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CASE STUDY

Reducing Complexity and Maximizing Care: How Dell Thin Clients Help a Major Healthcare Provider Improve Clinician Experience

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When a major Midwest health system found its thin client infrastructure struggling to keep pace, it knew it was time for a strategic overhaul. Faced with mounting performance issues and compatibility challenges, the organization began a comprehensive evaluation of its thin client ecosystem. The assessment led the company to Dell, where the OptiPlex 3000 Thin Client stood out as the clear front-runner in its rigorous testing process.

But hardware was just the beginning. In the process, the customer also tried Dell ThinOS instead of its existing thin client operating system, ultimately choosing to adopt a 100% Dell thin client stack. The Dell team even worked with the customer to ensure a seamless transition for all existing devices, with minimal downtime or change to the user experience.

In an environment where every second can affect patient care, this IT refresh did more than just upgrade technology; it injected new life into the health system's operations.

Technology Provider
Dell Technologies

Customer
Statewide health system

Industry
Healthcare

Company Size
38,000+ employees

Country
United States

Introduction

In the U.S. Midwest, a healthcare provider manages a statewide operation that includes 38,000 employees and proudly serves more than 1.2 million individuals. This provider operates 2,700 beds across 16 hospitals and hundreds of medical centers throughout the state, and it has over 100,000 admissions annually.

In such an active environment with numerous clinical users, every second counts. An impact isn't measured merely in cost, but also in the ability to provide timely patient care. For the end-user computing (EUC) team, delivering the apps and services that clinicians need to provide patient care and communicate with one another presents an interesting challenge in a dynamic environment. They consider it their core mission to minimize complexity for clinicians, freeing them to dedicate as much time as possible to patient care instead of waiting for logins or slow-performing applications.

Solution at a Glance

The healthcare provider's on-premises virtual desktop infrastructure (VDI) environment is composed of:

- Omnissa Horizon (Formerly VMware Horizon) on Dell VxRail hardware.
- 18,000 concurrent, non-persistent VDI sessions.
- 4 million badge taps per month.
- 25,000 thin client endpoints used in mobile carts, nurse stations, operating rooms, and offices, for which Dell OptiPlex 3000 thin clients are the current standard.
- Dell ThinOS thin client operating system.
- Wyse Management Suite Pro management tool.

Situation Analysis

Because the healthcare environment is so demanding, the EUC team considers its end users to be customers, and VDI has been core to their goals of providing consistent access to these customers' critical applications from wherever they happen to be. This VDI environment extends from the data center to the endpoints themselves.

In particular, endpoint devices (or thin clients) play an important role in the customer's VDI environment. They're used throughout each healthcare facility, from mobile carts and nurse stations to operating rooms and offices. A wide range of clinicians, including nurses, doctors, surgeons, radiologists, lab technicians, and more, rely on these devices daily. To meet the varied demands of this user base, the endpoints need to be fast, reliable, and versatile, supporting peripherals like badge scanners, barcode readers, printers, and dictation tools. A Senior Solutions Architect at the healthcare provider explained, **"Unlike organizations where employees mostly stay at one desk, our staff are constantly moving—not just between rooms, but often between facilities. Our main reason for using VDI and thin clients was to allow clinicians' sessions to follow them from device to device. VDI made the most sense for maintaining consistency at this scale."**

Specifically, the EUC team consider the following criteria for endpoint selection:

- **Mobility.** Clinicians can work from any device, anywhere in the hospital network.
- **Consistency.** The same user experience is available across all devices and locations.
- **Speed.** Fast login times mean less waiting and more time with patients.
- **Security.** Patient data remains secure on central servers, not on endpoint devices.
- **Flexibility.** The IT team can quickly deploy new applications or updates across the entire system.

Driving home the importance of continuity, an Information Systems Manager shared, **"When we bring new hospitals into our network, one of our main challenges is making sure those new users have the same experience as everyone else. We need to keep things looking and working the same, no matter which of our locations you're at."**

Perhaps most importantly, they needed to support quick disconnect and reconnect features. This capability enables clinicians to move swiftly between devices, maintaining secure access to their sessions without enduring long wait times for logins. Because of this, the EUC team monitors this closely through robotic process automation tools that calculate important metrics like time to reconnect, time to electronic medical record (EMR), and time to login. Of these, time to reconnect is the most important, as it represents the amount of time it takes from when a user taps on a badge reader until the device is usable.

Chinks in the Armor

With so many devices in the field, device management is also critically important, and this is where the healthcare provider first began to notice problems with their previous thin client platform.

Prior to turning to Dell, the EUC team had chosen to deploy thin clients from another major vendor, along with their management infrastructure. While this operated well for many years, they started to experience performance and compatibility issues with new firmware on older devices. These would often manifest as slowdowns, affecting time to reconnect, or as outright incompatibilities with certain required application versions. At that time, the firmware updates where delivered as a single package, so they were stuck running the VDI client or driver that was included in the firmware despite newer, more capable or secure versions being available.

