



**NVIDIA virtual GPUs power a library of 3D animations for skilled electronics technicians.**

### Customer Profile

- > **Organization:** Electronic Manufacturing Services
- > **Industry:** Public Sector
- > **Users:** 2,000
- > **Applications:** Siemens TeamViewer, PDF Viewers, streaming video

### Solution

#### SOFTWARE

- > **Hypervisor:** VMware Horizon on vSphere ESXi
- > **Graphics Acceleration:** NVIDIA® GRID® Virtual PC (GRID vPC)

#### HARDWARE

- > **Server:** Dell EMC PowerEdge R740
- > **GPU:** NVIDIA M10

## BRINGING DIGITAL REPAIR MANUALS TO THE SHOP FLOOR

### Overview

This world-class Electronic Manufacturing Services (EMS) company repairs and manufactures electronic systems for equipment used by all branches of the U.S. Department of Defense. Its engineers and technicians service everything from satellite terminals and radar systems to navigation instruments and electro-optics. The company deployed NVIDIA GPU-accelerated virtual desktops to power tablets and laptops remotely accessing a graphics-intensive digital reference library.

### Challenges

In the process of modernizing an aging data center, the company's IT team decided to deploy virtual desktop infrastructure (VDI) across its global facilities. The challenge was using VDI to deliver graphics-intensive digital resources to its engineers and technicians. Every day, its production workforce uses a variety of technical schematics, large PDF documents, CAD drawings, and animated manuals to do complex repair work. Typically, these resources were accessed on PCs in various offices and then printed out. Streaming instructional videos and step-by-step animations weren't transferable.

Technicians traveling to other facilities also needed a better solution. Before going on the road, they checked-out laptops to download and save digital resources. This process introduced security risks and undermined version control when resources were modified.

The IT team wanted to deploy high performance virtual desktops to run on laptops as well as tablets installed directly on the production floor.

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## Solution

The company deployed an NVIDIA vGPU-accelerated VDI solution. For the infrastructure, they purchased 32 Dell EMC PowerEdge R740 servers and installed two NVIDIA M10 GPUs per server to support approximately 2,000 concurrently running virtual machines. NVIDIA GRID vPC software was installed at the virtualization layer and configured for two project types:

- **Routine repairs and maintenance projects** are the bulk of users' daily activities, requiring access to schematics and manuals. Users were assigned a 1GB profile on NVIDIA GRID vPC software. With this profile size, up to 32 virtual machines fit on each M10 GPU.
- **Special projects** require access to animations and graphics intensive applications. To ensure high performance, these users are assigned a 2GB profile. This profile size accommodates 16 users on each M10 GPU.

## Key NVIDIA Benefits

- **Increased productivity.** NVIDIA vGPU acceleration ensures that technicians can open and view large CAD drawings and animated manuals on any device without latency.
- **Efficient collaboration.** Users can markup manuals, drawings, and documents that remain on the server, which eliminates issues with version control.
- **High server density.** The IT team is able to meet its internal cost model thanks to improved server density and reduced equipment in the data center.

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