THE POLYCLINIC SPEEDS UP ITS VDI ENVIRONMENT WITH NVIDIA GRID

NVIDIA.

Updated VDI with NVIDIA GRID wins over staff and increases user density across the organization.
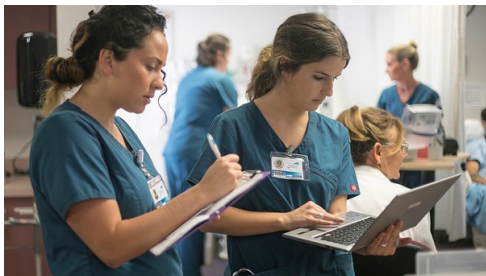
The Polyclinic was founded in 1917 by a handful of doctors. Over the past 100 years, it has grown into one of the largest independent multispecialty clinics in Washington state. Today, it has more than 240 healthcare providers working at 15 multispecialty clinics across the Puget Sound region. Thanks to an innovative healthcare philosophy that puts doctors in charge of patient care, the Polyclinic consistently attracts some of the area's most respected and talented physicians.

REASONS FOR NVIDIA GRID

> Ensure fast performance of everyday office productivity applications to encourage adoption

> Lower cost per user as system usage grows more widespread

> Improve performance of virtual apps and expand VDI to more departments

> Deliver secure, mobile access, supporting bring-your-own-device (BYOD) and remote work

> Achieve better density as more users are added across the network

CHALLENGE STATEMENT:

As a leading-edge organization, the Polyclinic consistently aims to be at the forefront of patient care. In recent years, it has focused on a variety of initiatives to improve organizational efficiency. For example, in 2012, it deployed a centralized electronic medical-records system called Epic via a Citrix thin client to better serve its members. Since then, Epic has become essential to its patient services representatives (PSRs) and physicians, who use it daily to manage patient records, prescriptions, and scheduling. Along with Epic, staff also regularly use Dragon Medical, Microsoft Office, and Microsoft Dynamics GP.

For many years, IT relied on a traditional virtual desktop infrastructure (VDI) solution to deliver access to these published applications and resources. However, increasingly slow system performance meant that it was frequently fielding complaints about user experience, which essentially negated the efficiency gains from apps like Epic. Aaron Hagman, senior systems engineer, understood that the Polyclinic needed an updated environment.

CUSTOMER PROFILE

Company	Industry	Location	Size	Website
The Polyclinic	Healthcare	Seattle, WA	1,200 employees	polyclinic.com

SUMMARY

> The Polyclinic is one of the largest multispecialty clinics in Washington's Puget Sound region with 1,200 employees at 15 locations.

> As the organization expanded, IT needed to update the infrastructure to accommodate growing staff numbers.

> Historically slow performance of thin clients made staff reluctant to transition to another virtual desktop environment.

> Cisco UCS C240 servers with NVIDIA GRID® K1 cards improved VDI performance.

> Upgrading to NVIDIA® Tesla® M10 GPUs helped achieve 2X the user density at two-thirds the cost, as well as a consistently great virtual desktop experience.

SOFTWARE

Hypervisor: Citrix XenApp and VMware Horizon

Graphics acceleration: NVIDIA GRID® Virtual PC (GRID vPC)

HARDWARE

Server: Cisco UCS C240

GPU: NVIDIA Tesla M10

Virtual desktops would be the most cost-effective and easiest to maintain. Besides, having invested considerable time and expense setting up VDI years ago, the IT team was reluctant to install a new, potentially problematic and complex solution.

However, any updated system needed to perform well. "We didn't want to give staff something that they weren't going to like. If we did, we'd be dead in the water," Hagman said. Doctors are so crunched on time when they're seeing 25+ patients per day. They don't have time for IT issues when they're trying to get one last little note down before they see the next patient. PSRs are incredibly busy too. If they're forced to wait for the system because it's slow, they'd rather not use it."

The IT team's first priority was to immediately improve the daily routine of PSRs and physicians. In the long run, the Polyclinic wanted to set up an infrastructure that could handle the majority of its 1,200 staff at its 15 locations. It was imperative that the increased demand for CPU resources from virtual applications didn't impact system performance for PSRs and physicians. "Our goal was to roll out a system that would save money but also give users a great experience to encourage widespread adoption. In the end, it comes down to creating a good user experience. You don't want staff to avoid firing up their virtual machines because it's too much of a hassle," said Hagman.