The result was a series of tradeoffs that became a big headache for the provider when scaled up to 25,000 devices. As the Solutions Architect put it, **"We never found a firmware version that worked perfectly for everything we needed. We always had to give up something, somewhere."**

Things finally came to a head when the previous thin client vendor opted to focus on software only, exiting the hardware business. The EUC team found that, once the switch was made, subsequent OS/firmware updates introduced more instability and slowness among the existing devices.

It was this situation that prompted the healthcare provider to reach out to other hardware vendors, and after an evaluation process, the team settled on the Dell OptiPlex 3000 Thin Client. When asked why they opted for Dell, the Information Systems Manager said, **"Our decision isn't based on feelings. We used our testing systems to chart performance across all thin clients and each variation of OS and hardware. The Dell thin client just performed better."**

Evaluating ThinOS

While initially planning to use their existing thin client OS on the new Dell OptiPlex 3000 Thin Clients, the healthcare provider agreed to evaluate Dell ThinOS as an alternative. This decision came as they were dealing with limitations in their current OS, including challenges with firmware updates, limited flexibility, and inconsistent performance.

The EUC team applied its rigorous testing methodology to ThinOS, focusing on key metrics like time to reconnect and compatibility with its diverse array of peripherals. The results were promising, with ThinOS demonstrating benefits including:

- **Consistent performance.** ThinOS showed stable performance across updates, addressing previous issues with declining performance over time.
- **Flexibility.** The ability to deploy third-party apps independently meant the healthcare provider could use the latest versions of critical software, improving both functionality and security.
- **Peripheral compatibility.** ThinOS demonstrated strong compatibility with the healthcare provider's wide range of medical devices and peripherals.
- **Improved time to reconnect.** Crucially, ThinOS maintained fast reconnect times, meeting or exceeding previous benchmarks.

The Information Systems Manager noted, **"Our testing showed that ThinOS not only matched our performance requirements but exceeded them in several key areas."**

The choice was clear, and the EUC Team chose to replace its existing, well-entrenched system with an all-Dell solution, featuring Dell OptiPlex 3000 Thin Clients running ThinOS, managed by Wyse Management Suite.

Outcomes

While the healthcare provider is still in the process of updating its 25,000 endpoints, it's already noting improvements in metrics that are important to its overall mission of delivering the best possible end-user experience. This includes the following advantages:

Significant Performance Improvement

With Dell ThinOS on OptiPlex 3000 Thin Client devices, time to reconnect has been reduced to 8.1 seconds, a 63% reduction compared with some of its previous thin client models. In an environment that supports 4 million badge taps per month, every second saved translates to more patients served and a better overall experience.

Better Admin Experience

Another benefit of the new solution is that it doesn't force the IT team to choose between security and accessibility. As the deployment continues, the EUC team anticipates having more time to dedicate to innovation and optimization. This will enable the team to focus on "quality of life stuff"—a term they use to describe making the environment more efficient, responding to feature requests from end users, and enhancing the end-user experience.

Strong Partnership for Future Innovation

The healthcare provider sees its relationship with Dell as an ongoing collaboration focused on continuous improvement. As one team member put it, **"Migrating to ThinOS is just the beginning. The Dell team has proven to me that if we run into an obstacle, they're ready to partner and get through it together to help us be more flexible and secure."**

This collaborative approach positions the healthcare provider to continue evolving its IT infrastructure to meet the ever-changing demands of its dynamic healthcare environment.

Conclusion

The healthcare provider's EUC team demonstrates a strong commitment to its clinicians, viewing them as customers whose needs drive the team's decisions. This dedication to user experience guided the evaluation of thin client solutions and led to the strategic choice to upgrade both the thin client devices and the operating system.

By partnering with Dell, the EUC team achieved several important outcomes:

- **Better patient care.** The significant drop in reconnect times means clinicians spend less time waiting and more time with patients.
- **Improved IT management.** The move to Dell OptiPlex 3000 Thin Clients with ThinOS and Wyse Management Suite Pro has made device management and updates easier, freeing the EUC team to focus on improving the user experience.
- **Consistent user experience.** The solution provides a consistent environment across all devices and locations, which is essential for a constantly changing healthcare network.
- **Adaptable technology.** The new system's flexibility helps the organization keep pace with changing healthcare technology needs.

This project shows how thoughtful IT choices can support a healthcare organization's main goals of patient care and clinician experience. By putting user needs first and working closely with Dell, the EUC team created a system that balances security, ease of use, and performance.

The success of this project offers valuable lessons for other organizations facing similar challenges in complex environments. It highlights the importance of choosing technology partners that understand specific industry needs and can provide ongoing support as those needs change.

As healthcare continues to evolve, the partnership between this provider and Dell sets a foundation for future innovations, ensuring that technology continues to enhance, rather than hinder, the vital work of healthcare professionals. Or, as the Systems Analyst said, **“I’m looking for a thin client vendor that will meet us where we are in our journey—a partner to assist us into the future—and it feels like Dell is willing to make that journey with us.”**

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