

## IBM delivers high performance for blade server-based environments

July 29, 2003 ... IBM® @server™ BladeCenter™ -- the first 2-way blade solution to offer customers the power of Intel® Xeon™ processors -- now features the Xeon processor at 3.06GHz with a 533MHz front side bus. (1)

BladeCenter's revolutionary design delivers a cost-efficient solution for adding scale and capacity into IT environments. A high-performance blade platform for business-critical applications, BladeCenter delivers enterprise-class system availability features and supports a wide range of applications, including Web commerce and collaboration.

BladeCenter has demonstrated outstanding performance on leading industry standard benchmarks with the:

- Highest 2-way IA-32 score on SPECweb99\_SSL

The BladeCenter server supported 1,304 conforming simultaneous connections, beating the HP ProLiant BL20p G2's score of 1,242. SPECweb99\_SSL, which uses an industry-accepted workload to measure the performance capabilities of a Web server with added SSL (Secure Socket Layer) encryption/decryption. SPECweb99\_SSL, is intended to measure the performance of Web servers, such as e-commerce servers, that experience the high volume of throughput typical of a large enterprise.

For these measurements, BladeCenter was configured with two 3.06GHz Xeon processors, 8GB of memory, two 40GB IDE drives and ran the Red Hat Linux 7.3 operating system and Zeus V4.2R2 HTTPS software. The ProLiant BL20p G2 was configured with two 3.06GHz Xeon processors, 8GB of memory, two 36.4GB SCSI drives, and ran the Red Hat Linux 8.0 operating system and Zeus V4.2R2 HTTPS software.

- Highest 2-way blade server-based performance on Exchange 2000

The BladeCenter server supported 10,000 MMB2s (users), outperforming the HP ProLiant BL02p G2's score of 9,500 MMB2s. The BladeCenter server was configured with two 3.06GHz Xeon processors and 4GB of memory. The Microsoft LoadSim MMB2 was used, which represents the tasks typically performed by a corporate e-mail user.

During the 4-hour steady state, BladeCenter provided a weighted 95th Percentile response time of 293 ms for 10,000 MMB2, with average send queue size of 101 and average CPU utilization of 90.6 percent. The MAPI Messaging Benchmark (MMB2) measures throughput in terms of a specific profile of user actions, executed over an 8-hour working day.

- Highest 2-way performance on NotesBench R6 iNotes workload

The BladeCenter server supported 4,000 R6 iNotes users at \$33.54/user, and 3,444 NotesMarks (transactions per minute) at \$38.95/NotesMark. The BladeCenter server was configured with two 3.06GHz Xeon processors and 4GB of memory, and ran Red Hat Linux 7.3 and Lotus Domino D6 Enterprise Server.

The iNotes Web Access workload executes Notes transactions that model a server for mail users who access mail via the Web. The resulting capacity metric for a server is the maximum number of users that can be supported before the average user response time becomes unacceptable.

Results referenced are current as of July 29, 2003.

(1) Planned availability for the BladeCenter server with the 3.06GHz Xeon processor is September 26, 2003.

Visit these Web sites for a complete list of benchmark results:

SPECweb99\_SSL: [www.spec.org](http://www.spec.org)

Exchange 2000: [www.microsoft.com/exchange/techinfo/planning/2000/perfscal.asp](http://www.microsoft.com/exchange/techinfo/planning/2000/perfscal.asp)

NotesBench: [www.notesbench.org](http://www.notesbench.org)

IBM, BladeCenter, and the IBM e-business logo are trademarks or registered trademarks of International Business Machines Corporation.

Intel and Xeon are trademarks or registered trademarks of Intel Corporation.

Lotus, Lotus Notes and Domino are trademarks or registered trademarks of Lotus Development Corporation and/or IBM Corporation.

SPEC and SPECweb99 are trademarks of Standard Performance Evaluation Corporation.

All other company/product names and service marks may be trademarks or registered trademarks of their respective companies.