Easy, Instant Access to Remote 3D CAD Apps with Teradici PCoIP Workstation Access Software

“It is exciting to propose the PCoIP Workstation Access Software to project managers. Since we are always looking for new talent, being able to consider remote candidates will give us a competitive edge while keeping our operating costs low.”

PAUL MEREDITH
IT MANAGER
HI-TEK MANUFACTURING

AT A GLANCE

Situation
- Manufacturing for industrial gas turbine and aerospace industries
- Three facilities (125,000 square feet), Mason, Ohio
- 200 employees (plus contractors, as needed)

Challenges
- Restricted space and lack of cooling call for a workstation alternative in conference rooms
- Project teams change often; finding local-only talent restricts growth and service delivery
- Customer designs must remain locked down (hosted on site)

Solution
- Teradici® PCoIP® Workstation Access Software and Teradici Software Clients
- Teradici PCoIP Zero Clients and Remote Workstation solutions

Results
- Smaller, cooler hardware client: Fan-less, low-power PCoIP zero clients operate reliably in existing cabinets
- More client choices: New client software delivers excellent user experience for remote 3D modeling using Siemens NX.
- Ease of support: Easy software download speeds start-up and simplifies remote management
- Business agility: Expanded choices for remote sessions make it possible to recruit non-local talent

Founded in 1980, Hi-Tek Manufacturing originally provided EDM machining services for the aerospace industry. Today the company’s diversified operations deliver a full range of manufacturing services for the gas turbine and aerospace industries, with a portfolio that spans Wire, CNC Sinker & Fast Hole EDM, Laser, CNC Milling, CNC Turning, CNC Grinding, Welding, Metallography, Fluorescent Penetrant Inspection, X-Ray, and Airflow Testing.

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Providing highly engineered components and assemblies for aircraft engines, airframes, and industrial gas turbines demands premier platforms for 3D CAD software. Besides engineers’ desktops, each of the conference rooms at Hi-Tek Manufacturing had to be equipped with systems that could host high-resolution displays and engineering applications such as Siemens NX. In recent years, the two-person IT team supporting the company’s engineering workstations and infrastructure has evaluated a variety of desktop computing approaches with the goals of maximizing productivity and business agility. The challenges included:

- **Environmental conditions.** In the conference rooms, CAD workstations had to be squeezed into audio-visual cabinets lacking adequate airflow and cooling. Compute-intensive CAD software translated into dissipated heat and extreme temperatures in the cabinets. The resulting high workstation failure rates were disruptive to the mission-critical design review meetings, and replacement costs were also a problem for the IT budget.

- **A dynamic, growing workforce.** New projects and company growth required IT to be able to quickly deploy new desktops and adjust infrastructure. IT also had to ensure security for customers’ intellectual property on the Hi-Tek systems.

- **IT operating costs.** With only one full-time person and assistance as needed from a second, supporting all of the company’s engineering workstations called for a very easy-to-deploy and easy-to-manage computing model.

A virtual desktop infrastructure made it possible to replace conference room workstations with PCoIP zero clients. Paul Meredith, IT manager at Hi-Tek, explained, “By equipping a few workstations with Teradici PCoIP Remote Workstation cards, we were able to remotely host desktop sessions for display on PCoIP Zero Clients in the conference rooms. The small footprint and much cooler operation of the zero clients solved the problem of the workstation failures.”

“The Teradici PCoIP technology delivered the performance needed for the 3D CAD software. Three remote workstations were able to support all of the zero clients deployed in more than a dozen conference rooms.”

For the past few years, the VDI solution and zero clients have enabled very efficient collaborations and design reviews. Some employees have also taken advantage of the VDI solution for accessing their sessions from other desktops.

Because of the success of this PCoIP Remote Workstation solution, IT enthusiastically accepted an invitation to beta test the Teradici PCoIP Workstation Access Software. When they replaced the PCoIP Remote Workstation cards with the software solution, they had the same capabilities for secure remote access from a PCoIP zero client or any device equipped with a Teradici software client.

“I downloaded the new solution from the web,” said Meredith. “The PCoIP Workstation Access Software was super easy – much easier than installing a hardware solution. Installation was literally a five-minute process, and the solution was up and running on both sides – host and client.”
To test the solution, Meredith accessed a software-equipped workstation from a local Teradici PCoIP Software client (his personal desktop system) as well as from a remote PCoIP zero client at his home. “Using the PCoIP Workstation Access Software on my desktop system, the performance I was seeing was equivalent to what I would expect from a hardware-based zero client,” said Meredith. “There was hardly any processor usage on the client. I tested it out while streaming a video and also executed our 3D CAD design application, which is an OpenGL accelerated 3D modeling environment. The Teradici PCoIP Software Client had no problems displaying the video desktop from the remote workstation.”

Besides checking the impact on the client, Meredith evaluated the overhead on the host workstation. “Since this is a software solution, I was curious about the overhead on the host and client compared to the Teradici hardware solution we have been using. We found that the software solution has very minimal overhead on the host and client workstations. We definitely plan to take advantage of this new solution, as a very flexible choice for our future projects.”

The software solution will make IT’s job easier, but the long-term benefits extend well beyond ease of support. In the past, customer requirements have forced Hi-Tek to staff projects with on-site employees or contractors so that proprietary customer design assets remain on company-managed systems. Being restricted to local talent has been a challenge, especially since some customers require software skillsets that are less common especially among the most recently graduating engineers.

“This Teradici solution will change the way we staff projects,” explained Meredith. “We can recruit non-local employees and contractors because this solution makes it quick and easy to give remote project team members access to desktop sessions that are hosted in our data center. We can’t ship out 3D models or parts of designs, but with the Teradici PCoIP Workstation Access Software we can allow a remote user to login and get their work done without compromising security.”

Designed for graphics-intensive applications such as 3D modeling, the software solution gives engineering teams the flexibility to choose the client system that makes the most sense for each situation. In the past, Hi-Tek would have had to ship a zero client to a contractor working remotely. Now, a download of the software client speeds their start up.

“With the PCoIP Workstation Access Software, I don’t have to support remote hardware or set up a VPN for remote users,” said Meredith. “Being able to turn a remote PC into a client on our network is a much more easily managed solution, without any of the usual headaches. It is exciting to propose the PCoIP Workstation Access Software to project managers. Since we are always looking for new talent, being able to consider remote candidates will give us a competitive edge while keeping our operating costs low. For our existing employees, working from home has come up in the past and this solution gives us new options for securely hosting from-home sessions. I can see how this product’s roadmap will help us expand our workforce mobility.”