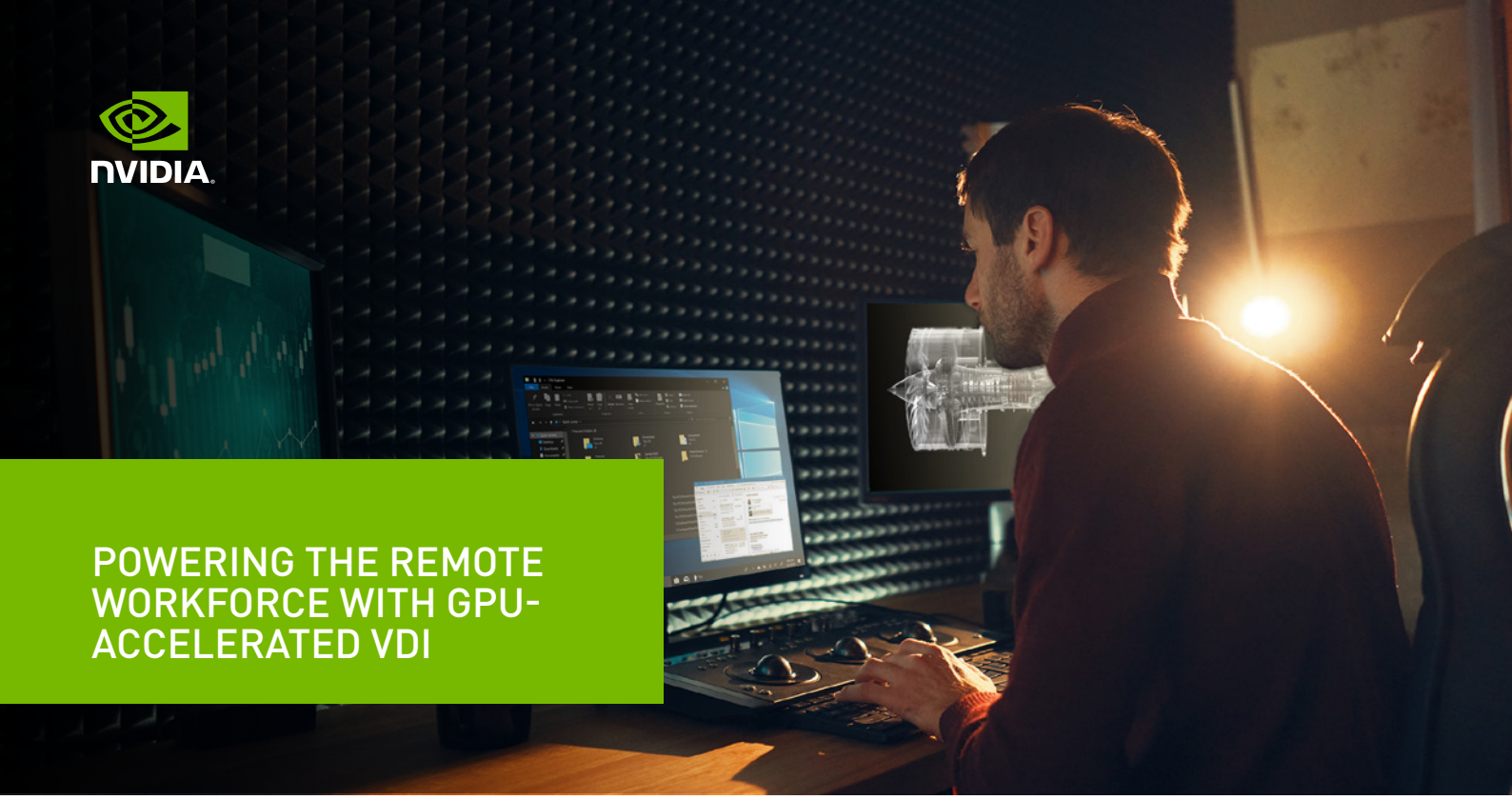

# POWERING THE REMOTE WORKFORCE WITH GPU-ACCELERATED VDI

As IT seeks to fully realize the power of virtualization with a software-defined approach to data center infrastructure, end-user computing has remained a stumbling block. Organizations with remote workforces need great user experience as well as greater scalability, data security, and simplified manageability. Addressing the challenges of virtualization is more important than ever, as an increasing amount of our workforce moves to flexible, remote workspaces.

