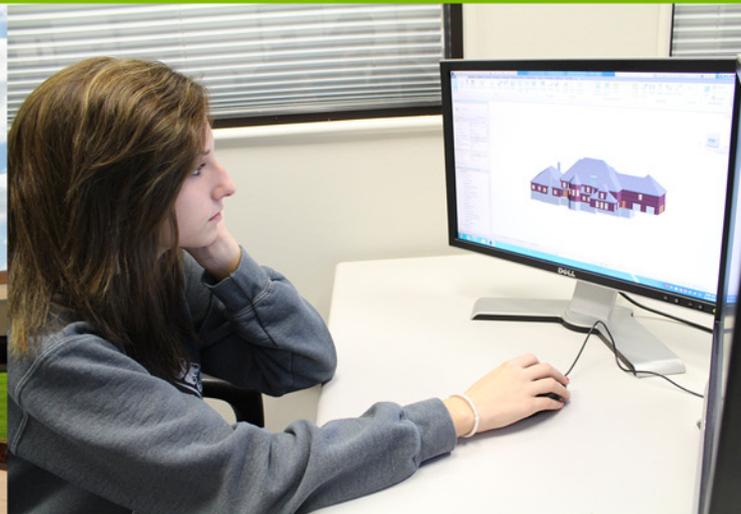


CASE STUDY | MERIDIAN TECHNOLOGY CENTER

PUTTING FACULTY AND STUDENTS AHEAD OF THE CURVE

Implementing VDI with NVIDIA GRID™ is enhancing the curriculum and student access at Meridian Technology Center.



NVIDIA GRID is giving students the access they need to graphics-intensive applications while paving the way to expanded BYOD support and reduced power consumption.

AT A GLANCE

CUSTOMER PROFILE

Company: Meridian Technology Center

Industry: Education

Location: Stillwater, Oklahoma

Size: Over 11,000 students

SUMMARY

- > Career training school for high school and adult students with a proactive approach to technology implementation
 - > Seeking more effective ways to deliver graphics-rich applications to students
 - > Successfully implemented VDI using NVIDIA GRID technology
 - > Currently deploying VDI to additional students and looking to enhance courses and delivery methods
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SOFTWARE

Hypervisor: VMware vSphere

Desktop and Application Remoting: VMware Horizon View

Key Applications: Autodesk Inventor and Revit, Google Earth

HARDWARE

NVIDIA GRID Boards: K2

Servers: Dell PowerEdge R720

Clients: Various desktop, mobile, and thin clients

Located in Stillwater, Oklahoma, Meridian Technology Center has provided customized education and training services for individuals, industries, and communities since 1975. The school offers over 70 career training majors in fields such as architecture and construction, health science, and information technology to nearly 800 students enrolled in this area alone. In all, more than 11,000 individuals receive instruction at Meridian every year.

CHALLENGE

Meridian Technology Center takes a proactive approach to implementing new technologies to benefit their students. Some of the key trends they are following include the increasing commoditization of IT services and growing user demands for remote access to content and applications.

“Staying ahead of the curve is a key component of preparing our students to enter the modern workforce,” explained Matt Trumbull, Information Systems Manager at Meridian Technology Center. “For example, we are getting ready to support more of a BYOD approach instead of the limited, case-by-case support we offer today. Most of our students who need remote access to specific applications are issued laptop computers—an expensive proposition from both a hardware and IT management perspective. One of the biggest challenges with that approach is that these laptops are often not powerful enough to run more graphics-intensive applications efficiently. The ability to give students the access they need without worrying about the hardware will benefit everyone.”

Effectively delivering curriculum in the context of these larger trends poses an ongoing challenge. For example, some of the Pre-Engineering Academy programs at Meridian Technology Center require high-end applications, such as Autodesk Inventor and Revit. Google Earth is another key application for these students that requires OpenGL and/or DirectX. Applications such as these require high-end computing resources for optimal functionality, and Meridian Technology Center was looking for ways to reduce IT costs and management overhead while responding to the larger trends.



REASONS FOR GRID

- 1 Ongoing trends toward BYOD and remote access require technology to support them.
- 2 Maintaining traditional workstations requires costly IT support.
- 3 Traditional VDI models do not include GPU support and cannot run OpenGL or DirectX.
- 4 NVIDIA GRID provides full workstation performance from any location on any device for even the most graphics-intensive applications.
- 5 Meridian Technology Center is using GRID technology to enhance their curriculum and delivery.

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Information Systems Manager
Meridian Technology Center

SOLUTION

Meridian Technology Center reached out to longtime partner InterWorks, a comprehensive IT and data solutions provider, for help finding a solution that would meet their goals. The initial discussions focused on making the curriculum more effective while delivering it more efficiently, but learning about NVIDIA GRID technology changed the focus of the project.

“Desktop virtualization was never an option before NVIDIA GRID came along,” continued Trumbull. “We went into this expecting to buy a bunch of workstations and instead found ourselves facing the opportunity to not only deliver our curriculum but enhance it while saving money and reducing IT management overhead. This was a game-changer for us.”

A cost analysis was performed that took hardware, labor, and infrastructure into account. The results of this analysis revealed that the per-desktop cost of implementing a Virtual Desktop Infrastructure (VDI) using NVIDIA GRID technology would compare favorably to implementing traditional workstations. InterWorks consulted with the IT department and Computer Training Services staff to review the initial proof-of-concept implementation, and then decided to move forward with the implementation.

The initial rollout is re-purposing existing desktop computers to act as first-generation clients. Over time, these computers will be replaced by thin clients as part of the school’s overall initiative to reduce power consumption and streamline IT operations.

Meridian Technology Center purchased three Dell PowerEdge R720 servers equipped with one NVIDIA GRID K2 card per server. VMware vSphere and Horizon View provide the hypervisor and remote desktops, respectively. Students access pooled Microsoft Windows 7 Enterprise desktops, which saves significant storage space compared to offering individual desktops to each student. The current arrangement can

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handle 260 concurrent sessions and a total of 600 users. Each student receives access to a pooled desktop environment and applications based on their login credentials. Additional servers and NVIDIA GRID cards will be purchased as the VDI implementation expands to cover more users.

“The installation and initial vetting process took about six weeks,” said Trumbull. “Overall, the process went smoothly and didn’t interfere with our existing operations. InterWorks did a great job of supporting us through this entire implementation, and it was a truly collaborative effort.”

RESULTS

User response was enthusiastic from both faculty and students, and Meridian Technology Center is already working on the next phase of expanding the VDI deployment to upgrade their three Computer Training Services labs (two of which are mobile) and provide about 230 desktops. The art department is also receiving virtual desktop access along with training as the implementation progresses. Each department has unique needs, such as applications and remote access, and each implementation is taking those requirements into account. For example, departments with no need for high-end graphics will use RDP with high display resolution but no OpenGL or DirectX support. Another part of the current expansion involves enabling remote access and BYOD.

Side-by-side tests comparing NVIDIA GRID performance against a typical workstation proved that the VDI implementation is delivering full graphics performance in the virtualized environment.

“We almost thought that InterWorks was kidding when they first told us about this technology, but seeing is believing,” concluded Trumbull. “With NVIDIA GRID, we are achieving everything we set out do and then some. This technology gives our staff the capability to better prepare our students to enter the workforce, which in turn gives our students a powerful advantage.”

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