

# DELL HARDWARE AND MICROSOFT CUSTOMER LAB PARTNERSHIP PUSH THE DATABASE ENVELOPE

Dell and Microsoft work to increase enterprise productivity with a combination of the Microsoft SQL Server Customer Lab testing results of enterprise applications running on Dell hardware



In a challenging global economy, making the connections between data and decisions can help business decision-makers effectively manage their companies. That's why competitive companies search for ways to make their business applications perform faster and more accurately. But the search can be daunting. Tuning applications for the right level of business intelligence takes a sophisticated database solution—and a finely tuned data warehouse environment.

## SOLUTIONS

- DATABASE
- POWER



## CUSTOMER PROFILE

**COUNTRY:** United States

**INDUSTRY:** Technology

**FOUNDED:** 1975

**NUMBER OF EMPLOYEES:** 89,809

**WEB ADDRESS:** [www.microsoft.com/sqlserver](http://www.microsoft.com/sqlserver)

## CHALLENGE

Enterprise IT departments need to determine the optimal hardware and database software architectures to optimize business-critical applications.

## SOLUTION

Dell has partnered with the Microsoft SQL Server Customer Lab to provide a powerful test environment where database customers can bring in and test their applications to optimize performance on Microsoft® SQL Server® 2008, Dell™ PowerEdge™ servers, and Dell EqualLogic™ storage.

## BENEFITS

### Get IT Faster

- Running on Dell hardware, the Microsoft SQL Server lab tests and validates enterprise solutions that optimize database environments and applications

### Run IT Better

- Standardized Dell PowerEdge servers with Microsoft SQL Server 2008 software help customers fine-tune their environments to maximize the performance of data warehouses and critical activities such as extract, transform, and load (ETL) processes in heterogeneous environments

### Grow IT Smarter

- The Dell–Microsoft partnership ensures that customers have the resources they need to efficiently architect systems and environments to meet business needs





## HOW IT WORKS

### HARDWARE

- Dell™ PowerEdge™ R805 and 2970 servers with AMD Opteron™ processors
- Dell PowerEdge R900 and 2950 servers with Intel® Xeon® processors

### SOFTWARE

- Microsoft® SQL Server® 2008

### SERVICES

- Dell Support

**“OUR PARTNERSHIP WITH DELL HELPS US RE-CREATE AND ANALYZE THE MOST DEMANDING, REAL-WORLD DATABASE CONDITIONS—AND MAKE MODIFICATIONS THAT OPTIMIZE PERFORMANCE.”**

**Mike Weiner**, senior SQL Server program manager, Microsoft SQL Server Customer Lab

Thanks to a unique partnership that combines Dell hardware with Microsoft SQL Server 2008, customers can put all the pieces together as efficiently as possible. Companies from a broad range of industries now visit the Microsoft SQL Server Lab in Redmond, Washington, to test the limits of SQL Server 2008—and use Dell servers to better understand how to architect database environments.

“Customers want more speed, more transactions per second, more data mining capabilities, more business intelligence—more of everything,” says James Podgorski, manager of the Microsoft SQL Server Customer Lab. “Our mission is to show customers how SQL Server

is up to any challenge—and that means having the right hardware available for extremely large database implementations.”

“Our partnership with Dell helps us re-create and analyze the most demanding, real-world database conditions—and make modifications that optimize performance,” adds Mike Weiner, senior SQL Server program manager at the Microsoft SQL Server Customer Lab. “The combination of the SQL Server 2008 database and Dell hardware helps us provide the user community of SQL Server customers with the latest information on how to optimize data for the enterprise today.”

### LABORATORY CONDITIONS MIRROR REAL-WORLD DATABASE SITUATIONS

The lab tests applications used by a broad range of enterprise customers and software created by independent software vendor (ISV) partners. The results of the tests benefit the application owners, allowing them to see how their applications perform in real-world situations. Plus, the SQL Server product group at Microsoft and the global SQL Server community benefit as well—lessons learned from the Customer Laboratory help speed the development of new features, and Microsoft makes best practices learned from the lab available to its user community.

# “WE HAVE A GREAT PARTNERSHIP WITH DELL. WHENEVER A CUSTOMER COMES IN, NO MATTER WHAT THE PROJECT GOALS, WE KNOW WE CAN RELY ON DELL TO PROVIDE THE RIGHT EQUIPMENT.”

**James Podgorski**, manager, Microsoft SQL Server Customer Lab

One area of examination and optimization the lab performs that is vital to overall enterprise performance includes improving reporting services that leverage very large data sets, speeding up the ETL process from a variety of different database solutions, and determining how to best use older versions of SQL Server.

Most visiting companies arrive at the lab with specific database and data warehousing requirements—as well as unique infrastructure requirements. As Andrew Hargett, Microsoft Global Alliance manager for the Dell Product Group notes, “Microsoft has gone to great lengths to ensure that its customers can architect environments to get the most out of SQL Server—and the applications that run on top of the database,” he says. “That can mean modifying specific SQL Server configurations, or it may call for a close examination of the hardware environment—or both. The lab is optimized to ensure that each customer has their specific goals met.”

