



ROGER WILLIAMS UNIVERSITY ENABLES VDI INITIATIVE WITH NVIDIA GRID™

RWU
CASE STUDY

Roger Williams University (RWU) is a leading independent university based in Rhode Island, with 4,300 undergraduate students and 900 graduate students. One of RWU's most renowned academic programs is architecture, with programs that foster both rigorous technical and design curricula with a well-rounded liberal arts foundation. RWU offers its students programs that prepare them for professional careers, with working methodologies that mimic what they might find in a real-world company. As part of that effort, RWU tapped systems integrator Logical Front to give architecture students the flexibility to work from anywhere, on any device, even when using graphics-intensive applications like Autodesk's AutoCAD® and Revit®, and Adobe® Creative Suite® 6. In order to facilitate an efficient virtual desktop infrastructure (VDI) robust enough to support the aforementioned applications, RWU turned to Dell PowerEdge™ servers running Citrix's XenServer with NVIDIA's GRID™ technology for GPU virtualization.

To more effectively implement this solution for their students, Logical Front worked closely with RWU's IT group, including James Galib IT Director; Ryan Tiebout Systems Operations Manager; and Gerald Normandin Systems Administrator.

CHALLENGE

The biggest hurdle in RWU's transition to a virtual desktop infrastructure for its architecture students was the ability to effectively provide access to the graphics-rich applications that its students require. VDI had the potential to let students work with much more flexibility, grow comfortable with real-world practices, and to eliminate cumbersome desktops from the architecture lab, thus freeing up more space for classrooms—however, everything needed to work seamlessly for adoption to take hold.



Roger Williams U. VDI integration uses Dell PowerEdge servers

"Before we started testing VDI with NVIDIA GRID, we were seeing many problems; many solutions just didn't work well with the intense graphics and video environment that an architecture department needs," explained James Galib. "As soon as we had more than 8-10 people connected, the frame rates in 3D renderings would just go way down and get jumpy. The software applications became very clunky to use and it just wasn't conducive to architecture work at all and students weren't able to maintain a good project flow," added Ryan Tiebout.

"We were getting very frustrated searching for a viable VDI solution that could support our graphics needs, and no other schools seemed to have VDI systems in place at this level," continued Galib. "That's when we started working with Logical Front. They introduced us to GPU virtualization with NVIDIA GRID and that really saved the project in my opinion—otherwise, this initiative may have failed."

SOLUTION

Logical Front set up RWU with a custom VDI system dubbed “rCloud” featuring Dell Equallogic storage, Dell PowerConnect™ switching, and Dell PowerEdge servers running a total of twelve NVIDIA GRID K2 boards through Citrix XenServer. NVIDIA’s GRID™ vGPU™ technology allows up to 8 to 16 concurrent users to share one GPU—meaning that with this configuration, rCloud can support up to 96 to 192 concurrent graphics users. RWU’s IT Group saw immediate improvement with the graphics performance on virtual machines, and students responded enthusiastically to the technology and the flexibility it offered. With GRID, architecture students now have the ability to access graphics-intensive applications like AutoCAD outside the lab, and see the same high level of performance on any device.

“GRID totally opens up what our students can do, and it raises the bar for our university as a whole.”

“Students are telling us that rCloud is very easy to access and runs very smoothly,” said Galib. “They love the ability to work on their own devices and still access any application they need, even outside of the lab. Even students with lower-end devices are using rCloud successfully and get the same performance they would on a workstation thanks to GRID. The flexibility of VDI is a huge value-add to our students, and will allow them to save money on hardware and software in the long run, which is very important to us.”

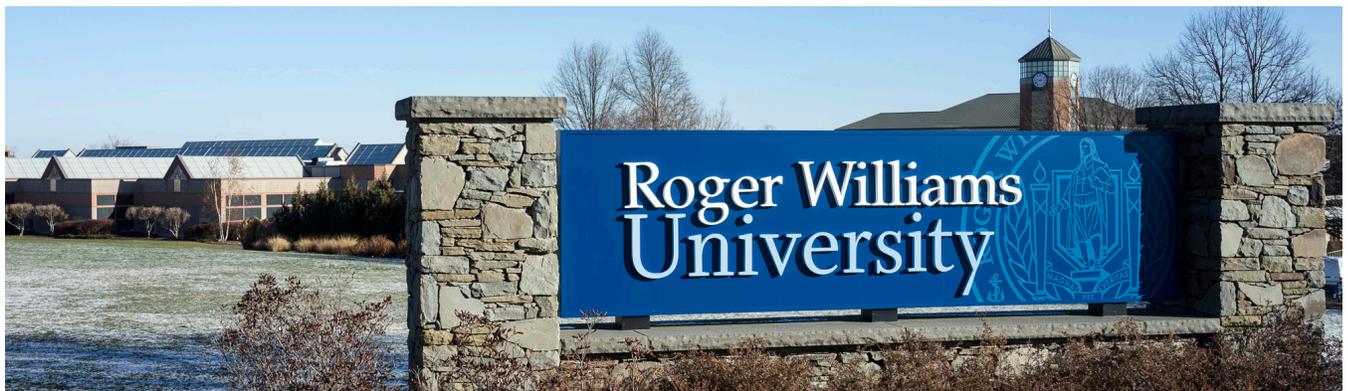
IMPACT

After achieving great success with VDI in the Architecture program, RWU is in the process of rolling out rCloud to other departments as well, starting with engineering, with the ultimate goal of making it accessible to all students. Right now 1,000 RWU students (about a quarter of the student body) have access to rCloud, with varying levels of graphics power allotted based on their area of study.

“We are definitely going to ramp up rCloud by bringing in more GRID K2 boards, as well as introducing GRID K1 boards to increase our density and cater to less-heavy graphics users,” explained Tiebout. “The K2 boards will be dedicated to graphics power users like the architecture and engineering students, while the K1 boards will ensure that any student can still experience seamless graphics performance even on more basic applications like Microsoft® Office and Internet Explorer. This means that students can truly use any application, anywhere—giving each student the flexibility to work outside of a computer lab or library, no matter what they’re working on.”

“We are so excited to bring this cutting edge technology to students,” concluded Galib.

- > **Industry:** Higher education
- > **Server Hardware:** Dell PowerEdge Servers, GRID K2
- > **Server Hypervisor:** Citrix XenServer
- > **VDI:** Citrix XenDesktop with HDX 3D Pro
- > **Virtual GPU type:** GRID vGPU-shared
- > **Type of Users:** Power users and Designers. Architecture and engineering students
- > **Number of Users:** 1000+
- > **Applications:** Autodesk AutoCad, Revit. Adobe Creative Suite



To learn more about NVIDIA GRID, go to www.nvidia.com/vdi

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