



Windows Vista Customer Solution Case Study



Customer: Loudoun Water
Web Sites: www.loudounwater.org
Customer Size: 190 employees
Country or Region: United States
Industry: Utilities—Water sanitation

Customer Profile

Loudoun Water provides water and wastewater service to more than 175,000 people in Loudoun County, Virginia. The utility had 2007 operating revenues of more than U.S.\$45 million.

Software and Services

- Windows Vista Enterprise
- Windows Vista Ultimate
- Microsoft Server Product Portfolio
 - Windows Server 2003 Standard Edition
 - Microsoft SQL Server 2005 Standard Edition
- ICONICS GENESIS64
- Technologies
 - Microsoft .NET Framework
 - Windows Presentation Foundation

Hardware

- Dell server computers with Intel quad-core processors
- Dell personal computers

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Newer Operating System Helps Utility Better Control County's Water System

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Andy Krapf, Supervisor of Instrumentation and Controls, Loudoun Water

Loudoun Water uses third-party industrial automation applications to monitor and control its water treatment systems. In February 2008, the utility upgraded to versions of these applications designed to take full advantage of the high-performance 64-bit architecture of the Windows Vista® operating system. Compared to previous versions, the upgraded software is easier to learn and use, runs faster, and can be up to 40 percent faster to customize.

Business Needs

Established in 1959, Loudoun Water, also known as Loudoun County Sanitation Authority, provides dependable, high-quality drinking water and wastewater reclamation services to the unincorporated areas of Loudoun County, Virginia.

Loudoun Water controls and monitors its water distribution and wastewater treatment systems using human-machine interface (HMI) and supervisory control and data acquisition (SCADA) applications. With these graphically rich, Web-enabled programs, Loudoun Water can view everything from flow animations and representations of pipes and valves to dashboards and control

panels. For several years, the utility's HMI/SCADA system has been based primarily on GENESIS32 by ICONICS, a Microsoft® Gold Certified Partner that develops industrial automation and manufacturing-intelligence software.

Loudoun Water installed its HMI/SCADA software in an environment with 15 client computers running the Windows® XP operating system connected to servers running the Windows Server® 2003 operating system. Microsoft SQL Server® 2005 data management software supports the HMI/SCADA applications by supplying them with information gathered in real time from the utility's industrial environment.



Although the Windows XP-based client computers served the utility's needs and were straightforward for the IT department to manage, Loudoun Water continually seeks ways to improve its industrial processes. It determined that high-performance 64-bit computers and applications—including a feature-rich, easier-to-use, 64-bit version of its ICONICS software—would increase efficiency, and that the utility would need a newer operating system to support the upgrade.

Solution

In February 2008, Loudoun Water began deploying the Windows Vista® Ultimate client operating system and upgrading its HMI/SCADA software to include the GENESIS64 suite. "We looked at the trends and decided that Windows Vista offers enhancements that make it a wise investment for the future," says Andy Krapf, Supervisor of Instrumentation and Controls at Loudoun Water. "And we wanted to be ready for our software vendors as they produced the more powerful versions of their products that Windows Vista makes possible."

The utility initially chose Windows Vista Ultimate so that it could evaluate all the operating system's available features. Loudoun Water installed the solution on two computers in the production environment to train staff and acquaint them with the software. Pleased with the solution's performance and usability, the utility company plans to expand deployment over the next several months to include the industrial environment's remaining computers. In addition to Windows Vista Ultimate, Loudoun Water will deploy Windows Vista Enterprise.

Benefits

By upgrading to Windows Vista, Loudoun Water can run versions of its mission-critical industrial applications that fully support the

newer operating system's advanced 64-bit architecture and richer graphical environment. As a result, these third-party applications are more flexible and easier to use, and they can be customized much faster.

Supports more flexible, more secure, easier-to-use applications. The utility's HMI/SCADA applications running on Windows Vista include sophisticated features that would be more difficult to implement in a Windows XP-based environment. For example, the GENESIS64 suite uses Windows Vista Sidebar Gadgets as gauges, alarms, sliders, and other controls that utility employees can access more easily. The suite also uses enhanced Windows Error Reporting to gather information that can help identify and resolve program errors.

GENESIS64 exposes metadata and integrates with Windows Vista search technologies to help employees quickly locate information that the suite generates. The application also increases the IT security of Loudoun Water by integrating with User Account Control to help reduce the risk of accidental or unauthorized system changes.

Additionally, Windows Vista comes with Microsoft .NET Framework version 3.0, which includes, among other technologies, Windows Presentation Foundation. Andy Krapf is particularly impressed with the GENESIS64 user-interface elements and 3-D graphics, which are now built on Windows Presentation Foundation: "Our applications running on Windows Vista include galleries and tools that make them visually more pleasing and easier to use, compared with the same applications developed for Windows XP. There are many days when I choose to work on a computer running Windows Vista, even if one running Windows

XP is readily available, just because I prefer the newer environment."

Improves overall system performance. The new versions of the utility's third-party applications take full advantage of the high-performance 64-bit architecture of Windows Vista. As a result, tasks related to customizing the applications to match the industrial environment take less time. These tasks include 3-D modeling, laying out visual representations of pipes and flow systems, and so on. Andy Krapf says, "With the higher performance of Windows Vista, which is fully supported by our ICONICS software, we anticipate a reduction in customization time by 30 to 40 percent, compared with Windows XP."

Provides a reliable foundation for future enhancements. Loudoun Water is already exploring ways to use Windows Vista to enhance its IT environment beyond just improving HMI/SCADA performance. Andy Krapf cites two examples: "We absolutely expect that mobility features, such as improved power management and easier access to wireless networks, will help our increasingly mobile workforce. We've also started a pilot project with Windows Server 2008 to see how we can take advantage of its tight integration with Windows Vista."

He concludes, "When you look at the direction of the HMI/SCADA industry—or even of computing in general—it's 64-bit, it's high performance, and it's rich graphical environments. That's where Windows Vista excels."