REMOTE WORK SOLUTIONS FOR THE PUBLIC SECTOR

REMOTE WORK
CHALLENGES
IN THE PUBLIC SECTOR

As the public sector is called upon to address society's most pressing challenges, teleworking has become a crucial way for employees and contractors to maintain continuity and responsiveness during national emergencies.

However, government agencies looking to support an increasingly remote workforce face many challenges. Ensuring the security of sensitive data against cyber threats is a primary concern. At the same time, evolving regulations—such as the Federal Data Center Consolidation Initiative (FDCCI), which requires IT to reduce its footprint—add to the complexity of streamlining IT. Ultimately, CIOs and CTOs are faced with data center consolidation initiatives, all while needing to operate within budget.

NVIDIA SOLUTIONS:
PERFORMANCE FROM ANYWHERE

NVIDIA's remote work solutions such as NVIDIA® Quadro® mobile workstations and virtual GPU (vGPU) technology ensure mobility and performance in these fast-paced, security-critical environments. They also deliver the visual computing power that federal agencies need for situational awareness, early warning, operational insight, and a host of other valuable inputs.

NVIDIA Quadro-powered mobile workstations combine portability with large memory capacity and robust visual computing capabilities to deliver desktop-level performance on the go.

NVIDIA vGPU software brings the power of NVIDIA GPUs to virtual desktops, apps, and workstations, accelerating virtual desktop infrastructure (VDI) performance, graphics, and compute. Since data is stored securely in the data center, professionals can access virtual workspaces from anywhere, on any device, with a native PC-like experience.

With vGPU technology, government agencies can implement VDI with a high-quality user experience, especially for graphics-intensive applications such as streaming video and image processing. NVIDIA vGPU acceleration also powers AI and data analytics, enabling everything from smart cities to identification of disease outbreaks to analysis of tens of thousands of tweets to identify possible food poisonings.

COMMON QUESTIONS, ANSWERED

Remote work technology can open up infinite opportunities for the public sector. When developing their technology roadmap, agencies have to assess their current infrastructure needs, goals, and how to best utilize laptops, the cloud, and virtualization technology. Here are a few high-level questions that can help guide that journey.

> ### Can you connect an NVIDIA Quadro laptop to a workstation?

NVIDIA Quadro laptops can connect remotely to the cloud using NVIDIA vGPU software. When users need the power and performance of high-end desktop workstations, tools like HP ZCentral Remote Boost, Microsoft Remote Desktop, and more can give them remote access to a workstation—so they can connect and stay productive from any location.

> ### I don't have virtual desktop infrastructure (VDI). How can my agency get up and running in the cloud?

Enterprise professionals need the combination of a workstation and cloud computing to unleash the full potential of work-from-anywhere power and flexibility. NVIDIA's virtual workstations make it possible for agencies to pay for as little as they need and use GPUs without worrying about setup, upgrade, or management costs. Organizations can scale appropriately to handle demand spikes in any region of the world and collaborate at unprecedented levels while maintaining a smaller headcount.

> ### My agency has VDI. Why do I need NVIDIA vGPU technology?

Today's workforce is more tech savvy and increasingly made up of digital natives who expect a dynamic, multimedia-rich experience. Even simple productivity applications found in Microsoft Windows 10, Office 2016, web browsers, and streaming video can benefit from GPU acceleration. Additionally, NVIDIA vGPU technology efficiently powers higher-resolution monitors, such as 4K, and multi-monitor setups, which are an affordable and effective way to boost productivity.

> ### What is the cost benefit?

Virtual desktops and workstations are faster and easier to deploy and maintain than their physical counterparts, drastically simplifying IT management and reducing overall cost. For example, the City of Davenport, Iowa, achieved 75 percent leaner IT with NVIDIA vGPU's simplified management, compared to a city with the same population.

> ### What applications can be accessed in a VDI environment accelerated by GPUs?

With GPU virtualization, employees can have a high-quality experience on any device, even when accessing graphics-intensive 3D software traditionally only available on physical workstations. IT can virtualize any application from the data center with an amazing user experience—including ESRI ArcGIS Pro, Siemens NX, Dassault Systèmes SOLIDWORKS, Autodesk, and more—allowing workstation-class performance on any device.

For agency roles involving modern productivity applications, which have increasing graphics requirements, employees can enjoy a higher-quality user experience and collaborate on projects in real time.

REMOTE WORK WITH NVIDIA:
SOLUTIONS OVERVIEW

> ### NVIDIA Quadro Mobile Workstations

With powerful visual computing capabilities, large memory capacity, and the latest NVIDIA RTX™ technology—including real-time ray tracing, advanced shading, and AI-enhanced tools—these laptops place local, advanced visualization in the hands of analysts.

Powered by NVIDIA Quadro GPUs, data scientists can use these laptops to download NVIDIA data science software to easily train and deploy AI models.

> ### NVIDIA Quadro Virtual Data Center Workstation (Quadro vDWS)

From aerospace and munitions to geospatial analysis and imagery, government employees must be able to access 3D data from any location, at any time, and on a variety of devices. NVIDIA Quadro vDWS provides GPU-accelerated virtual desktops and applications that untether the government workforce from physical workstations, providing a native experience on any device.

With NVIDIA Quadro vDWS software, the same NVIDIA Quadro RTX™-powered workstation experience can be achieved securely from the data center. Users can bring real-time ray tracing, AI, and advanced graphics to design energy-efficient buildings and extract insights from rich visual graphics.

> ### NVIDIA Virtual Compute (vComputeServer)

NVIDIA vCompute Server enables data scientists and analysts to accelerate compute-intensive workloads with virtualized GPUs, including AI, deep learning, and high-performance computing (HPC).

