

HP ProLiant DL585 achieves industry leadership on Lotus NotesBench



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Executive summary

In the face of growing user demands, IT managers now need platforms and processor architectures that are capable of utilizing larger memory footprints. They must leverage technology innovations in support of improved performance and scalability. And, in an increasing number of instances, they must be able to accelerate the adoption and development of 64-bit ecosystems.

Feature-rich, fault-tolerant, and standards-based, the HP ProLiant DL585 server delivers powerful 32-bit computing performance, extending the performance of memory-constrained applications as it provides (or – seamlessly introduces) 64-bit capabilities and benefits to traditional 32-bit x86-based environments. With its AMD Opteron™ processor-based architecture and superior manageability, the ProLiant DL585 server is highly available, flexible, and extensible.

This paper discusses the exceptional results of this HP ProLiant DL585 server in a recent Lotus Domino NotesBench R6Mail benchmark. The NotesBench R6Mail workload is designed to replicate an average group of users performing everyday mail tasks. The test measured the performance of 26,000 users participating in Notes R6Mail related activities simultaneously connected to four instances of Lotus Domino R6.5.1 Server, on a single HP ProLiant DL585 server. The test was set up using two groups of hardware: the driving systems, and the system under test (SUT). The SUT was configured with four AMD 2.2 GHz Opteron CPUs, 8 gigabytes of RAM, and four 36.4GB SCSI hard disks. Using three HP Smart Array 6402 disk controllers, the ProLiant DL585 server was connected to six HP StorageWorks storage enclosures subsystems. Each storage enclosure was configured with thirteen 36.4GB Pluggable Ultra320 SCSI hard drives.

The R6Mail workload was run to simulate **26,000 R6Mail users** against a Lotus Domino 6.5.1 Server. The test ran 7.5 hours during which time the system under test achieved **38,623 NotesMark** (transactions per minute or tpm) with an **average response time of 0.097 seconds**. Based on these performance results and a total solution cost of \$84,202.00, the price/performance ratio is **\$3.24/User** (or **\$2.18/NotesMark**).

Interpreting the results

Industry standard computing technologies continue to rise to the challenge of deploying sustainable solutions, increasing both power and functionality while continuing to offer superior price. This combination of high performance and low cost has given industry standard servers a considerable price/performance lead over proprietary technologies for quite some time.

The benchmark results documented in this audit report demonstrate these capabilities and leadership by achieving:

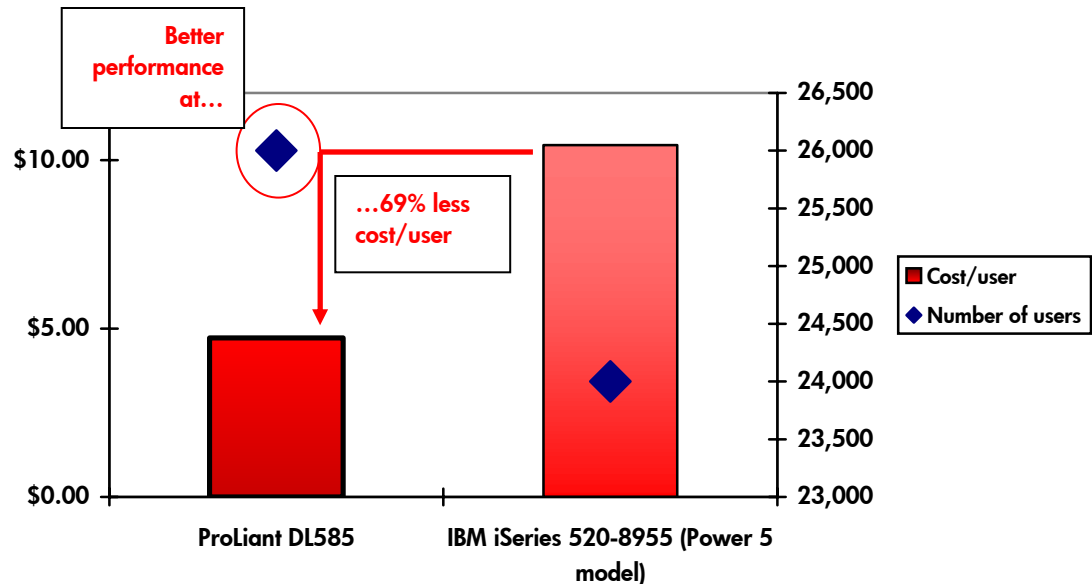
- **Compelling industry-wide leadership performance of 26,000 R6mail Users**
- **8.3% better performance and 69% lower cost/user than the IBM iSeries 520-8955 (Power 5 model)**

Improving a company's financial position includes addressing core technology investments and identifying future cost savings. HP and the Lotus software group realize to compete effectively in today's marketplace, organizations require solutions that provide lower cost of ownership while increasing performance, productivity and agility. ProLiant DL585 servers, in conjunction with Lotus Domino Server, can offer this type of solution to companies looking to make these strategic and innovative technology investments, as proved in this recently completed benchmark.