SOLUTION STATEMENT:

Because of its forward-thinking approach to technology, the Polyclinic found a solution to its challenges. It started its infrastructure upgrades by replacing PSRs' PCs with Dell and 10ZiG thin clients on top of VMware Horizon 7.3.1. running on Windows 7. For its infrastructure, it turned to

> "We have tested Windows 10, and we definitely see a big difference with NVIDIA GRID vPC software. Windows 10 is so graphics-driven. If you want to run it well, NVIDIA GRID is indispensable."
>
> Aaron Hagman,
> Senior Systems Engineer,
> The Polyclinic

Cisco for refreshed hardware, purchasing five Cisco UCS C240 M4 servers featuring dual processors with 16–20 cores, 512 GB RAM, and Nimble all-flash storage. "Cisco has great servers. Plus, their UCS platform is really easy manage," said Hagman. To ensure fast performance, Hagman's team utilized the servers' NVIDIA GRID K1 cards.

The upgraded environment performed so well that IT soon realized that, to keep up with demand, it needed to expand capacity with five additional servers with GRID K1 cards. Months later, with a list of new users looking to transition to the new environment, IT saw that the GRID K1 cards were out of capacity. At that point, Hagman's team discovered that, by installing new NVIDIA Tesla M10 GPU cards in their servers, the environment could achieve twice the user density at two-thirds the cost. Plus, the NVIDIA virtual GPU environment provided a consistently great user experience.

"Right now, I can put 30 users on the system without any GRID software. If I give them all two virtual CPUs—so they get two cores of power and 4 GB of RAM—their VMs perform fine. Compare that with the NVIDIA Tesla M10 card: I can run 50 to 60 desktops per server. I assign each user a 1 GB profile on the Tesla M10 GPU across the board. If I've got someone who's watching a video and it's cranking two whole cores of their profile, I don't have anything to worry about. This is especially important, as video and multimedia has become more and more prevalent. For example, we post a lot of videos for patients and staff to view. I won't take the hit on the CPU because the NVIDIA GPU loads that for me. It doesn't affect the whole server," said Hagman.

RESULTS STATEMENT:

The new IT infrastructure promises to boost staff productivity across the organization. During the initial phases of rollout, PSRs and physicians were the first to benefit from a new way of working. "The way doctors work remotely has changed a lot. Now they can go home and get access to a full desktop without having to connect to VPN or fire up the old Citrix apps," said Hagman.

> "I think investing in NVIDIA GRID has ensured that our deployment is a success in users' opinions."

Aaron Hagman,
Senior Systems
Engineer,
The Polyclinic

With Dragon Medical virtualized in the VDI image, doctors use their personal laptop at home to dictate patient notes directly into Epic. They simply plug in their USB headset, launch Horizon to fire up their desktop pool login, and start using Dragon. NVIDIA GRID technology keeps the system responsive, so the process is fast and easy. "The fact that they're able to do all this well has been made possible by the environment we've chosen, and NVIDIA is a big part of that," said Hagman.

PSRs working on the frontlines enjoy the smoother VM performance, which makes checking patients in and out faster and easier. Hagman's IT team plans on moving the organization's back-end staff over to the system in the next phase. IT has already tested Windows 10 for this next implementation. "We have tested Windows 10, and we definitely see a big difference with NVIDIA GRID technology. Windows 10 is so graphics-driven. If you want to run it well, NVIDIA GRID is indispensable," said Hagman.

In the future, the ability to work remotely through VDI will be extended to switchboard staff. The Polyclinic is planning a pilot program that will provide them with access to high-performance VDI to do video conferencing, use Skype messenger, schedule appointments, and order refills from home. Overall, the Polyclinic is very satisfied with its results. "I think investing in NVIDIA GRID has ensured that our deployment is a success in users' opinions," said Hagman.

To learn more about NVIDIA virtual GPU solutions visit:
www.nvidia.com/virtualgpu

www.nvidia.com