CASE STUDY
2nd Generation Intel® Core™ i5 vPro™ Processor
Healthcare
Remote Manageability

A Prescription for Change

Uppsala County Council gives core application a boost for better patient care with Intel

Uppsala County is one of the largest in Sweden. The County Council is responsible not only for healthcare in the region, but also for dental and specialist care as well as research and training. The main hospital in the area, Uppsala University Hospital, is Sweden's oldest hospital and was founded in 1708. Today it holds 1,100 beds. Each year there are 58,000 admissions, 330,000 physician encounters and 420,000 out-patient treatments.

With 11,000 employees who constantly communicate to coordinate care, IT is at the core of the county's operations. The IT team is tasked with managing the hospital's 12,000 clients with about 300 applications. It is a challenging mission as users and patients demand high availability, interoperability, security and uptime.

Landstinget i Uppsala län

"When a user needs help resolving an issue with a device, an administrator can now log in remotely regardless of what the problem is and deal with it for them. They can now waste less precious time that should be spent with a patient on IT upkeep, or even worse, waiting hours while a member of the IT team comes out to them."

Göran Blomdahls
Manager Client Infrastructure

CHALLENGES

- **Enhance core application.** Maintain high levels of reliability and functionality of essential program by migrating IT infrastructure to Microsoft Windows* 7 operating system
- **Improve IT management.** Centralize device maintenance for better penetration rate with security patches and software updates
- **Support high performance.** Increase efficiency of IT team and reduce the impact of IT administration on productivity

SOLUTIONS

- **Combined approach.** Keep popular Dell* laptop and desktop PCs while introducing remote management capabilities of the Intel® vPro™ platform[1] across the board
- **Test performance.** Proof of concept demonstrated ability to power-on and update devices as required
- **Remote troubleshooting.** IT team can take over any device to resolve issues from central office

IMPACT

- **Greater efficiency.** Remote power-on enables the hospital to save energy while increasing the success rates of updates and patches and speeding saturation
- **Focus on patient care.** IT team can resolve device issues faster, with less reliance on user interaction, enabling physicians and nurses to spend less time on IT and more on treating patients, shortening length of stay
- **Strong Platform.** With the constantly increasing demands on the client platform the IT team has created a sustainable and manageable IT platform for the future, a platform that Uppsala County Council can grow with over the years to come

Changing the Foundations

As healthcare is a top priority for Uppsala County Council, the doctors and nurses working in its busy hospital wards face a challenging task. A typical day brings them into contact with dozens of patients, all of whom depend on them to provide the best quality and most appropriate care to help them regain their health. So when the tools they rely on to deliver that care can't keep up, problems arise.

The hospital staff use an EMR system called Cosmic* to track and monitor the medical history, treatment details and test results of every patient who comes into the region's primary care facilities and hospital. Accessed and updated hundreds of time every day by employees at the hospital and at other locations around Uppsala County, all healthcare systems, including Cosmic, must stay responsive and reliable at all times. Failure to do so can directly impact patient care.

Swedish healthcare region uses the Intel® vPro™ platform to safely and securely migrate its complex IT environment to Microsoft Windows 7

The County Council's fleet of around 12,000 mobile devices and desktop PCs ran on Microsoft Windows XP, but this operating system was reaching end of life. The IT team at the County Council realized it would need to carefully migrate its PC fleet to the newer Microsoft Windows 7 operating system to not only ensure the EMR system remained reliable, but also to ensure all other healthcare applications also interacted and kept running properly.

With devices spread across the region, all needing to be moved over to Windows 7, the centrally-based IT team needed an effective way to carry out the migration without traveling to each device. "We know how disruptive IT updates can be for medical staff," explain Jonatan Lundberg and Göran Blomdahls in the Client Infrastructure group, Uppsala County Council. "We often need to run security patches or software updates and these usually happened during work hours, relying on the device's user to reboot it. With us running administration tasks on their devices, employees couldn't access the EMR portal, while time they spent sorting out IT kept them away from their patients. This isn't ideal, so we also tried to do updates overnight. This needed staff to leave their PCs switched on, though, and there were always about half that didn't, meaning we could never achieve 100 percent penetration with any update or patch."

