

IBM stages benchmark blitz, sets performance records with new xSeries servers

March 23, 2001 ... IBM® today expanded the award-winning **@server** xSeries™ product line with the announcement of new models featuring the Intel® 900MHz(1) Pentium® III Xeon™ processor. These new servers proved their mettle in recently conducted TPC Benchmarks, TPC-C and TPC-H. These versatile servers also delivered top performance results for SAP R/3 Centralized Benchmark and SPECweb99.

A new world record for online transaction processing

The xSeries 370 server shattered existing records for online transaction processing, delivering performance of 688,220.90 tpmC at price/performance of \$28.89/tpmC with an availability date of May 31, 2001.

Named Super Nova, the 32-node database cluster, sponsored by IBM, Microsoft® and Intel, featured 256 900MHz/2MB Pentium III Xeon processors. Each server node, configured with eight processors and 16GB of memory, ran Microsoft SQL Server 2000 and Windows® 2000 Datacenter Server. The benchmarked configuration consisted of 32 xSeries 370 servers running Windows 2000 Datacenter Server and Microsoft Windows 2000 SQL Server Enterprise Edition, utilizing a total of 256 Intel 900MHz Pentium III Xeon processors, and used more than 116TB(2) of physical disk capacity configured for high availability using a combination of RAID-1E and RAID-10 arrays and more than 7,000 disk drives.

The xSeries 370 server also delivered outstanding TPC-C results in 16- and 4-node configurations, proving that industry-standard hardware and software can scale to meet the most demanding application environments. The 16-node configuration achieved 363,129.75 tpmC at price/performance of \$28.10/tpmC with an availability date of May 31, 2001. The 4-node configuration, named Tsunami, achieved 121,319.23 tpmC at price/performance of \$25.47/tpmC with an availability date of May 31, 2001. Both configurations used Windows 2000 SQL Server and Datacenter Server.

Leading TPC-H results for 4-way enterprise servers

The new xSeries 250 delivered leading TPC-H performance at 100GB for a 4-way system. The xSeries 250, configured with four 900MHz/2MB Pentium III Xeon processors and using Windows 2000 SQL Server and Windows 2000 Advanced Server, achieved a Composite Query-per-Hour Metric of 1,147.9 QphH @ 100GB at price/performance of \$169/QphH @ 100GB with an availability date of April 13, 2001.

The new, rack-optimized xSeries 350, using a similar configuration, also achieved leading TPC-H performance at 100GB for a 4-way system, with a Composite Query-per-Hour Metric of 1,169.7 QphH @ 100GB at price/performance of \$166/QphH @ 100GB with an availability date of May 31, 2001.

The TPC Benchmark H models a decision support system. The TPC-H Composite Query-per-Hour Performance Metric (QphH@Size) reflects multiple aspects of the capability of the system to process queries. Because of its impact on performance, the size of the database against which the queries are executed is also included in the TPC-H metric.

Leadership performance for 8-way and 4-way servers running the SAP R/3 Centralized SD Benchmark

The xSeries 370 demonstrated leadership performance in standard benchmark testing, running the SAP® R/3® Centralized SD (Sales and Distribution) Standard Application Benchmark on an eight-way, Intel-based server. The xSeries 370 server achieved 375 SD Benchmark users with 1.97 seconds average dialog response time on DB2® UDB Version 7.1 and Microsoft Windows 2000 Advanced Server. The measured throughput of 113,000 dialog steps per hour represents 37,670 fully processed order line items per hour.

The xSeries 250, a 4-way Intel-based server, demonstrated leadership performance in standard benchmark testing, running the SAP R/3 Centralized SD Benchmark. The xSeries 250 server achieved

250 SD Benchmark users with 1.80 seconds average dialog response time on DB2 UDB Version 7.1 and Windows 2000 Advanced Server. The measured throughput of 77,084 dialog steps per hour represents 25,694 fully processed order line items per hour.

Powerful performance for e-business computing demonstrated with SPECweb99

The xSeries 370 server set new performance records using Red Hat® Linux® 7.0 with TUX 2.0, handily surpassing the competition. The SPECweb99 benchmark was used to measure the xSeries 370 server's performance in 4-way, 2-way and 1-way processor configurations. The xSeries achieved 4-way results of 6,248 simultaneous connections, 2-way results of 3,999 connections, and 1-way results of 2,700 connections. All configurations used the 900MHz Pentium III Xeon with 2MB L2 cache.

SPECweb99 measures the maximum number of simultaneous connections, requesting the predefined benchmark workload that a Web server is able to support while still meeting specific throughput and error rate requirements. The connections are made and sustained at a specified maximum bit rate with a maximum segment size intended to more realistically model conditions that will be seen on the Internet during the lifetime of this benchmark.

More information on the TPC-C benchmark can be found at the Transaction Processing Performance Council Web site at <http://www.tpc.org>. For the latest SPECweb99 results, visit <http://www.spec.org/osg/web99>.

Specific information about IBM Netfinity and xSeries products, services and support is located at ibm.com/pc/ww/eserver/xseries.

- (1) MHz only measures microprocessor internal clock speed; many factors affect application performance.
- (2) When referring to hard disk capacities, terabyte means one trillion bytes. Total user-accessible capacity may be less.

Results referenced are current as of March 23, 2001.

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