## **DELL HARDWARE PUTS ENTERPRISE REQUIREMENTS UNDER THE MICROSCOPE**

The cutting-edge testing, wide variety of projects, and tight schedules call for a rock-solid IT infrastructure. “Dell hardware is configured particularly well to work with the capabilities of SQL Server in enterprise situations,” says Weiner. “This is critical for our customers, who need to know that the lab’s work will mirror their actual conditions—and discover how to optimize performance.”

Dell PowerEdge servers now make up a large portion of the hardware infrastructure at the Microsoft SQL Server Customer Lab, and the strong relationship between the Dell and Microsoft teams has contributed to the success of the testing program. “We have a great partnership with Dell,” says Podgorski. “Whenever a customer comes in,

no matter what the project goals, we know we can rely on Dell to provide the right equipment across the board. The Dell team is also very knowledgeable any time we have questions. Dell is an active participant in our growth.”

The lab setup reflects the extraordinary amount of data that SQL Server 2008 can handle in the real world. The lab supplies 25 terabytes for an average deployment and must maintain hundreds of terabytes of raw storage available for development and test runs. To support this storage pool and help customers push the limits of performance, the lab must deploy servers capable of handling today’s most demanding applications at high transaction speeds.

To simulate customer environments as precisely as possible, the lab offers a choice of database server models and processors to visiting customers. For the database tier, the lab staff uses Dell PowerEdge R805 servers with AMD Opteron™ processors and PowerEdge R900 servers with Intel® Xeon® processors. The multi-core processors and expanded RAM capacity make the PowerEdge R805 an ideal choice for memory-intensive applications like Microsoft SQL Server 2008. The internal storage capacity of the PowerEdge R900 servers enables the lab staff to maintain additional storage to supplement their network storage systems.

Podgorski and Weiner also note how a broad range of Dell hardware options helps extend the power of SQL Server to meet particular IT requirements. “Customers and ISVs often have preferences for a certain chipset, and with Dell we’re able to provide either Intel or AMD processors,” says Podgorski.

To power the application tier, the lab staff uses a combination of Dell PowerEdge 2950 III and PowerEdge 2970 servers. “The PowerEdge

2950 and PowerEdge 2970 servers deliver high performance without taking up a lot of rack space,” says Podgorski. “The Dell servers can handle the most demanding enterprise applications, and the simplicity of the hardware setup means we can start testing when the customer walks in the door.”

## **ONGOING RESEARCH BOOSTS CUSTOMER DATABASE PERFORMANCE**

Armed with Dell hardware, the lab gets down to business quickly and accurately to test the world’s most challenging database situations faced by enterprise customers—such as being able to optimize data warehousing environments. As an example, Hargett points to how the lab works with customers from the retail industry. “These very large companies will come into the lab to test out data warehouses that range from 5 to 20 terabytes in size,” he says. “Microsoft has the ability to provide valuable insights into particular business applications on the SQL Server layer—as well as on the hardware layer with Dell equipment.”

“Taking advantage of vast amounts of information calls for making sense of very large data sets,” adds Weiner. “The SQL Server lab provides customers with insights into activities such as reporting services vital for leveraging data across the enterprise.”

One requirement that seems to be pervasive is the need to optimize the ETL process. As Podgorski observes, many enterprises have heterogeneous database environments, so the lab consistently helps customers get information from a broad range of databases—and then optimizes the information with SQL Server. “SQL Server is designed to take existing information found in other databases—and take data sets from across a company and perform the analysis and

# “MICROSOFT HAS GONE TO GREAT LENGTHS TO ENSURE THAT ITS CUSTOMERS CAN ARCHITECT ENVIRONMENTS TO GET THE MOST OUT OF SQL SERVER.”

**Andrew Hargett**, Microsoft Global Alliance manager, Dell Product Group

reporting our customers require. Using the latest multi-socket server hardware, this data analysis process performs much faster, reducing the overall processing time,” Podgorski says.

Many customers, as Weiner notes, come into the lab to get as much performance as possible out of their older legacy software running on earlier versions of SQL Server. “We wouldn’t be doing our customers a service if we didn’t look closely at how to get the most out of existing investments,” he says. “Along with Dell, we pride ourselves on being able to figure out how to re-architect existing assets.”

## **PARTNERSHIP MAKES A SCIENCE OF OPENING UP NEW POSSIBILITIES**

In addition to fine-tuning applications, the lab plays a key role in directing customers to the right resources at Microsoft and Dell for optimizing database environments. “Customers are often directed to the development team that builds SQL Server,” notes Hargett. “This level of close-touch relationship allows enterprises to better understand how to best leverage every aspect of Microsoft SQL Server.”

Customers find benefits to the performance information the SQL Server lab publishes regularly. “Many of the visitors to our Web site are kicking the tires as they consider switching databases,” he says. “Being able to provide information for just about any topic that is mission-critical to running an enterprise database gives our customers the ability to determine if SQL Server 2008 is the right solution.”

It all comes down to making the right connections, Weiner adds. “With a solid hardware partner, we’re able to take into account every aspect of database performance,” he says. “And Dell is more than just a partner—Dell is also a member of the SQL Server customer advisory team, so we feel confident that our customers have a complete resource when it comes to getting the most out of their enterprise applications.”

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