Commonwealth Games Partners Collaborate to Design Web Site for Outsourced Hosting

Overview

Country or Region: Australia
Industry: Government

Customer Profile
The Melbourne 2006 Commonwealth Games Corporation (M2006) managed the 2006 Commonwealth Games, held in Melbourne, Australia, in March 2006.

Business Situation
M2006 needed a Web site to deliver schedules, venue and transport information, team and athlete profiles, photos, video, and up-to-the-minute news and results from 16 sports during the Games.

Solution
Microsoft built and operated the Web site between April 2005 and March 2006 at its Solutions Development Centre using a wide range of Microsoft® software. Telstra hosted M2006's servers in one of its purpose-built data centres.

Benefits
- 100 percent uptime during the Games
- Results published within one second
- Easy to manage for M2006 volunteers
- Satisfied up to 10,000 page requests per second

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>
> Brian Nourse, Group Manager, Technology, Melbourne 2006 Commonwealth Games

The Melbourne 2006 Commonwealth Games Corporation (M2006) needed a Web site to deliver schedules, venue and transport information, team and athlete profiles, photos, and up-to-the-minute news and results from 16 sports during the 12 days of the Games. As Official Technology Partner for the Games, Microsoft built and operated the Web site between April 2005 and March 2006. Working with local partners, Microsoft® Services consultants at the Microsoft Solutions Development Centre constructed the site on a wide range of Microsoft software. During the Games, the Web site processed up to 10,000 page requests per second and reached a global audience of nearly 12 million. Telstra hosted M2006's servers in one of its purpose-built datacenters to give it optimal security, performance, availability, and ease of management. Microsoft needed to take this hosting environment into account when designing the system.

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Situation

During the Melbourne 2006 Commonwealth Games, more than 4,000 athletes from all 71 Commonwealth countries competed in 16 sports and 24 disciplines. They were supported by a workforce of approximately 50,000, including 15,000 volunteers, staff from the Melbourne 2006 Commonwealth Games Corporation (M2006) and the Office of Commonwealth Games Coordination, technical officials, contractors, and venue staff.

Similarly, building the Games Web site—which delivered schedules, venue and transport information, team and athlete profiles, and, most importantly, up-to-the-minute news and results to nearly 12 million users—required a number of organizations to work together. Particularly vital to the smooth running of the Web site was the partnership between Web site designer Microsoft and hosting provider Telstra, Australia's largest telecommunications company.

For M2006, the Web site needed to be secure, scalable, and reliable.

"During peak times, the Web site had to satisfy 10,000 page requests per second; a major Australian bank's Web site would peak at around 75," said Brian Nourse, Group Manager, Technology at M2006. "It served up a rich mix of content, including the latest stories, images, and sporting results. It aggregated information from a wide variety of sources. We needed to ensure everything that went live was accurate and had gone through the necessary approvals. And to serve a global audience of nearly 12 million, it had to be available 100 percent of the time."

Solution

Working with M2006 staff and local partners, including Devtest, Readify, and Telstra, Microsoft built the Games Web site at its Solutions Development Centre. The SDC is part of the company's Microsoft® Services arm and is tailored to deliver large, complex projects using the unique and proven software development and project management methodologies from Microsoft.

An Integrated Software Solution

Microsoft Content Management Server 2002 allowed M2006 staff and volunteers to aggregate text, images, video, schedules, and results using a simple interface.

Sophisticated workflow features ensured all content was approved before going live. This allowed the Web site to be updated and maintained by volunteers with minimal training and ensured the Web site complied with accessibility specifications for the visually impaired.

Each result was digitally signed and sent from M2006's Games Info System to a server running Microsoft BizTalk® Server 2004 Enterprise Edition. BizTalk Server analyzed each result, translated it into a format readable by the content management system, and published it to the Web site. The development team used the graphical tools in BizTalk Server to define process flows for each type of data.

Microsoft Windows Server™ 2003 Enterprise and Standard Editions provided a stable and secure operating system environment. The integrated components of Windows Server 2003 saved the developers considerable effort in tying pieces together. The authentication technology in the Active Directory® directory service ensured only the appropriate people gained access to vital systems and content. Internet Information Services version 6.0 Web server and Microsoft ASP.NET 2.0 allowed the developers to build powerful, database-driven Web pages that delivered customized, up-to-

the-minute information to each Web site visitor.

Microsoft SQL Server™ 2000 Enterprise Edition provided a reliable back-end database cluster to store all the information required by the Web site, content management server, and BizTalk Server. The powerful text searching capabilities of Microsoft SQL Server 2005 greatly improved the Web site's overall performance and speed of searches.

