

ORACLE**TECHNOLOGY NETWORK**

FEATURE

Energizing the Efficient Enterprise
By Alan Joch



Companies see success with the power of Oracle on Windows.

Fast-growing companies need to make efficient use of all their resources, including personnel and information technology. And many fast-growing companies choose Microsoft Windows as their operating system and development platform because it's familiar on the desktop and in the data center.

"If I already have Windows and Windows expertise in house, why not use that platform?" says Jim Shepherd, senior vice president with AMR Research, explaining what partly fuels Windows loyalty.

Sticking with Windows is especially attractive when companies team it with Oracle's database, middleware, and enterprise applications. The self-managing characteristics of Oracle Database reduce maintenance costs and DBA management burdens associated with other databases. At the same time, sophisticated technologies such as Oracle Real Application Clusters (Oracle RAC) bring high availability and scalability to Windows implementations.

Shepherd also credits Oracle for its history of supporting a variety of hardware and operating system platforms, including Windows. "Oracle knows how to do these ports, how to test them, and how to make everything work," Shepherd says.

Architectural Flexibility

Supporting the Windows platform alone has some limitations: for example, Microsoft SQL Server runs only on the Windows operating system, thus limiting users' architectural flexibility. By contrast, Oracle Database supports Windows, Linux, and UNIX, as well as .NET applications and industry-standard Java/Java Platform, Enterprise Edition; C/C++; and PHP programs.

The Oracle on Windows combination lets organizations pick and choose the capabilities that best address their individual needs. For example, Solutia takes advantage of Oracle RAC and the Oracle Enterprise Manager central management console to achieve high availability in its Oracle on Windows implementation. Based in St. Louis, Missouri, Solutia is a US\$3.8 billion global performance materials company. Its businesses include nylon plastics and fibers, interlayers used in laminated glass for automotive and architectural applications, and specialty chemicals.

Application Availability

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Solutia relies on Oracle's PeopleSoft Enterprise for payroll applications, but for production, shipping, and logistics applications in its South Carolina and Florida production facilities, the company runs two-node clusters built on Microsoft Windows Server 2003 running Oracle Database and Oracle RAC. Solutia built the front ends of these "homegrown" applications using C# and .NET.

This Oracle on Windows environment works well for Solutia, according to Sachin Kothari, manager of corporate applications and systems integration. "Standardizing on this environment offers cost benefits and gives us a commonality of expertise," he says. "We have some cost benefits from a licensing standpoint, but in terms of staffing and supportability, we don't need as many skill sets. When you focus on one platform, you can combine systems or databases into fewer servers. Everything is easier when you have fewer environments to support."

Demonstrating the flexibility of this environment, Solutia presents the applications to users with a Citrix thin-client interface or, in some cases, a Windows Mobile front end.

"Pretty much all of the processes at the plants somehow touch our Oracle database, so we needed to make the system highly available," Kothari says.

High availability means two things to Kothari. First, there's minimizing planned downtime to add security patches or perform other maintenance tasks on servers and related systems. Thanks to Oracle RAC, the company patches the operating system by shutting down select nodes, completing the upgrade, and then shifting the workload to the remaining nodes. Dynamic load allocation also mitigates the negative impact of unplanned downtime. Oracle RAC's automatic failover capabilities keep server blade failures and other unexpected events from disrupting production. Since Solutia has run Oracle Database and Oracle RAC on Windows, the company hasn't had any instances of downtime, Kothari says.

The Power of Windows and Oracle

Oracle Database and Oracle RAC users such as Solutia can take advantage of Oracle Data Provider for .NET (ODP.NET), which provides optimized ADO.NET data access to Oracle Database, according to Santanu Datta, Oracle senior director, database development.

"Thanks to Oracle Developer Tools for Visual Studio and ODP.NET, companies can use Microsoft's Visual Studio and C# or VB.NET to develop .NET applications that access Oracle Database and use its full power including Oracle RAC, advanced security, and support for complex datatypes," Datta says.

"With transparent Oracle RAC support in ODP.NET, companies can leverage Oracle RAC with Windows without having to modify their .NET applications," he says.

Economical Scalability

To achieve its efficiency goals, Siemens Shared Services decided six years ago to move its PeopleSoft

Snapshots

Solutia

Headquarters: St. Louis, Missouri
Industry: Performance materials and specialty chemicals

Employees: 6,000

Oracle products: Oracle Database 10g, Oracle's PeopleSoft Enterprise, Oracle Real Application Clusters, Oracle Enterprise Manager 10g, Oracle Data Provider for .NET

Siemens Shared Services

Headquarters: Orlando, Florida
Industry: Shared services for Siemens' U.S. divisions

Employees: 355

Oracle products: Oracle Database, Oracle's PeopleSoft Enterprise,

Enterprise human resources applications from a client/server architecture to a Web implementation that allows managers and employees to view and edit their records. The organization's main data center in Orlando, Florida, operates a large Oracle Database on Windows implementation for central processing of payroll, employee self-service, manager self-service, and HR reporting for Siemens divisions across the United States. The Web self-service project promised big changes.

Oracle Real Application Clusters, Oracle Partitioning, Oracle Enterprise Manager 10g, Oracle Automatic Storage Management

"Suddenly instead of having 50 or 60 users online processing payroll, we have several thousand people in different time zones who are updating their payroll information and changing their addresses," says Steve Montgomerie, senior Oracle DBA at Siemens Shared Services.

That meant the system now had to accommodate vastly more users and maintain high performance levels throughout the day and night. "With our PeopleSoft environment we do a lot of overnight batch processing, so even a server failure at 2 a.m. hurts us," Montgomerie says.

When it committed to the Web applications, the company installed a two-node cluster running Oracle Database and Oracle RAC on Windows. "We were able to scale horizontally and, by adding more servers, we could better manage the load," he says.

A Combination for the Future

Montgomerie points out that commodity-server clusters represent an industrywide change in thinking.

"The RISC processor used to be king of the hill. But now Intel and AMD have really stepped up with faster processors, and memory is so cheap that machines now come standard with 16 gigs of RAM," Montgomerie says. "We can launch large memory implementations and support really large systems to take advantage of commodity-priced hardware."

In the months ahead, Siemens Shared Services will complete its application tier upgrade running on Oracle Database, which will continue to leverage Windows. What convinced Montgomerie that the Oracle Database on Windows combination is the right choice for the future?

"Once we set up the environment, we found that, aside from Windows patches and small configuration changes, it's almost maintenance-free," he says. "And we basically don't touch the database—it just runs."

Next Steps

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