



Windows Server® 2008 R2

Customer Solution Case Study



Customer: University of Macerata

Web Site: www.unimc.it

Customer Size: 30,000 students

Country or Region: Italy

Industry: Education—Universities

Customer Profile

Founded in 1290 in Macerata, Italy, the University of Macerata (Università degli Studi di Macerata) offers degrees in communication science, economics, education, law, letters and philosophy, cultural heritage, and political science.

Software and Services

- Microsoft Server Product Portfolio
 - Windows Server 2008 R2 Datacenter
 - Windows Server 2008 R2 Enterprise
 - Microsoft System Center Virtual Machine Manager 2008 R2
- Services
 - Microsoft Software Assurance for Volume Licensing
- Technologies
 - Active Directory
 - Hyper-V
 - Remote Desktop Services

Hardware

- IBM System x3650 and x3850 M2 server computers

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www.microsoft.com/casestudies

Italian University Boosts Productivity, Expects to Save \$219,000 in IT Costs in First Year

“Hyper-V in Windows Server 2008 R2 and System Center Virtual Machine Manager 2008 R2 are the best tools for running virtualized Microsoft applications. They offer a complete, easy-to-manage virtualization solution at a low cost.”

Marco Principi, IT System Architect, University of Macerata

The University of Macerata deployed Windows Server® 2008 R2, taking advantage of improved Hyper-V™, Active Directory®, and power-management features, along with Microsoft® System Center Virtual Machine Manager 2008 R2. Now, the university saves time and strengthens security with single sign on (SSO) identity management, provisions new virtual servers in just 10 minutes, and expects to save U.S.\$219,000 in hardware-related costs.

Business Needs

The IT department at the University of Macerata (Università degli Studi di Macerata) is responsible for providing dependable computer services to the institution's more than 30,000 current and former students and 600 faculty and staff. For years, the department has relied on Microsoft® software, including Windows Server® operating systems, to cost-effectively support the university's IT infrastructure. For example, in 2008 the university adopted Hyper-V™ virtualization

technology in Windows Server 2008 to maximize server efficiency and control hardware costs. Specifically, the school created a fully virtualized server farm that provides reliable communication and collaboration services using Microsoft Exchange Server 2007 and Microsoft Office Communications Server 2007.

In late 2008, the university learned that Microsoft was planning an upgrade to Windows Server 2008 that would include improvements to Hyper-V and the Active

Directory® service. Based on the success of its previous virtualization project, the school was eager to take advantage of these improvements to further contain hardware costs, to simplify IT management, and to implement a more secure and centralized identity management system.

Solution

The university began testing Windows Server 2008 R2 as soon as the operating system became available for early evaluation. "We have followed the entire development of Windows Server 2008 R2, from the first beta through release to manufacturing," says Marco Principi, IT System Architect at the University of Macerata. "Early on, we wanted to use this advanced operating system to expand our virtualized environment and to improve our architecture for single sign on (SSO) and user authentication capabilities." The school also worked with a prerelease version of Microsoft System Center Virtual Machine Manager 2008 R2 to manage the virtual environment. "Hyper-V in Windows Server 2008 R2 and System Center Virtual Machine Manager 2008 R2 are the best tools for running virtualized Microsoft applications," says Principi. "They offer a complete, easy-to-manage virtualization solution at a low cost."

In July 2009, the university began deploying the release candidates of Windows Server 2008 R2 Enterprise and Windows Server 2008 R2 Datacenter on hardware that can take advantage of their power-saving and virtualization capabilities. This hardware includes four BM System x3650 and two IBM System x3850 M2 server computers. The two x3850 M2 computers are in a clustered configuration and run virtual machines that handle critical functions such as identity management, certification authority, server software updates, and applications hosted through Remote

Desktop Services. The university moved these systems into production in September.

Benefits

By upgrading to Windows Server 2008 R2, the University of Macerata is streamlining identity management, increasing the performance and reliability of its virtualized systems, cutting server provisioning time from weeks to minutes, and saving money—up to €150,000 (U.S.\$219,000) in just the first year.

■ Streamlines identity management.

Windows Server 2008 R2 includes improvements to identity management in all Active Directory server roles. The operating system simplifies the process of joining domains, supports user accounts as identity credentials for SSO services, and reduces the effort required for the university to perform common identity management and authentication tasks. Principi says, "With Active Directory in Windows Server 2008 R2, we're able to build not just a centrally managed directory of our users but also a centralized infrastructure where applications can delegate authentication and authorization functions." This approach overcomes limitations of the previous environment, which included distributed databases that were not automatically synchronized with the central database. As a result, users had to store and manage multiple logon credentials, thereby increasing the risk of credential theft. "The new solution improves IT efficiency, saves logon time for users, and raises the level of security of our IT services," he adds.

■ Increases performance and reliability.

The university is pleased with how well its virtual servers run on so few physical servers. "Just two IBM System x3850 M2

servers currently support 64 virtual machines, with excellent performance," says Principi. "Our virtualized applications run fast and responsively, and also reliably. We've been testing the operating system for several months without any reliability problems."

■ Boosts IT productivity, saves time and money.

The new solution helps the university lower its IT costs in several ways. First, the school gains cost-effective licensing and free upgrades through Microsoft Software Assurance for Volume Licensing. "We can purchase one license for one physical server that includes unlimited virtual instances," says Principi. "In terms of cost and performance, Hyper-V is a better virtualization solution for us than VMware and is better supported than Xen, both of which we've used in the past." Second, with virtualization, the university needs fewer physical servers. Principi adds, "We're saving about €150,000 in server acquisition costs, power consumption, air conditioning, and data center space in the first year alone." Finally, streamlined IT processes save time and reduce labor costs. "In the past, it took us several weeks to deploy a new physical server, but using Hyper-V and System Center Virtual Machine Manager, our team can provision a new virtual server in just 10 minutes."

Summing up the value of the new solution, Marco Marziali, Chief Information Officer at the University of Macerata, concludes, "Participating in the early evaluation of Windows Server 2008 R2 has been a very important opportunity for us. By deploying this operating system, we've gained an environment that is easier to manage and support, which improves our ability to provide high-quality IT services to the university."

Windows Server 2008 R2

Windows Server 2008 R2 is the latest version of the Windows Server operating system from Microsoft. With Windows Server 2008 R2, you can create solutions that are easier to plan, deploy, and manage than with previous versions of Windows Server. Building on the features, security, reliability, and performance provided by Windows Server 2008, Windows Server 2008 R2 extends connectivity and control to local and remote resources. This means that your organization can benefit from reduced costs and increased efficiencies gained through enhanced management and control over resources across the enterprise.

For more information, go to:

www.microsoft.com/WindowsServer2008R2