

Case Study

Healthcare
Intel vPro® Platform
Intel® Active Management Technology (Intel® AMT)



Intermountain Healthcare Improves Patient Care with a Safer and Streamlined Remote PC Management Solution

How the Intel vPro® Platform with Intel® Active Management Technology accelerated the OS migration, providing touch-free management of a fleet of acute-care telehealth devices.



Recognized as one of the U.S.'s most innovative healthcare providers, Intermountain Healthcare's more than 41,000 employees serve the needs of people across the Intermountain West.

One large area of innovation at Intermountain is telehealth. In addition to a large consumer telehealth program, the not-for-profit health system also maintains a fleet of nearly 1,500 acute-care telehealth units. These devices feature high-definition cameras that assist patients and clinicians in exam rooms. The units allow providers to connect to specialists via video for remote consultations, and even add in interpreters to overcome language barriers.

The Challenge: Updating and Managing 1,492 Telehealth Units Quickly and Safely

Over the past decade Intermountain Healthcare has been a pioneer in the telehealth space, building its fleet out to nearly 1,500 in-hospital units. Each comprised an Intel® NUC Mini PC running Microsoft Windows along with the hardware and software components to support needed functionality, including telehealth services. The units were installed in patient rooms and on Ergotron medical carts for mobile use.

When Intermountain decided to deploy a new telehealth solution, the change required migrating to Linux in the midst of the COVID-19 pandemic. To do this, the IT team would

have to update 1,492 telehealth devices manually. The process typically requires a technician to install the new operating system (OS) from a USB drive on each unit. This time-consuming approach could disrupt care and put patients, providers, and IT workers at risk of infection. Due to these hurdles, it was important that this process take place remotely.

The Solution: Intel® Active Management Technology

Luckily, Enterprise Solutions Architect Rob Summers knew that the ideal solution was already built into every NUC in the fleet: Intel® Active Management Technology (Intel® AMT), as part of the Intel vPro® platform.

Once Intel AMT is activated, the manageability technology enables IT teams to remotely power on or off devices, troubleshoot endpoints with Keyboard Video Mouse (KVM) functions and more efficiently patch updates for easier device administration. This tool enables IT to manage devices on and off the corporate network, whether they are wired or wireless. It provides more secure, remote access to every endpoint device, even if they are powered off or if the OS isn't functioning properly. Essentially, it delivers bare metal management of the endpoint hardware.

These remote capabilities are in addition to the built-in vPro platform features of enhanced performance, stability, and security. Intermountain was already benefitting from the technology's business-class performance, PC fleet stability, and hardware-based security features of Intel® Hardware Shield right out of the box.

COMPANY

Intermountain Healthcare

CHALLENGES

Migrating 1,492 devices from Windows to Linux due to an acute-care telehealth platform upgrade



SOLUTION

Deploying Intel® AMT on Intel® NUC Mini PCs with the Intel vPro® Platform

RESULTS

- **Rapid deployment:** Reduced migration timing from five days to two days
- **Improved safety:** Units could be migrated remotely
- **Minimal disruption:** Scheduled upgrades minimized patient care disruption
- **Wider use of technology:** After proving the usefulness of Intel AMT, the organization is using it for all remote management needs



Required minimal disruption to patient care



Needed to keep patients and IT staff safe from infection



Remote management for the devices located across three U.S. states



“Intermountain Healthcare has been a long-time Intel customer,” Summers explains. “All of our endpoints, whether Dell, Lenovo, or HP, have had Intel vPro technology since it became available, but we had never activated AMT for remote manageability.”

Summers had previously advocated to better leverage the vPro remote manageability capabilities during his time as IT Client Systems Engineering and Operations Manager, but on-site managers preferred to stick with familiar tools. “Healthcare is traditionally conservative when it comes to adopting new technologies, and rightly so, given the life-or-death consequences,” he notes.

