Architecture and Construction | United States

Building a better remote working experience

Pond & Company

Pond brings desktop performance into its own in-house data center with Lenovo ThinkStation P3 Ultra workstations, delivering a huge performance boost for remote users.

1 Customer background

Who is Pond & Company?

Pond is a full-service architecture, engineering, planning, construction management, and environmental services firm. Pond has several mid-size offices across the US and many smaller satellite offices. Its team of more than 800 professionals work with clients in local and federal government, industrial, and corporate sectors, operating in 50 US states and 29 countries worldwide.

2 The challenge

As specialists in Architecture, Engineering, and Construction (AEC) fields, teams at Pond make extensive use of graphics-intensive applications including Building Information Modeling (BIM), Computer Aided Design (CAD), 3D rendering applications and analytical software. They also work with very large 3D laser pointclouds.

Pond supports these applications with in-house servers you would find in a typical AEC firm. Many offices have their own servers that sync project data. Pond has also utilized application cloud sharing for about 40% of projects that require BIM applications. 60% of projects are with the Department of Defense (DOD), which limits cloud storage of project data (cloud portals must be FedRamp Certified).

2 The challenge

When the COVID-19 pandemic drove a move to remote working, users felt the pain of working on large datasets. Home or remote connections can sometimes be sub-par and opening 200 MB – 2 GB of BIM models, pointclouds, and large CAD files can drastically reduce productivity. In addition, users from different offices were needed to work on the same projects, slowing productivity even further.

Even as pandemic restrictions eased, Pond was keen to preserve its flexible working practices. To make this a viable option, the company needed a way to elevate performance.

“The challenge we’ve faced is giving people fast remote access to the data and applications they use every day. We’ve got models that are hundreds of megabytes in size. Working with such large volumes of data remotely was a real challenge for our people, especially those who might not have the fastest internet connection.”

Patrick McLaughlin

Director of Virtual Design & Construction, Pond & Company

3 The solution

Rethinking remote work

Pond teamed up with Lenovo, who proposed an inspired solution: the Lenovo ThinkStation P3 Ultra SFF rack solution. It brings workstation power directly into the data center, delivering flexibility, security, and performance that have traditionally been limited to desktop computers.

The solution enables users to remotely access a dedicated workstation from a client device. Application processing and data remains in the data center, reducing reliance on WAN bandwidth. Only pixels, keyboard, and mouse clicks are securely transferred to remote clients, enabling lag-free design and collaboration.

Hardware

Lenovo ThinkStation P3 Ultra SFF rack solution (1 TB drive, Intel Core i9 processor, 64 GB RAM, 12 GB video card)

Software

Mechdyne TGX Remote Desktop
Leostream Remote Access Desktop Platform

3 The solution

More power and flexibility

With Lenovo's solution, seven dedicated P3 Ultra SFF workstations are housed on a custom-engineered 5U rack, designed in partnership with RackSolutions and available globally. Pond started by testing out a single Lenovo ThinkStation P3 workstation, then ordering a rack with seven devices. The company quickly scaled up its environment; now it's making full use of over 120 P3 Ultra workstations for remote users.

When it comes to collaboration tools and remote protocols, Lenovo takes a vendor-agnostic approach, giving Pond the freedom to choose solutions that best meet its requirements. After testing several remote software solutions, the company opted for Mechdyne TGX software to provide remote workstation capabilities. A main reason for choosing TGX was ease of use and its ability to control multiple monitors easily. Although not necessary, Leostream software was chosen to manage the TGX connections. This allows the IT department to manage users and which machines they have access to.

“We’ve had a great experience working with Lenovo. They’ve been with us every step of the way, providing guidance and putting us in touch with the right people—not only when it comes to their own hardware, but also consultants for the software side of things.”

Patrick McLaughlin

Director of Virtual Design & Construction, Pond & Company

4 The results

Today, remote working at Pond is better than ever. Lenovo ThinkStation P3 Ultra SFF delivers significantly higher performance than public cloud or virtualized servers. What's more, Pond can achieve clock speeds that are 136% higher than cloud-based computing.

For example, working on large 3D models with AutoDesk Revit and ElumTools used to take 30 minutes to open remotely on Pond's local server; with the Lenovo and Mechdyne TGX remote desktop, this now takes just 1 minute and 28 seconds. And Revit files that used to take five minutes to open remotely on AutoDesk Cloud now take less than a minute to open with the remote desktop. These performance improvements translate into greater satisfaction and productivity.

- Significantly better performance than public cloud
- 136% higher clock speed than cloud CPUs
- $1m anticipated savings over three years

“People are saving up to 1.5 hours daily on average. That’s so important for meeting deadlines and just ensuring a better working experience. Our people are happy, and it’s hard to measure the morale of our remote users, but I know morale has gotten a big shot in the arm now that their tools work so much faster.”

Patrick McLaughlin

Director of Virtual Design & Construction, Pond & Company

4 The results

Securing data, saving millions

Another advantage of bringing data and applications back into the data center is stronger security. As McLaughlin notes: “Our IT department loves the move to Lenovo because our data is now more secure, there are no copies of files on remote machines. We also do a lot of work for government departments, where we can’t host data in the cloud, so our new approach checks that box as well.”

With Lenovo, Pond has fundamentally transformed its remote working model. Instead of paying for premium cloud resources and high-end laptops, the company has transitioned to an equally flexible, but more cost-effective array of in-house workstations and lighter, less expensive laptops. It means that no matter where people choose to work, they’re guaranteed the same great performance, so Pond can keep all-important projects on track.

“I estimate that we’re going to save around $1 million over three years thanks to Lenovo ThinkStation solutions. We’ve been able to drop a percentage of our expensive cloud instances and transition away from expensive, high-powered laptops for our engineers and designers.”

Patrick McLaughlin

Director of Virtual Design & Construction, Pond & Company

Why Lenovo?

Pond first connected with Lenovo at an industry event. After learning about the Lenovo ThinkStation P3 Ultra, it quickly became clear that this was the solution that the company had been seeking.

According to McLaughlin: “The Lenovo ThinkStation P3 Ultra was impressive on paper, and when we got the opportunity to test it for ourselves, we were blown away. Performance was orders of magnitude faster than what we experienced, even on the cloud. We were able to take these tangible improvements to our leadership and make a strong case for further investment in Lenovo ThinkStation technology.”

How do you help remote teams work at their best?

Pond brings an 18-40% performance boost to data- and graphics-intensive workloads, helping its people work effectively from anywhere

Explore Lenovo ThinkStation Solutions