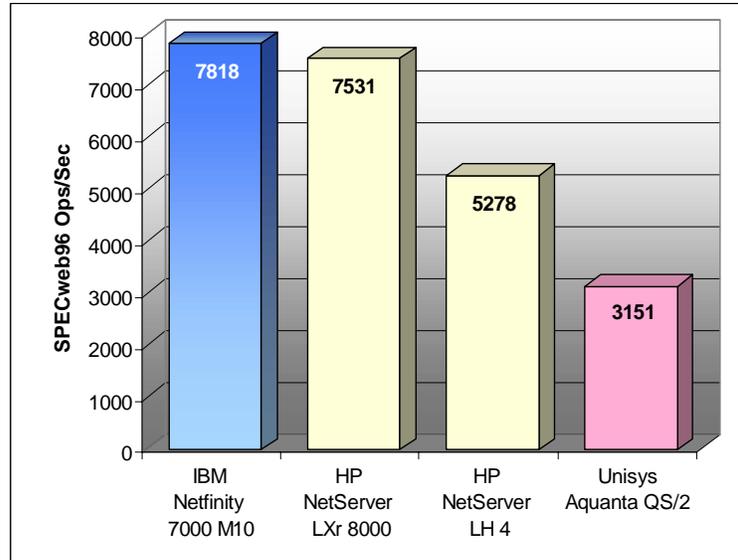
These SPECweb96 benchmark results demonstrate the robust capabilities of Netfinity servers for handling Web page delivery and e-commerce at heavily trafficked Web sites. Using one processor, the Netfinity 7000 M10's Web server performance is unparalleled, even among the higher-priced RISC-based systems running UNIX. These results demonstrate the clear performance advantage of the Netfinity line of servers.

Web Server Accelerator

These latest Netfinity performance milestones were achieved using Netfinity server acceleration on NT, and Alteon** Networks' ACEnic** Gigabit Ethernet Adapter with Jumbo Frame support, which improves bulk data transfer performance and minimizes packet-processing overhead on servers. Also used was the ACEswitch** 180, a per-port-selectable 10/100/1000 Mbps switch.

Two key distinctions set Netfinity Web server acceleration on NT apart from competitors' systems:

•   IBM HTTP Server uses the FRCA web server accelerator, a kernel-mode accelerator developed by IBM Research.
•   The second distinction arises from the first: because our accelerator is internally developed, IBM's Netfinity developers are able to work closely with the accelerator developers, resulting in accelerator technology and server hardware technology that are not merely compatible, but also *complementary*.

About SPECweb96

SPECweb96, with its standardized workload and implementation, measures a system's ability to perform as a World Wide Web server for static pages. The workload simulates the accesses to a Web service provider, where the server supports multiple pages for a number of different organizations. This benchmark is useful in evaluating systems that handle millions of hits per day and multiple hits per second. SPECweb96 provides the most objective, most representative benchmarks for measuring Web server performance.

SPECweb96 reports for results cited in this article, as well as all other published results, are available on the World Wide Web at http://www.specbench.org/osg/web96.

Specific information about IBM Netfinity products, services and support can be located at http://www.ibm.com/netfinity.

The IBM Fax Information Service allows you to receive facsimiles of prior IBM product releases. Simply dial 1-800-IBM-4FAX and enter "99" at the voice menu.

[1]MHz only measures microprocessor internal clock speed, not application performance. Many factors affect application performance.

[2]SPECweb96 defines two metrics: operations per second and milliseconds per operation. What we call a "Web page request" is actually an "operation," which is an HTTP request for an HTML file or an object referenced in an HTML file.

Results referenced in this document are current as of February 9, 1999. Competitors' results are provided for comparison. All competitive results shown are based on the benchmark measurements conducted by the respective companies. IBM did not test or in any way verify the results obtained by these companies. The configuration of the server under test as well as the test environment may vary. Readers are encouraged to examine the companies' published disclosure reports for details concerning the server configuration and the methodology used to obtain the published results.

Data on competitive products was obtained from publicly available information and is subject to change without notice. Contact the manufacturer for the most recent information.