The following figure illustrates the advantages of deploying ProLiant DL585 servers with IBM Lotus Domino Server to provide customers with a highly available and scalable solution required for customers' needs and also to compare these benchmark results with competitors.

Figure 1. Comparing the HP ProLiant DL585 performance with a proprietary system

Industry leadership result: 8.3% more users at 69% lower cost per user



Importance of this test to companies

By conducting this performance benchmark, HP has demonstrated its leadership in Windows-based messaging solutions using IBM Lotus Domino.

This benchmark illustrates the benefits of a technology solution designed to provide an optimal balance between performance and cost. The test results demonstrate that HP ProLiant servers and IBM Lotus Domino software offer a high performance, high scalability, and cost-effective solution.

This report is intended to provide HP customers with an objective and verifiable set of performance data. Although NotesBench is a well designed and well written benchmark, HP cautions that, in the real world, server performance is highly dependent upon the application design and workload profiling. When using the performance data for capacity planning and performance management, readers should apply common sense and other business considerations too. For example, your business environment might include a mix of mail-only applications/users along with some database sharing activities. A successful server sizing might well depend on your business need and how you relate them to these benchmark results.

Test design objectives overview

A question that most HP customers ask about Notes is: "What is the maximum number of active Domino user sessions for our environment?" The answer is determined by three criteria:

- The application profiling (what type of workload)
- The hardware configuration (for example, the number of system CPUs or the amount of memory)
- The operating system (OS)

With results like these, it's easy to see why more enterprises trust HP ProLiant servers than any other server. Intelligent, innovative design makes it easy to integrate ProLiant servers into your IT environment—and easy to manage them once they are there. The HP ProLiant family of products offers a wide variety of choices that fit the way you work. And ProLiant server platforms provide the end-to-end value that adds up to a consistently smarter investment.

HP ProLiant DL585 server features

The following are the highlights of the ProLiant DL585:



Performance

- **NEW – AMD Opteron processors model 850 (up to 2.4GHz/1MB), 4P capable**
- HyperTransport (processor interconnect) runs at 800MHz with 6.4GB of bandwidth
- On-die memory controller which runs at processor core frequency
- 5.3 GB per processor of memory bandwidth
- Up to 64GB of dual channel PC2100 running at 266MHz, or 48GB of dual channel PC2700 running at 333MHz
- Smart Array 5i Plus controller, with 64MB memory and battery-backed write cache
- Embedded dual-port Gbit NIC
- 6 x 64-bit/100 MHz and 2 x 64-bit/133MHz PCI-X expansion slots

Versatility

- Support for 4 Ultra320 SCSI hot plug drives
- Pluggable floppy drive, CD-ROM or DVD-ROM
- Support for Smart Array controllers
- Tool-free deployment in HP-branded and third party racks
- 8 PCI-X expansion slots

Uptime

- Hot plug redundant fans and power supplies
- 6 media bays
- 4 x 1" Ultra320 hot plug drive bays
- SmartArray 5i embedded RAID controller
- Pluggable floppy drive and CD-ROM
- Advanced ECC memory protection
- Redundant ROM
- Quick deploy sliding rails, cable management, and in-rack tool-less access

Management & Deployment

- Integrated Lights-Out (iLO)
- SmartStart
- Systems Insight Manager
- Status LEDs including system health and UID

Quickfind diagnostic display – for specific component troubleshooting

About Lotus software

Lotus software sets the standard for innovative software and services that reflect our unique perspective on new ways individuals and businesses can work together to achieve success. Lotus software redefines the concept of conducting business with dynamic workplaces and other innovative ways of connecting ideas, thinkers, buyers, sellers and communities in an on demand world. At Lotus software, we focus on the human side of e-business, enabling people to use groundbreaking technology to collaborate, learn and fully leverage their collective knowledge to achieve success. Our loyal customers have consistently rewarded our focus.¹

¹ <http://www.lotus.com/engine/jumpages.nsf/wdocs/aboutlotus>

For more information

For more HP ProLiant DL585 information, please visit:

<http://h18004.www1.hp.com/products/servers/proliantdl585/index.html>

To access the full audit report, please visit:

<http://www.notesbench.org>

Details about IBM Lotus software are available at the following URLs:

<http://www.lotus.com/engine/jumpages.nsf/wdocs/aboutlotus>

For more information on HP solutions for IBM Lotus software, visit:

<http://www.hp.com/go/activeanswers/lotus>

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