CASE STUDY
Intel® Xeon® processor 5300 and 5400 series
Intel® Core™2 Processor with vPro™ technology
Enterprise Server
Mobile Point of Care

Digital Health in the Heartland

From bedside to data center, OhioHealth enhances productivity and patient care with Intel® technologies

OhioHealth, an award-winning not-for-profit health network of 16 hospitals and other facilities, is a leader in both quality of care and employee satisfaction. Its commitment to patients and employees is reflected in its approach to technology – and it involves liberal use of Intel®-based solutions, both in clinicians' hands and behind the scenes.

OhioHealth

"Intel is generating enough enthusiasm in healthcare that we're all watching to see what they'll do next. Whether it's the medical home or the mobile clinical assistant design, their leadership is well aligned with the advanced strategies of the industry and those here at OhioHealth."

– Michael Krouse, CIO, OhioHealth

CHALLENGES

- **Optimize care and productivity.** As digital information becomes essential to patient care, OhioHealth wants to empower its clinicians with information at the bedside and on the go.
- **Transform the data center.** To keep pace with the rapid growth of digital applications, OhioHealth needs to create a highly available, scalable environment despite a crowded data center and recession-driven budget constraints.

SOLUTIONS

- **Next-generation mobility.** OhioHealth IT adopts new approaches - from wireless voice communications to mobile clinical assistants – that deliver information everywhere.
- **Virtualized infrastructure with Intel® Xeon® processors.** IT uses the Intel Xeon processor 5300 and 5400 series for tasks including network and telephony infrastructure, natural language dictation, and McKesson clinical reporting. An upcoming consolidation of clinical databases is slotted for the Intel Xeon processor 7300 series.

IMPACT

- **Enhanced productivity and quality.** Technology-enabled workflows enable clinicians to save time and collaborate more effectively. With up-to-date information readily available, they can respond more rapidly to patient needs and make more informed decisions.
- **Increased uptime, performance, and cost-effectiveness.** Intel Xeon processor–based servers have helped OhioHealth scale its infrastructure capacity 150 percent over two years and reduce heating and cooling costs $22,000 the first year.

IT Drives Better Care

Digital information and technology-optimized workflows help healthcare leaders such as OhioHealth deliver higher-quality, more efficient care. They also place new demands on healthcare IT departments.

"The shift to digital health is taxing the old RISC and mainframe architectures and bringing about a new operational paradigm," says OhioHealth CIO Michael Krouse. "To provide needed levels of availability, scalability, and performance, every hospital IT department should be creating virtualized environments that reduce costs, footprint, and environmental impact, and allow us to take advantage of the latest technology advances. As a nation, we also need to invest in wireless and broadband infrastructure to support mobile health information in homes, hospitals, clinics, and communities – wherever it can be used to improve care."

Virtualization saved $22,000 on heating and cooling costs the first year alone.

Virtualizing the Data Center

OhioHealth is a patient-centered leader that practices what Krouse preaches. Virtualization is a priority in the data center, and the Intel Xeon processor is a cornerstone. "When we're looking for higher performance or high availability, we look to Intel," says Jerry Walters, manager of infrastructure technologies. "Intel is doing a lot of work to reduce CPU power consumption, which enhances our virtualization strategy. Intel's higher core counts help us cut down on our data center footprint and power consumption. We saved $22,000 our first year of virtualization just on heating and cooling."

OhioHealth uses McKesson Horizon* electronic health records (EHRs), and produces reports on IBM xSeries* servers based on the Intel Xeon processor 5300 and 5400 series. Walters says they plan to consolidate their EHR databases onto the xSeries servers powered by the Intel Xeon processor 7300 series. "Dictation and speech recognition are big hot buttons for healthcare, and we use Intel technologies for those," he adds. "Intel-based systems also provide the performance and scalability for our Vocera* telephony infrastructure and Cisco* network infrastructure."

Matching Devices to Workflows

When it comes to client devices, OhioHealth combines a focus on standards with a commitment to clinician productivity and satisfaction. IT evaluates devices for suitability in their 10,000-client environment, and works with clinical user groups to choose specific devices. "You can't expect one solution to work for everyone," says Andrea Darby, director of clinical application support. "We strive to provide the right devices for the right users and the right applications."

Physicians and nurses who do primarily free-form charting use Lenovo tablet or laptop computers based on Intel® Centrino® 2 technology or Intel® Core™2 processor–based PCs. Newer clients include Intel® vPro™ technology, and the IT team is exploring its use to enhance remote management.

Increasingly, clinician groups are choosing mobile clinical assistants (MCAs) from Motion Computing. MCAs are designed for acute care environments and based on an Intel-developed reference architecture. OhioHealth uses Motion's C5 MCAs with an Imprivata identity and access management solution that provides biometric single sign-on capability and enhances security and convenience.

SPOTLIGHT ON OHIOHEALTH

Based in Columbus, Ohio, OhioHealth serves 46 counties through a network of 16 hospitals and a variety of other facilities and services. OhioHealth ranks 19th on Fortune Magazine's 2008 list of the best companies to work for, and its flagship Riverside Methodist Hospital has been named one of America's best hospitals.[1] The newest OhioHealth hospital, Dublin Methodist, was named one of the most wired by Hospitals & Health Networks. In 2008, OhioHealth had 95,000 admissions and 1.6 million outpatient visits.

"Typically, nurses and doctors on the floor have first crack at the in-room PCs," Darby explains. "Clinical ancillaries who cover multiple floors used to end up waiting, which we don't want. Their workflows are highly mobile, and involve more drop-down menus and fill-in charting, so they're a great match for the MCA." Clinicians using the MCAs include respiratory therapists, pharmacists, nutritionists, social services, and behavioral health technicians, as well as physicians and nurses in two Emergency Departments.

Driving the Transformation

It's all part of a digital transformation led by health networks like OhioHealth – and their IT departments. "The vision is that relevant patient information follows you wherever you need it so you can receive the best possible care," says Krouse. "If information isn't digital, it can't move, and if clinicians don't have convenient devices and reliable networks, they can't access it. IT is driving that transition by creating digital environments where information flows freely and securely."

Find a solution that is right for your organization. Contact your Intel representative, visit the Reference Room at **www.intel.com/references**, or learn about Intel in Healthcare at **www.intel.com/healthcare**.

[1]US News & World Report top 50 hospitals for 2008, 2007, and 2006, and HealthGrades Distinguished Hospital Award for Patient Safety for 2008, reported at http://www.ohiohealth.com/landing.cfm?id=20

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