Agencies can run containerized applications for machine learning and deep learning in a virtualized environment to isolate workloads and securely support multiple users. By running compute-intensive workflows on the same GPU-accelerated system that runs VDI, agencies can maximize utilization.

Auto image courtesy of Epic Games and Porsche

REMOTE WORK WITH NVIDIA:
SOLUTIONS OVERVIEW

> ### NVIDIA GRID Virtual PC (GRID vPC) and Virtual Applications (GRID vApps)

To deliver seamless VDI, the user experience needs to be nearly indistinguishable from a native PC. With NVIDIA GRID® vPC and vApps, users can multitask across channels with virtualized access to online training, teleconferencing, Skype, and other graphics-intensive applications. Most industry work requires multiple, high-resolution monitors, and users can scale for increased productivity.

> ### NVIDIA Quadro Virtual Workstations (Quadro vWS) in the Cloud

Even without access to local compute resources, or with limited access, organizations can still provide users with the resources they need to be productive. Many applications can be accessed from the cloud, and these solutions can be leveraged to provide compute cycles for specific initiatives. For example, data scientists, when running limited or time-bound experiments, can use the cloud to get their work done. Quadro vWS in the cloud also supports the latest RTX-enabled applications with an NVIDIA T4 Tensor Core GPU instance available from many cloud service providers.

REMOTE WORK SUCCESS WITH NVIDIA TECHNOLOGY

HOLSTEBRO KOMMUNE

> ## Holstebro Municipality Boosts the User Experience

Holstebro is one of the oldest market towns in Denmark. When complaints about user experience started to increase, the municipality needed to review their IT infrastructure to better serve the ever-evolving needs and expectations of their citizens and staff. The IT team opted for a complete replacement of the older virtualization platforms to a modern one supported by NVIDIA GRID vPC and GRID vApps.

Restructuring Holstebro Municipality's IT infrastructure has helped improve efficiency, the well-being of staff, and services to their citizens. Upgrading their legacy virtualization platform with NVIDIA GRID enabled the municipality to virtualize 99 percent of their applications and increase user satisfaction.

DigitalGlobe™

> ## DigitalGlobe Enhances Productivity

With the most sophisticated commercial satellite constellations in orbit, DigitalGlobe is the world's leading provider of high-resolution Earth imagery, data, and analysis. Security requirements led the company to have all users on a virtualized platform. Over the years, increased demand for video- and graphics-intensive apps contributed to poor system performance. The company began leveraging NVIDIA GRID to lower CPU utilization, improve performance, and give staff the ability to collaborate more effectively.
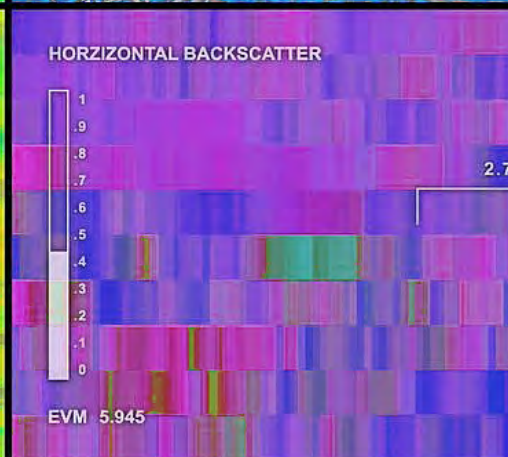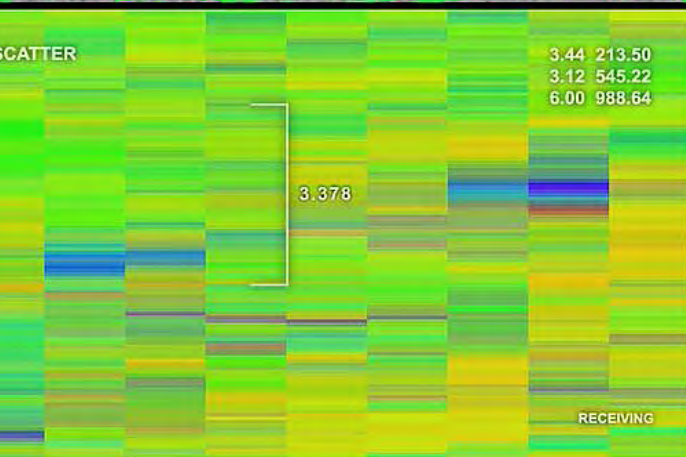
THE CITY OF DAVENPORT IOWA | USA

> ## The City of Davenport Rolls Out Universal VDI

The City of Davenport is a municipality in Iowa with 1,000 employees at 34 facilities. A desire to have all users on a unified platform to control costs and simplify management led the IT team to virtualization. Poor performance of streaming videos and productivity applications prevented widespread system rollout. The city deployed NVIDIA GRID technology to lower CPU utilization, enhance VDI performance, and encourage user adoption at every facility.

> ## An Armed Forces Logistics Organization Improves Communication

This organization required an upgrade to their communication systems, including their desktop infrastructure. They're using NVIDIA GPU-accelerated virtual desktops for their most significant and far-reaching desktop-modernization program, rolling out GPU-accelerated virtual desktops for all Windows 10 users. This promises to deliver a quality PC user experience while enhancing communication between groups.

WORK FROM ANYWHERE WITH NVIDIA

As the future of work continues to evolve, public sector workers need greater flexibility with a high-quality user experience. It's critical for federal and civilian agencies to respond with a secure, efficient, and powerful remote working infrastructure so that employees can be well equipped to do their life's work from anywhere, on any device.

Learn more about NVIDIA's remote working solutions at:
nvidia.com/remote-work