Microsoft Operations Manager 2005 monitored the performance of each server and software component to ensure the Web site would run smoothly under any circumstances. Its pre-defined management packs allowed Microsoft to set thresholds for factors affecting server performance such as disk space and processor utilization that might indicate a particular server was struggling.

Building Solutions for the Hosted Environment
To ensure uninterrupted uptime of the Web site during the critical Games period, M2006 hosted the Web site servers in one of Telstra's purpose-built datacenters. These facilities offer redundant power and Internet connections, advanced climate control, 24-hour monitoring, and the latest in physical and virtual security.

"Many organizations host their servers through an outsourcing provider, which offers better security, availability, and management than they could themselves and is more cost effective," said James Simpson, Services Program Manager at Microsoft Australia. "However, a number of parameters must be taken into account when designing a system that will be hosted in an external environment.

"Working with Telstra on the Melbourne 2006 Commonwealth Games Web site gave us

considerable advantages, however we needed to make sure we were designing and building a solution that worked within the operational procedures that govern an outsourced environment."

Understanding Each Other's Needs
Microsoft engineers worked with their Telstra counterparts from early on in the project to set guidelines and agree on technical details and workflows. As the architecture took shape and the go-live date drew nearer, Microsoft and Telstra staff conducted joint training sessions—ensuring everyone involved in supporting the solution understood the complete environment.

"It was very important for us to build deployment processes that would make installing and upgrading the applications simple and fast," said Simpson. "Working with a third-party host made this even more important but also more rewarding."

Microsoft used a range of monitoring tools, chiefly Microsoft Operations Manager 2005, to keep an automated eye on the health of the systems in real time. Telstra used a separate range of monitoring tools for staff in its operations centre. The two companies integrated these tools to ensure the appropriate people would be alerted should anything go wrong. Microsoft staff also had to understand Telstra's preferred utilities, such as intrusion detection software, and how to accommodate these on the servers.

Because the Web site would only be in production for three and a half months, and only under peak demand for 12 days, Microsoft, Telstra, and M2006 needed to develop special change management processes. The organizations agreed on a process where M2006 would manage any changes but needed to get the approval of both Microsoft and Telstra before proceeding.

"Communication was the key to running the Web site successfully," said Simpson. "We worked to develop a strong relationship with Telstra, putting our technical staff in a room together right at the start. From there, we all worked towards the shared goal of a successful Games Web site."

Benefits

For M2006, one business benefit outweighed all the others: the Web site performed flawlessly for the duration of the Games.

"It's like electricity—you only notice when it's not working," said Nourse. "Telstra's datacenter gave us peace of mind that the Web site would be available around the world throughout the Games. Microsoft's project management and software development methodologies ensured Web site performance was smooth and uninterrupted."

The experience Microsoft has in delivering large-scale Web site projects, including the Webjet online travel Web site and the 2003 Rugby World Cup site, ensured the Melbourne 2006 Web site was delivered with all the required features, on time, and within budget. The integrated innovation of the Microsoft technology stack provided a stable, secure and feature-rich environment.

M2006 and the Games also experienced the following benefits:

- During the Games, the Web site processed many thousands of page requests per second and reached peak loads of more than 6 million page views in a single day. In total, it served more than 64 million page views to nearly 12 million visitors.
- The content management system processed more than 17,000 content postings; around 3,800 were created manually, 8,100 were generated automatically from event results and schedules, and 5,300 were athlete biographies.
- The integration server processed 114,000 schedule and result messages which were posted to the Web site within one second of reaching M2006's Games Information System.

"Microsoft and M2006 worked really well together," said Nourse. "We were always confident the approach we took would result in a fantastic Web site for the Games, one that both organizations would be very proud of. Microsoft's rigorous approach and high level of professionalism, and Telstra's hosting expertise made all the difference."

For More Information

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www.telstra.com

For more information about M2006 and the Melbourne 2006 Commonwealth Games, visit the Web site at:
www.melbourne2006.com.au

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Software and Services
- Products
  - Microsoft BizTalk Server 2004 Enterprise Edition
  - Microsoft Content Management Server 2002
  - Microsoft Operations Manager 2005
  - Microsoft SQL Server 2000 Enterprise Edition
  - Microsoft SQL Server 2005
  - Microsoft Windows Server 2003 Enterprise Edition
  - Microsoft Windows Server 2003 Standard Edition
- Technologies
  - Active Directory
  - Internet Information Services 6.0
  - Microsoft ASP.NET 2.0

Hardware
All servers were hosted in a secure, purpose-built Telstra datacenter. The solution was hosted on eGenera BladeFrame chassis and servers and included:
- 16 Web servers
- 2 support servers
- 2 content management servers and
- 2 integration servers, each with two 2.4GHz Intel Xeon processors
- 4 database servers, each with four 2.4GHz Intel Xeon processors

Partners
- Devtest
- Readify
- Telstra

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