The GPU-accelerated data center is the realization of a fully virtualized computing environment, where NVIDIA GPU technology powers every desktop, workstation, and application with accelerated graphics and compute, making remote, virtualized workspaces accessible to an enterprise's entire workforce and capable of running any workload.

NVIDIA virtual GPU (vGPU) solutions extend the power of the NVIDIA GPU to improve virtual desktops and applications with a consistently great user experience for everyone, from remote office workers to mobile professionals to designers and engineers that need to work from anywhere. NVIDIA virtual GPUs also extend the benefits of hypervisor-based server virtualization for GPU-enabled servers, so data center admins can run any compute-intensive workload that requires GPUs in a virtual machine (VM). NVIDIA vGPU products bring the graphics-accelerated experience found in billions of today's computing devices to the virtualized data center, enabling IT to centralize applications and extend the reach of virtual desktop infrastructure (VDI) to the entire workforce.

## Raise the Bar on Productivity and User Experience for Remote Employees

Business demands greater agility to stay ahead of competitors and address a rapidly evolving global marketplace. NVIDIA vGPU products transform workflows to liberate your users and data from the confines of PCs, workstations, offices, and distance. Now, your teams can seamlessly collaborate in real time, from any location, using any device they choose to be productive.

- Meet the increasing graphics demands of the modern digital workplace and Windows 10.
- Rapidly provision virtual workstations in a fraction of the time and cost of a physical workstation.
- Access applications and data from anywhere, on any device, with a great user experience that rivals physical PCs.
- Eliminate constrained workflows that inhibit user productivity and limit business agility.
- Enable geographically dispersed teams to collaborate in real time without borders or limits.

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## Cost-Effective Performance with Enterprise-Grade Manageability

Today, IT organizations must support a broad and diverse workforce that includes remote, distributed offices, as well as mobile users. NVIDIA vGPU products allow IT to centralize data and applications in the data center and extend the reach of VDI to the entire workforce, delivering virtual workspaces with improved IT manageability, security, and performance that increases user satisfaction and reduces support costs.

- Reduce help desk support costs with a consistently great experience that delights VDI and app virtualization users.
- Achieve cost-effective performance with a true enterprise-grade GPU solution.
- Experience enterprise-grade manageability for reduced lifecycle costs, from design to ongoing operations.

## Knowledge Worker VDI

### Recommended VDI Solutions for Knowledge Workers

| COST-OPTIMIZED BUNDLE | FLEXIBILITY-OPTIMIZED BUNDLE |
|---|---|
| > 2-socket, 2U rack server<br>> 2–4 vCPUs<br>> 6–8 GB memory, per user<br>> Up to 3x NVIDIA M10 GPUs (1B user profile)<br>> Up to 96x concurrent user (CCU) licenses of NVIDIA GRID® Virtual PC (GRID vPC) software | > 2-socket, 2U rack server<br>> 2–4 vCPUs<br>> 6–8 GB memory, per user<br>> Up to 6x NVIDIA T4 Tensor Core GPUs (1B user profile)<br>> Up to 96x CCU licenses of NVIDIA GRID vPC software |

### Solution Details

NVIDIA GRID VIRTUAL PC (GRID vPC) software accelerates office productivity applications, WebGL, and streaming video and supports high-resolution and multiple monitors for knowledge worker VDI workloads.

## High-Performance Virtual Workstations

### Recommended Virtual Workstation Solutions

| LIGHT TO MEDIUM USERS | HEAVY USERS |
|---|---|
| > 2-socket, 2U rack server<br>> 8 vCPUs<br>> 16–32 GB memory, per user<br>> Up to 6x NVIDIA T4 GPUs (4Q user profile) or Up to 2x Quadro RTX™ 6000 or RTX 8000 (4Q or 6Q user profile)<br>> Up to 16–24 CCU licenses of NVIDIA Quadro® Virtual Data Center Workstation (Quadro vDWS) software | > 2-socket, 2U rack server<br>> 12+ vCPUs<br>> > 96 GB memory, per user<br>> Up to 2x RTX 6000 or RTX 8000 GPUs (8Q or 12Q user profile)<br>> Up to 8–12 CCU licenses of NVIDIA Quadro vDWS software |

### Solution Details

NVIDIA Quadro Virtual Data Center Workstation (Quadro vDWS) software accelerates professional visualization applications, including Autodesk Revit and Maya, Dassault CATIA, Solidworks, Esri ArcGIS Pro, and Siemens NX.

