Designing better spaces with performance and productivity

Gould Evans improves performance and enables flexibility for hundreds of architectural designers with Dell EMC and NVIDIA VDI solution.

Business needs
Gould Evans wanted to improve collaboration for on-site and remote designers and to support graphics-heavy design applications by finding a virtualized desktop infrastructure (VDI) solution.

Solutions at a glance
- Dell EMC PowerEdge Rack servers
- Dell EMC VMware virtualization software
- NVIDIA Quadro Virtual Data Center Workstation (Quadro vDWS) software
- NVIDIA P4, T4, M60 and M10 GPUs

Business results
- Improves performance for graphics-intensive design applications
- Increases productivity for on-site and remote designers
- Scale memory and graphics resources to meet end user needs in just minutes

“Our designers get high-performance workflows for architectural renderings using the NVIDIA Quadro vDWS—powered Dell EMC VDI solution, at the same level they were used to on their physical desktop computers.”

Matt Wilson
IT Manager, Gould Evans
Every day, more than 100 designers at the architecture and design firm Gould Evans use their computers to create detailed renderings of new residential towers, educational facilities and other buildings. The designers rely on compute- and graphics-intensive design applications such as Autodesk Revit and Trimble SketchUp to build detailed models for clients.

As the organization’s business grew, it became increasingly difficult for designers at the firm’s offices across the U.S. to collaborate effectively on projects. “It was very challenging working from five different locations,” says Matt Wilson, the organization’s IT manager. “We often had to ship computers from office to office to support specific projects, and we were constantly trying to track down which computers were used where.” Shipping costs were also adding up. “It could be up to $100 to ship something, and that was happening weekly,” Wilson says.

To solve the problem, Gould Evans wanted to implement a virtualized desktop infrastructure (VDI) solution. “I saw the benefits of VDI in other industries, but I was concerned about it working for architecture because of our extreme graphics requirements,” says Wilson. “We honestly didn’t think we could find a powerful enough solution to run our applications.”

Implementing a Dell EMC and NVIDIA VDI solution in five locations

Gould Evans found what it was looking for with a Dell EMC VDI solution based on Dell EMC VMware virtualization software and Dell EMC PowerEdge rack servers equipped with NVIDIA Quadro Virtual Data Center Workstation (Quadro vDWS) software and NVIDIA GPUs. “We had some previous experience with Dell EMC storage and VMware, and we knew we would be getting strong performance and excellent support,” Wilson says. “Dell EMC is leaps and bounds above the competition, and we have a great relationship with them.”

The firm uses VMware virtualization software and Dell PowerEdge rack servers that included NVIDIA P4, T4 and M60 GPUs, with NVIDIA Quadro vDWS software to divide the GPU resources so that they can be shared across multiple virtual workstations. Designers in all five Gould Evans locations use the VDI solution to run Revit, SketchUp, Enscape and other 3D design applications from their virtual workstations.

Visualizing architectural spaces with powerful performance

Using VDI, enabled by the PowerEdge servers with NVIDIA virtual GPU technology, Gould Evans designers have powerful graphics-accelerated desktops that perform just like a physical workstation. “Our designers get high-performance workflows for architectural renderings using the NVIDIA Quadro vDWS–powered Dell EMC VDI solution, at the same level they were used to on their physical desktop computers,” says Wilson.

“We work on large models for rendering, often up to 1 gigabyte each, and the Dell EMC and NVIDIA VDI solution easily supports that size—even if 20 people are working on the same file.”

Matt Wilson
IT Manager, Gould Evans

With the new solution, designers working remotely can clearly visualize what an architectural space will look like. “We work on large models for rendering, often up to 1 gigabyte each, and the Dell EMC VDI solution easily supports that size—even if 20 people are working on the same file,” Wilson says. “We no longer have latency issues when people are at different sites, which previously caused corrupted files and locked design elements, so this makes collaboration much better.”

Makes designers more productive, boosts flexibility

With increased application performance, Gould Evans designers are more productive, inside and outside the office. “We have solved most of our remote performance problems with the Dell EMC and NVIDIA VDI solution,” says Wilson. “Right after we
deployed the solution, we asked a designer to do a rendering, and she was shocked at how fast she was able to complete it because of the Dell EMC PowerEdge servers with NVIDIA Quadro vDWS software and NVIDIA T4 cards. This kind of performance gain is already giving a significant boost to our overall productivity.”

Gould Evans now has the flexibility to work on client projects using both on-site and remote teams. "Whether our designers are in our largest office in Kansas City or at a client site in San Francisco, they can work together as one team," says Wilson. The organization recently completed a design for a 35-story building in San Francisco using 17 designers—some at the client site and others at various Gould Evans offices. “The client wanted to know what technology we used on the back end, and we explained how we use VDI to collaborate from five offices,” Wilson says. “He was highly impressed with how the Dell EMC solution enabled us to do all this without our full team needing to be on-site.”

Doubling memory capacity and graphics processing in minutes

Taking advantage of the flexibility of NVIDIA virtual GPU technology and using GPU live migration for continuous uptime and simple maintenance, the Gould Evans IT team can more easily provision resources when designers need additional capacity for graphics-heavy projects. “If a designer needs more graphics or memory resources for a project, we can make some quick changes and double the memory or graphics processing power in a few minutes,” says Wilson. “In our previous traditional desktop environment, we couldn’t do that. We would have to order new graphics cards and wait at least several days for them to arrive. Now, we can do it immediately and ensure we hit all our project deadlines. Everything is so much easier to manage with the NVIDIA virtual GPU technology.”

“Right after we deployed the solution, we asked a designer to do a rendering, and she was shocked at how fast she was able to complete it because of the Dell EMC PowerEdge R740 servers with NVIDIA Quadro vDWS software and NVIDIA T4 cards.”

Matt Wilson
IT Manager, Gould Evans