Recognizing the challenges inherent in carrying out IT administration across a widespread PC fleet, and knowing it needed to get its impending migration to Windows 7 right the first time, the County Council wanted to implement a centralized model that would enable it to carry out comprehensive support remotely.

A Remote Solution

Members of the IT team at the County Council were familiar with the remote management capabilities of the Intel vPro platform and knew it would meet their current challenge. "We also liked the Dell PCs and laptops we had in place already, so our ideal solution was one that combined Dell hardware with processing power and remote management functionality from Intel," says Blomdahls.

The hospital ran a proof of concept using a group of Dell devices powered by 2nd generation Intel® Core™ i5 vPro™ processors to prove that its fleet-management requirements – such as remote power-on and security patches – could be supported. "The Intel technology-based platform is optimized for Windows 7, so we were convinced that this, combined with the remote management capabilities, stood us in good stead for the planned migration," Blomdahls continues.

"Having the Intel vPro platform activated across a large proportion of our PC fleet means we can make use of the remote wake-up feature more strategically, and carry out more administrative tasks at night," says Lundberg. "We've also started using the keyboard, video and mouse (KVM[2]) features and Intel® Active Management Technology[3] to help users troubleshoot issues they can't deal with themselves, all without leaving our central office."

A Healthier Environment

Around 20 percent of employees used to leave their devices on all the time so that occasional overnight maintenance could be carried out. Now, they can switch off their PCs each evening and the IT team is able to power-on all devices only when it needs to. This means the hospital is saving energy while it increases its penetration rate for patches and security updates.

This new efficiency is not limited to the IT team, as Blomdahls explains. "When a user needs help resolving an issue with a device, an administrator can now log in remotely regardless of what the problem is and deal with it for them. They now waste less precious time that should be spent with a patient on IT upkeep, or even worse, waiting hours while a member of the IT team comes out to them."

The hospital has already replaced 78 percent of its PC and laptop fleet with the Intel vPro platform, and plans to reach 100 percent within a year. "Intel's support has been invaluable for the success of this project, helping us overcome some of the most challenging aspects, like certificate management. We can now get inside every computer in a way we never could before, and enjoy all the advantages that brings" concludes Lundberg.

With its road to an all-Windows 7 environment mapped out, the County Council is confident that its system is, and will remain, fully supported, delivering the highest quality of patient care.

Lessons Learned

Uppsala County Council is a geographically and operationally very wide organization. The IT team not only has to serve healthcare, primary care, dental care and politicians, but also local traffic.

By evaluating the potential of remote PC management within the hospital, the County Council has now established a model that can be replicated across other departments. Like the medical staff at the hospital, employees in other areas have a responsibility to maximize the time they spend working with the community and minimize any administrative work. Having shown that the remote PC management capabilities of Intel technology-based devices can help them achieve this, the County Council can now turn its attention to applying these learnings elsewhere as well.

Find the solution that's right for your organization. Contact your Intel representative, visit Intel's Business Success Stories for IT Managers (**www.intel.co.uk/Itcasestudies**) or explore the Intel.com IT Center (**www.intel.co.uk/itcenter**).

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[1] **Intel® vPro™ technology** Intel® vPro™ Technology is sophisticated and requires setup and activation. Availability of features and results will depend upon the setup and configuration of your hardware, software and IT environment. To learn more visit: http://www.intel.com/technology/vpro.

[2] **KVM Remote Control (Keyboard, Video, Mouse)** is only available with Inte® Core™ i5 vPro and Core™ i7 vPro processors with Intel® Active Management technology activated and configured and with integrated graphics active. Discrete graphics are not supported.

[3] **Intel® Active Management Technology** Requires activation and a system with a corporate network connection, an Intel® AMT-enabled chipset, network hardware and software. For notebooks, Intel AMT may be unavailable or limited over a host OS-based VPN, when connecting wirelessly, on battery power, sleeping, hibernating or powered off. Results dependent upon hardware, setup and configuration. For more information, visit Intel® Active Management Technology.

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