## CUSTOMER EXAMPLES

| | | | |
|---|---|---|---|
| **Browning Day Mullins Dierdorf**<br>Architecture, Engineering, and Construction (AEC) | **DigitalGlobe**<br>Satellite Imaging | **Gould Evans**<br>AEC | **Grimme Landmaschinentechnik**<br>Manufacturing |
| Because users are on virtual workstations, they can move around the office to collaborate. And because they can work in a full 3D-modeling environment, they don't have to leave their work at their desk when they go to a meeting. This mobility allows users to work from home more easily, improving productivity and quality of life, as they don't have to stay late at the office to get work done. | The IT team is pleased with how the new VDI environment handles increased demand when users are working from home and in the office. "Here in Colorado when a big snowstorm hits, our VDI environment usage ramps up considerably. Thanks to NVIDIA GRID, now everyone can be just as productive from home." | 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. "This kind of performance gain is already giving a significant boost to our overall productivity." | One of the biggest effects is on how people work. Some local staff frequently commute between GRIMME's headquarters in Damme, Germany, and another office five miles away. In the past, they needed a dedicated workstation at each location. It was common for employees to download files and work from home on their mobile workstations and come back to the office the next day and upload their files. Today, all that's changed. "Now, users just have two cheap thin clients. When they travel between offices, they simply log in and reconnect to their previous session and continue working where they left off," said Jan Hendrik Meier, IT architect at Grimme. High-performance thin clients also mean the company's IT is now designed for when the workforce becomes more mobile and increasingly works remotely. "Thanks to virtualized desktops powered by NVIDIA virtual GPU technology, when staff do work outside the office, they tell us that it's much easier because the experience is much better than it was before." |

## CUSTOMER EXAMPLES

### University of Massachussetts (UMass) Lowell
Education

"When we told a student in plastics engineering that he could access an application on his phone, he didn't understand us. This is a student who has to run calculations in a lab for 11 to 20 hours at a time. When we showed him he could run the same work on his iPad, the experience was transformative. Now he can check in on his simulations anywhere."

### University of Nebraska Medical Center (UNMC)
Healthcare

In 2015, UNMC deployed VDI for staff at their remote medical clinics, providing them with access to file shares and specialty applications. That project's success motivated the IT team to extend VDI to pharmacists, IT programmers, and staff working from home. "Our goal is to deliver vGPU-enabled desktops to every staff member and physician who travels or works from home. Giving them the option of working at different clinics or across the state will open up new ways for Nebraska Medicine to innovate faster."

### Whitney Bailey Cox Magnani (WBCM)
AEC

Allowing remote access has ensured that WBCM can meet the demands of a new kind of remote workforce. "Remote access was something that we felt would be necessary to retain or recruit new staff. Prior to vGPU, we weren't able to do that for a certain level of staff. Now, any employee we hire has the ability to work remotely. Another benefit is being able to have our employees' fully capable 3D workstations 'follow' them wherever they go, including when working at a client's office. Virtualization has also helped the company keep projects on track from a profitability standpoint. During a series of winter snowstorms, more than 60 employees were able to log in to work remotely, at the same time, with no decline in user experience."

### ZGT Group
Healthcare

With regular requests from radiologists to be able to work at home or from other locations, rather than being fixed to their workstations, the IT department knew that they needed to consider virtualizing. Since virtualizing the picture archiving and communication systems (PACS) workstations, the radiologists can enjoy a greater level of freedom and flexibility in their work. Provided they have the right hardware, they can now work from home or collaborate with their colleagues across the hospital. This was particularly important as ZGT seeks to expand their environment. Many of their radiologists are subcontractors of the hospital, and they're now able to increase the number of radiologists who work remotely.

For more information on NVIDIA GRID, visit **www.boston.co.uk/nvidia/grid.aspx**

To learn more about GPU-accelerated VDI, visit **www.nvidia.com/virtualgpu**



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