

Customer Story

Overseas Developers Work Securely on Linux Workstations in the U.S., with Teradici Cloud Access Software

“Teradici Cloud Access Software is just what we want from a secure remote access solution. Developers have a hands-on experience—and yet from a security perspective they’re completely hands off. They can work with intellectual property without actually touching it.”

FOUNDER AND CEO
QUANTUMROOT



Founded in 2018, QuantumRoot develops automated trading software for hedge funds. Using machine learning, statistical analysis, and backtesting, the software detects faint signals indicating a very brief window of opportunity to execute a trade at an advantage. Hedge funds typically deploy the custom software on servers located at a financial exchange, giving traders yet another advantage by shaving off microseconds of delay between order and execution.

AT A GLANCE

Challenges

- Enable international developers to securely access powerful Linux workstations located in data centers and exchanges in other countries
- Safeguard against intellectual property leakage
- Provide an excellent developer experience on remote workstations—even over VPN connections

Solution

- Enabled developers to access remote workstations using any device, from office or home, using Teradici Cloud Access Software
- Minimized latency by connecting developers to closest company data center via VPN—and then to destination data center via site-to-site VPN

Results

- Prevented loss of intellectual property by never letting data leave the data center: only encrypted pixels travel over the network
- Accelerated build and test times by an order of magnitude compared to RDP
- Expanded talent pool by giving developers in other countries secure access to workstations and tools
- Met ambitious roll-out timeline thanks to all-hours support from Teradici



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Pioneering investment managers are gaining an advantage by using analytics and artificial intelligence to forecast market movements. QuantumRoot is at the vanguard, developing custom software for hedge funds to recommend and automatically execute trades based on proprietary algorithms.

Competition for developers with the required skills is fierce. To widen the talent pool, in 2018 QuantumRoot started a new software development company in Lithuania. The time zone difference works to the company’s advantage. “Our customers want new features yesterday and will settle for tomorrow,” says QuantumRoot’s founder and CEO. “By hiring developers in another time zone, we can receive a request for a new feature on Monday and deliver it Tuesday morning.”

To prevent loss of the proprietary algorithms QuantumRoot develops for customers and its own traders, the company requires that developers code and test on remote workstations co-located in secure data centers in the U.S. and Europe. Each developer has two dedicated workstations—one for coding and testing and the other for continuous integration. Initially, developers in Lithuania worked on Windows workstations accessed via Remote Desktop Protocol (RDP). But the lag between typing and response was irritating, and some developers preferred Linux development tools. The company wanted a solution that performed better over a VPN and also gave developers the option to work in a Linux development environment.

After testing multiple Linux remote desktop protocols, QuantumRoot found its solution in Teradici Cloud Access Software, based on PCoIP technology. Installed on the client device and remote workstations, Cloud Access Software gives developers the same experience they would have on a local workstation. “Cloud Access Software works on both Windows and Linux workstations,” the CEO says. “It performs better over a VPN connection than xRDP [the Linux version of RDP], NoMachine, and VNC—and build and test times are an order of magnitude faster than they are with RDP.” Developers like the PCoIP experience better because they can change the screen size and their coding and testing tools are more responsive—especially over low-bandwidth connections.



Cloud Access Software meets QuantumRoot's stringent security requirements. Intellectual property never leaves the data center: only encrypted pixels travel over the network, so data can't be intercepted or copied. "Teradici Cloud Access Software is just what we want from a secure remote access solution," says the CEO. "Developers have a hands-on experience—and yet from a security perspective they're completely hands off. They can work with intellectual property without actually touching it."

The company configured Cloud Access Software to allow copy and paste onto the corporate network—but not off the network, to prevent data loss. "Developers like that they can copy and paste code inbound-only with Cloud Access Software," the CEO says. "With RDP we can't enable or disable copy and paste separately in each direction." For additional security, QuantumRoot filters traffic as it enters and exits the company's networks, and centrally manages credentials.

Teradici helped QuantumRoot get the solution up and running quickly. "It's not just Teradici's technology that appeals to us, but also its people and support," the CEO says. "We were trying to put things together at odd hours or on holidays. Teradici was great about responding to our custom feature requests and questions about odd ways to use the software."

Now QuantumRoot has the flexibility to hire developers anywhere in the world, giving them their choice of Windows or Linux development environment. Summing up, the CEO says, "Teradici Cloud Access Software empowers our developers to access their favorite tools on powerful machines that are safely locked up in our data centers. It's as if the machine were right there but there's no risk of data loss or intellectual property leakage."

