# Netfinity Brings Powerful Web Server Performance to Mainstream Network Computing

April 14, 1999 ... The new IBM Netfinity* 5500 M20 server, which brings affordable, four-way SMP processing power and scalability to mainstream network computing, delivers outstanding SPECweb96** performance results for one-, two- and four-way, Windows NT-based Web servers.

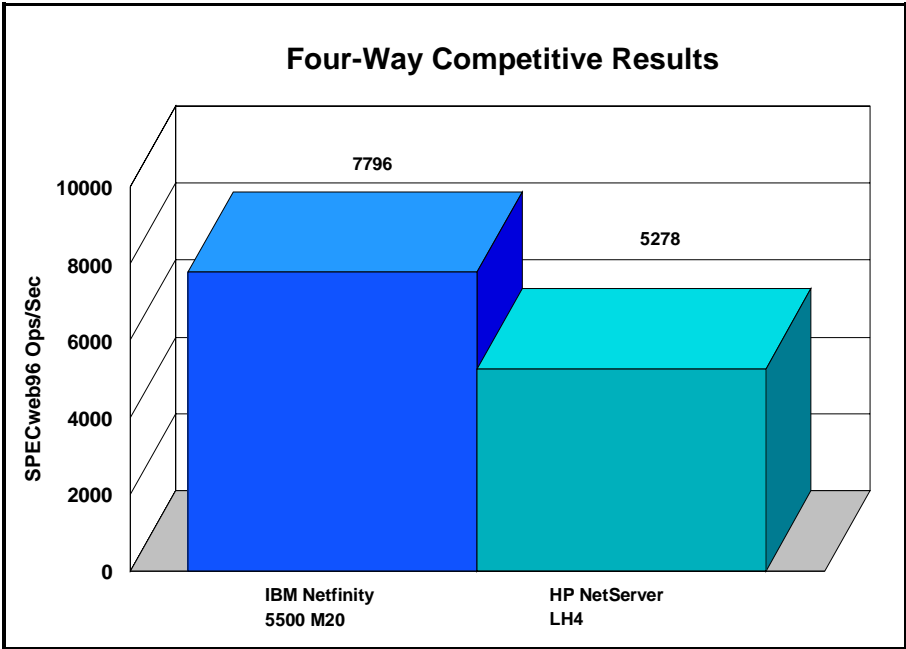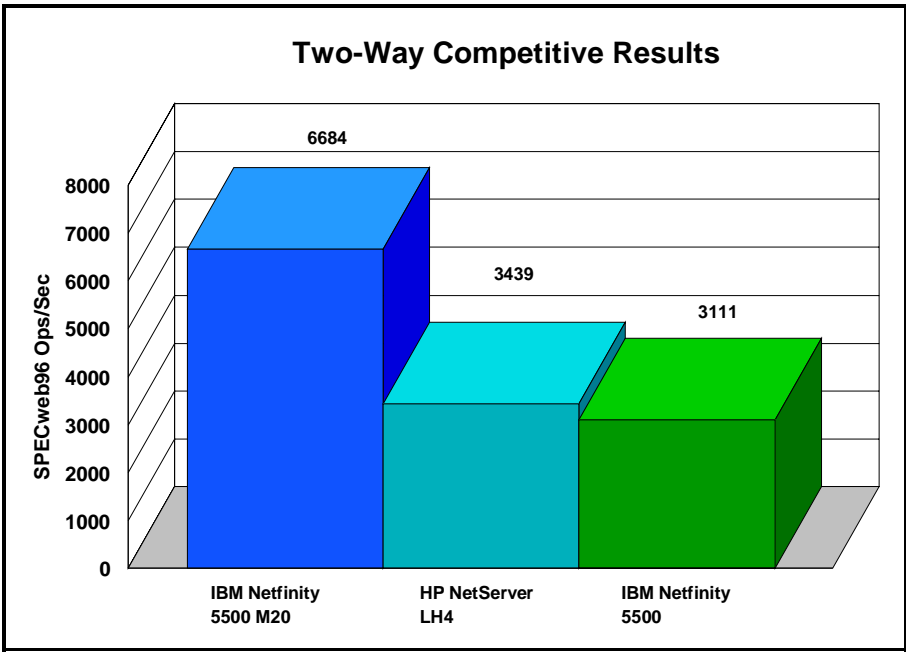The Netfinity 5500 M20 server achieved *two times higher performance* with SPECweb 96 than Hewlett-Packard's NetServer** LH 4. Configured with one 500MHz[1] Pentium** III Xeon** processor with 1MB L2 cache and 2GB of memory, running Windows NT** Server 4.0 and IBM's HTTP Server 1.3.3, which integrates IBM's patented Web server accelerator with Apache Web server technology, the Netfinity 5500 M20 achieved peak results of 5,958 Web page requests per second.[2]
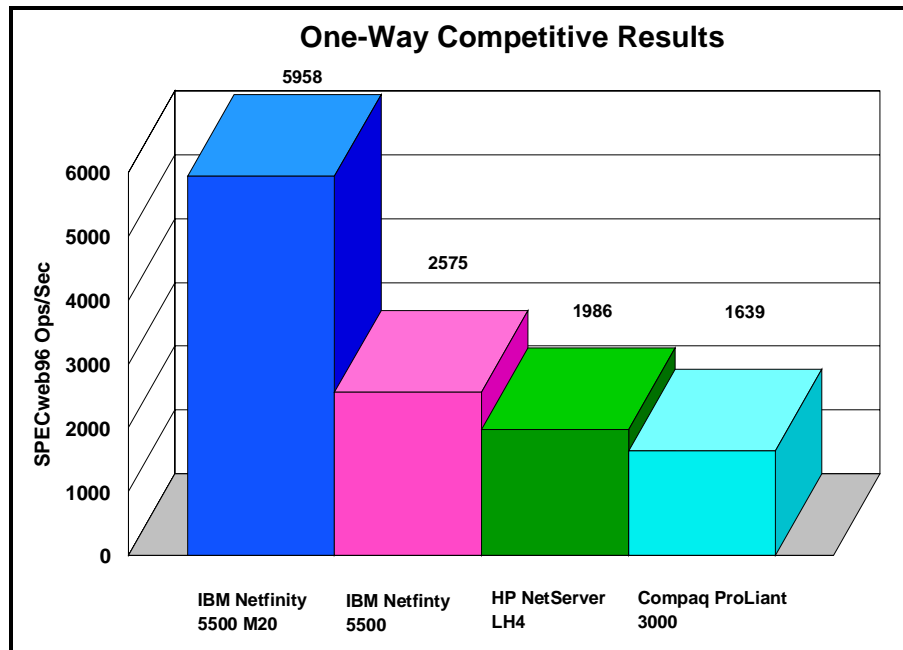
The Netfinity 5500 M20 also achieved 94 and 47 percent higher performance than the HP NetServer LH 4 in two-way and four-way configurations, respectively. Configured with two Pentium III Xeon processors with 1MB L2 cache and 2GB of memory, and, alternately, with four 500MHzPentium III Xeon processors with 2MB L2 cache and 2GB of memory, the Netfinity 5500 M20 achieved peak results of 6,684 and 7,796 Web page requests per second, respectively.

In each configuration, the HP NetServer LH 4 used the Pentium II Xeon 400MHz processor and ran Microsoft Windows NT Server 4.0, Microsoft Internet Information Server 4.0, and HP NetServer Web Cache 1.0.

Note: SPECweb96 results based on Windows NT Server 4.0 should not be compared with SPECweb96 results based on beta versions of Windows 2000**, which will not be generally available as a product until the fourth quarter of 1999. Windows 2000 contains network performance enhancements that significantly boost SPECweb96 performance.

Two-Way Competitive Results

SPECweb96 Ops/Sec

6684	3439	3111
IBM Netfinity 5500 M20	HP NetServer LH4	IBM Netfinity 5500

Four-Way Competitive Results

SPECweb96 Ops/Sec

7796	5278
IBM Netfinity 5500 M20	HP NetServer LH4

These SPECweb96 benchmark results demonstrate the robust capabilities of Netfinity servers for handling Web page delivery and e-commerce at heavily trafficked web sites. 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 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 average response time in milliseconds per workload. 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 April 14, 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.