In his new role, however, Summers knew he could make a strong case for Intel AMT. Not simply for the ease of the initial migration, but more importantly, for the ongoing streamlined remote fleet management controls it offered in a healthcare setting where uptime and reliability were paramount. Intel AMT could be a crucial tool in resolving technical issues and getting mission-critical tasks up and running as quickly as possible, without compromising staff or patient safety.

Summers worked with the telehealth operations team to try the Intel AMT approach in various testing settings, including simulation labs in various hospitals. He then worked with his Intel account team to build a framework for the project. This allowed them to demonstrate the viability of remotely managing the migration to Linux using AMT.

Around the same time, Intermountain Healthcare experienced an antivirus pattern file push that required every Windows workstation across the organization to be touched by a technician. Summers and team were able to demonstrate the remediation and rebooting of the affected devices using AMT. That success managed to convince the remaining nay-sayers, and the Linux migration project was a go.

COVID-19: A Roadblock and a Driver

The Intermountain telehealth operations team began the new system rollout in early 2020 but was cut short by the arrival of COVID-19. Delays with needed upgrades to the telehealth platform also contributed to the pause. The migration resumed in the spring of 2021, starting with smaller facilities, such as community outreach sites, then working its way toward the largest hospitals in the system.

“During the pandemic, if we had to perform any work on a telehealth unit in a COVID isolation ward, we had to gown up with full PPE gear,” he says. “With AMT, we could work remotely, protecting the IT team as well as the patient.” Remote management became even more critical during the pandemic when many facilities sent their in-house IT teams home.

The Results: A Nondisruptive Rollout for Better Remote Management

Summers and his team allocated an entire work week for each of the largest facilities, but they typically finished within two days. “In fact, when we booked our reservations at a hotel near the facilities, we built in extra days for cleanup tasks,” Summers says. “We ended up checking out early every time since we were able to handle cleanup tasks on the road home.”

With the success of the Linux telehealth migration now under its belt, Summers’ team has turned to bringing even more speed and efficiency to the Intel remote-management solution. “We’re re-architecting our Intel management infrastructure so that we have regionalized servers to scale more easily and better support all of those endpoints,” he says.

The Technology: Intel vPro® Platform with Intel® AMT

What set Intermountain up for success is that the organization was already using Intel NUC Mini PCs on the Intel vPro platform. This integrated technology solution delivers the latest PC technologies in one validated solution. The platform features the latest Intel® Core™ vPro® and Intel® Xeon® processors, regularly updates its specification to promote continuous innovation, and offers optimized architectures for desktop and mobile.

Intel AMT, included in the Intel vPro platform, offers efficient proactive and reactive maintenance of computing endpoints. It includes OS-independent remote control over wired or wireless connections, which enable wake and patch, system re-imaging and recovery, and other critical use cases.

It's no surprise that Intel vPro technology has become a requirement for any of Intermountain Healthcare's new hardware purchases. Intel AMT lets the IT team manage each

of the system's mobile cart devices, resulting in improved hardware uptime, increased employee and patient satisfaction, and reduced troubleshooting times by 50 percent. The Intermountain IT team is sold on the technology's ability to help them manage the mission-critical telehealth units more safely and efficiently. All without exposing patients or staff to infectious diseases or interrupting essential time between clinicians and patients. "Now that they have it," Summers says, "they're not giving it up!"

For more information

Intermountain Healthcare
<https://intermountainhealthcare.org/>

Intel vPro® platform, including Intel® AMT
www.intel.com/vpro



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Intel technologies may require enabled hardware, software, or service activation.

No product or component can be absolutely secure.

Intel Active Management Technology requires a wired or wireless network connection to provide remote management. Wireless support requires Intel AMT to be pre-configured with WiFi profiles or to be configured to duplicate WiFi profiles from the operating system when it connects to a new WiFi network. Intel AMT cannot join new WiFi networks without the operating system first connecting to them. AMT requires a network connection; must be a known network for WiFi out-of-band management. Results may vary by use, configuration and other factors. Learn more at www.intel.com/vPro

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