Students Get Anytime-Anywhere Access to High-end Graphics and Apps with PCoIP Remote Workstations

“Before Teradici, students had to use a specific laboratory with systems that offered the advanced graphics capabilities they need for engineering and advanced science. PCoIP technology lets them have access to high-performance workstations and GPUs anywhere, anytime.”

PHILLIP VALENTA
SYSTEM ADMINISTRATOR
THOMAS J. WATSON SCHOOL OF ENGINEERING AND APPLIED SCIENCE
BINGHAMTON UNIVERSITY

AT A GLANCE

Situation
- Central data center for the Watson School of Engineering and Applied Science
- Five IT staff

Challenge
- Deploy a 22-workstation collaborative classroom with access to high-performance engineering applications
- Cost-effectively support 300-seat VMware Horizon View environment with access to graphics applications
- Deploy 46 Seat CAD Lab with limited desk space

Solution
- Teradici® PCoIP® Remote Workstation Cards
- NVIDIA Quadro 4000 and 5000 GPUs
- PCoIP Zero Clients
- Teradici PCoIP Management Console
- VMware® Horizon™ with View™

Results
- Simplified management: Fast and easy to update and students require little or no support
- Remote access to graphics-intensive applications: Students can work on CAD and science projects from anywhere
- High performance: Delivers excellent performance remotely, even on bandwidth-limited networks
- Zero client energy efficiency: No fans or hard drives made classrooms cooler and quieter, thus reducing HVAC requirements

Located in upstate New York, Binghamton University is a world-class institution that offers students a broad, interdisciplinary education with an international perspective and vibrant research programs. The University consists of six schools with more than 13,000 undergraduate and 3,000 graduate students.

Case Study

PHILLIP VALENTA
SYSTEM ADMINISTRATOR
THOMAS J. WATSON SCHOOL OF ENGINEERING AND APPLIED SCIENCE
BINGHAMTON UNIVERSITY

www.teradici.com
Initially, the Thomas J. Watson School of Engineering and Applied Science at Binghamton University set out to provide students with access to high-end graphics and modeling applications in a newly renovated classroom. The challenge was finding an innovative way to deliver the following capabilities:

- Initially create a state-of-the-art collaborative teaching laboratory with 22 state-of-the-art workstations for providing students access to high-performance engineering applications.

- High reliability was critical. Classroom equipment is heavily used, and system failures or broken machines adversely affect learning. When the school moved into a new building, a second deployment was required that could accommodate up to 300 virtual desktops for students, faculty, and staff as part of a tiered computing architecture brokered by VMware horizon View.

- When a third deployment was required for a new classroom, space was extremely limited. Workstations had to fit the space, be easy to manage, and deliver advanced capabilities for up to six years.

Binghamton’s Watson School IT team decided to tackle the challenge with a tiered compute environment for its engineering students—and the Teradici PCoIP technology fit perfectly. After evaluating other virtual desktop solutions and based on prior experience, the Watson School team selected Teradici technology for its remote workstation (Remote Workstation Card) and virtual desktops (VMware Horizon View). The initial Teradici deployment included 22 zero clients and 22 workstations with the Teradici PCoIP Remote Workstation Card installed. Each desktop area enabled four students to collaborate.

"The first Teradici solution worked really well," said Don Kunkel, director of IT for the Watson School. "We had such a good experience that we kept Teradici for our next deployments." The school next implemented a 300-seat VMware Horizon View deployment with 200 zero client endpoints. Ten workstations with Nvidia Quadro GPUs and the Teradici PCoIP Remote Workstation Card are accessible through a VMWare View connection server. This deployment is designed to provide easy access to engineering applications for a large number of students. When students need high-end graphics for a project, they can access the workstations through VMware Horizon View broker. With View software clients deployed on students’ own laptops, they can connect to the remote workstations from anywhere to work on projects and models.

Engineering students now have the access they need to critical AutoCAD, Revit, and SolidEdge applications from anywhere. "Before Teradici, students had to use a specific laboratory with systems that offered the advanced graphics capabilities they need for engineering and advanced science," explained Philip Valenta, the school’s system administrator. "PCoIP technology lets them have access to high-performance workstations and GPUs anywhere, anytime." Zero clients in the classroom free up space and reduce the heat and noise associated with tower-style workstations. The university’s operations staff has noticed significantly lower heat loads in classrooms with zero clients and dramatically lower energy use.
“The PCoIP technology and Teradici remote workstation solution are less sensitive to bandwidth limitations,” said Valenta. “I can connect to my virtual desktop at work and be efficient anywhere.” Management is easy—the IT team reimages the systems for each new semester and otherwise the zero clients run themselves. Students are also familiar with the systems and typically can handle any questions or issues themselves.

Valenta also notes lifecycle benefits of the Teradici deployments. “We expect a longer lifecycle on our systems,” he says. “Workstations are in a controlled environment and require fewer refreshes. The zero clients are extremely robust. And from a physical security standpoint, it’s much easier to replace an inexpensive zero client than an entire workstation if one goes missing. And so far, none have.” Having workstations in the data center also simplifies maintenance because they are centrally located and in a controlled environment.

To other schools that seeking advice on zero client deployments, Valenta says, “Just do it. Thin clients are nice, but the Teradici remote workstation solutions are easy to deploy, easy to manage, and deliver a much smoother user experience.” Binghamton University is glad they deployed the solution.