



Customer: ISA Technologies

Web Site: www.isatechnologies.com

Customer Size: More than 80 employees

Country or Region: Australia

Industry: IT services

Customer Profile

Based in Perth, Australia, ISA Technologies is a leading provider of IT services, including high-performance computing, to customers in multiple industries across the Asia-Pacific region.

Software and Services

- Microsoft® Server Product Portfolio
 - Windows® HPC Server 2008
- Technologies
 - Active Directory®

Hardware

- AMD Opteron processors
- IBM BladeCenter LS20 server computers

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Australian Company Delivers Solutions Faster, Expands Capabilities with HPC Solution

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Dr. Simon Beard, Systems Specialist, On Demand Group, ISA Technologies

ISA Technologies, an IT services and innovative solutions provider in Australia, wanted to enhance its high-performance computing (HPC) services. By deploying Windows® HPC Server 2008, it can support more line-of-business applications, and it has standardized its deployment processes. In addition, more employees, including application developers who use the Microsoft® .NET Framework, can develop software for the new cluster.

Business Needs

ISA Technologies provides specialized IT services to customers throughout Australia and Asia. Services include three-dimensional visualization projects, software engineering, supercomputing, and network services. The company also participates in worldwide collaborative research and development activities. Its customers come from multiple industries, such as oil and gas, mining, film animation, biotechnology, and defense.

ISA Technologies provides customers with on-demand remote access to high-performance computing (HPC) resources housed in its facilities. It is known for innovative services designed to meet the

needs of individual customers as well as its region's unique marketplace. For example, the demand for high-performance computing has grown in Perth's burgeoning oil and gas and mining industries. To respond faster, ISA Technologies has focused on refining its HPC services to work with a broader variety of industry-specific applications and to deliver solutions more quickly.

Most of the company's customers run applications such as seismic processing and computational fluid dynamic programs on variations of Linux and UNIX operating systems. Although commonplace, these implementations have several limitations, which include the types of software that can

run on the systems. Lou Martini, Country Manager—Australia and New Zealand at ISA Technologies, explains, “There are a lot of applications out there—not just in oil and gas, but also in film and television—that don’t actually run on Linux or HPC systems. However, people do want to run them in an HPC environment.”

For security reasons, each customer works on dedicated HPC systems that are installed on bare machines. Customers choose their operating systems as well as line-of-business applications, which further complicates deployment. “They each have a slightly different Linux requirement,” Martini says. “For example, even if they all like Red Hat, they tend to run different versions or have something particular to their kernel that requires us to build a complete system before deploying it.”

ISA Technologies wanted an HPC solution it could quickly deploy with a standardized process and image. And by running a wider variety of applications, it hoped to extend the benefits of high-performance computing to more customers and line-of-business users.

Solution

A Microsoft® Gold Certified Partner, ISA Technologies had watched the software vendor closely for innovations in HPC based on the Windows® operating system. In particular, the ISA Technologies research and development (R&D) team, which works extensively with the Microsoft .NET Framework and Microsoft Office SharePoint® Server 2007, was interested in taking advantage of the Microsoft Message Passing Interface and service-oriented architecture capabilities for its collaborative projects. When the company learned that Windows HPC Server 2008 would be available, it decided to become an early adopter.

ISA Technologies began installing its first cluster in April 2008 on IBM BladeCenter LS20 server computers with AMD Opteron processors. The company reports that smooth Active Directory® service integration and the template-based deployment system eased setup and configuration. It plans to run each customer’s unique line-of-business applications on a standard system image used for all clusters. Dr. Simon Beard, Systems Specialist in the On Demand Group at ISA Technologies, says, “We try to deploy all of our clusters in less than half a day. Windows HPC Server 2008 will help us do that and still customize exactly what we need for different customers.”

This was the first time Beard had deployed a Windows-based cluster, and the process was easier than expected. He notes that the solution’s built-in wizards and deployment tools were helpful, and he commends the support he received from Microsoft Product Support Services. “I came in with zero knowledge of Windows HPC Server 2008 deployment, although I knew a lot about Linux,” he says. “Within a couple of days, I was deploying Windows-based nodes.”

Benefits

By deploying Windows HPC Server 2008, ISA Technologies employees and customers can work with a broader variety of applications. The cluster can be managed without specialized training, and more developers can take advantage of HPC resources. Benefits include the following:

- **Enhanced customer service.** ISA Technologies and its customers will benefit from more versatile HPC capabilities. Martini says, “Windows HPC Server 2008 is an operating system on which we can rapidly install applications on demand for customers, and we can run

software in an HPC environment that was originally designed for desktops.” He adds, “We can actually render things faster, or queue up different jobs and perform a parametric sweep. Our customers will be satisfied that they can get their jobs running a lot quicker.”

- **Streamlined management.** The new Microsoft System Center interface, which combines management and diagnostic tools, will simplify administration. Linux and UNIX administrators are increasingly difficult to find in Australia; newer generations of IT administrators are often more familiar with Windows-based solutions. Martini points out that the familiar Windows tools and interfaces help the company use available skills. “Now we can take advantage of our corporate Windows expertise in maintaining high-performance computers, which we haven’t been able to do before.”

- **Improved product development.** ISA Technologies will soon run its first simulations on the new HPC system, and the R&D team, which works with the Microsoft Visual Studio® 2008 development system, plans to start using the new system for its projects as well. “I think we’re going to find that having an integrated development environment is going to help us develop our applications,” Martini says. “Down the line, our software development group is also going to be exposed to this, and it’s going to be a major advantage.” He continues, “There are definitely benefits in having an end-to-end Microsoft solution from a marketing and sales point of view, and there are equally clear benefits in having a standardized platform in our development environment.”