REAL WORLD CASE 1

The 2004 Athens Olympics Network: Faster, Stronger—and Redundant

Claude Philipps, program director of major events at Atos Origin, the lead IT contractor for the Olympic Games, likes to be prepared. "We were ready before August, but we were still testing, because we wanted to be sure that every stupid thing that can happen was planned for," Philipps said. "In a normal IT project, we could have delivered the application to the customer almost eight months earlier."

But the Olympic Games was far from a normal IT project. The deadline was nonnegotiable, and there were no second chances: Everything must work, from the opening ceremony on August 13 right to the end, said Philipps, whose previous experience includes developing the control system for the world's first computerized nuclear power plant.

With all that pressure, Philipps's team was doing its utmost to ensure that the network would not fail. They were building multiple layers of security and redundancy, using reliable technology, and then testing it rigorously.

In the weeks before the games, the team went through two technical rehearsals in which 30 Atos Origin staffers put the network through its paces. The team spent a full week simulating the busiest days of the games, Philipps said, dealing with "crazy scenarios of what might happen in every area: a network problem, staff stopped in a traffic jam, a security attack . . . everything that might happen."

The rehearsals were intended to test people and procedures as much as the hardware and software. That was important because the IT operating organization Philipps built for the Athens Olympics grew from nothing to a staff of 3,400 in less than three years.

The two major components of the software that were run over the Olympic network were Atos Origin's GMS (Games Management System), a customized suite of applications that act as kind of ERP for the Olympics, and the IDS (Information Diffusion System).

GMS ran on Windows 2000 servers in Athens, an upgrade from the Windows NT 4 used at the Salt Lake City games in 2002. "We're not using sexy technology," Philipps said. "The main goal for us was to reduce the amount of risk."

Together, GMS and IDS imposed exacting requirements on the network. GMS was, among other things, used to manage access accreditations for the games, so security was vital. Speed, too, was important: Philipps's goal was to have the results on commentators' screens 0.3 seconds after the athletes had crossed the line, complete with rankings, statistics, and biographies—everything that helps commentators during a live broadcast.

Yan Noblot, information security manager at Atos Origin, said the key to that was to build in redundancy—and lots of it. "We doubled everything, because we needed 100 percent availability at games time," he said.

And when he said everything, he meant it. There was backup redundancy for the routers and switches at each site, the datacenters that processed the results, and even the PCs on the desks in the control room.

To keep things orderly, Atos designed three different LAN configurations: one for the largest venues, including the Olympic stadium and the water sports center; another for midsize venues such as the equestrian center; and one for the many smaller venues.

Atos used VLANs both to simplify troubleshooting and to limit damage if anyone managed to break into the network. There were separate VLANs for the commentator information system, information diffusion applications, and the game management system. Technical services, directories, management and monitoring, and the on-venue results system each had their own VLANs too, sometimes several per venue for the same function.

"The purpose was to segment the traffic so we could monitor it and contain potential issues," Noblot said. "If someone brought in a virus, it would be contained on systems on the same VLAN and could not spread to other VLANs."

Event results and data from the games management system were stored in two physically distant data centers hosted by OTE, which also supplied the SDH network. The primary data center was located near OTE's headquarters in Marousi, just across the main highway from the Olympic stadium; the other was another several hundred miles away, still in Greece but in a different earthquake zone.

What makes the Olympic Games a unique project is that the athletes aren't going to stop running just because the server does. As Philipps said, "When we speak about fixing something, it might be a work-around or a decrease of functionality, but the key thing is that the show must go on."

Case Study Questions

1. Could the 2004 Athens Olympics have been a success without all of the networks and backup technologies?
2. The 2004 Olympics is a global business. Can a business today succeed without information technology? Why or why not?
3. Claude Philipps said dealing with "crazy scenarios of what might happen in every area: a network problem, staff stopped in a traffic jam, a security attack . . . everything that might happen," was the reason for so much testing. Can you think of other businesses that would require "crazy scenario" testing? Explain.

Source: Adapted from Peter Sayer, "The Olympics Network: Faster, Stronger—and Redundant," *Infoworld*, July 9, 2004.