



Case Study

Visual Effects Leader Quickly Opens Studios Where the Work Is—with Virtual Workstations and Teradici Cloud Access Software

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GRAHAM JACK
CHIEF TECHNOLOGY OFFICER
DNEG

DNEG

Founded in 1998, DNEG is one of the world’s leading visual effects (VFX), animation, and stereo conversion companies for feature film and television. In the last few years, the company’s artists have received four Academy Awards, five BAFTA Awards, and eight Visual Effects Society Awards. DNEG has grown from one small studio in London to eleven principal offices in London, Vancouver, Mumbai, Los Angeles, Chennai, Montréal, Mohali, and Hyderabad.

Challenges

- Gain the agility to quickly move into new office space and provide exactly the right number of workstations
- Deliver outstanding color accuracy and interactivity on Wacom pen-interface tablets
- Reduce workspace noise
- Stay compliant with industry security requirements
- Protect creative content and clients’ trust with “defense-in-depth” security strategy

Solution

- Virtualized artist workstations and housed them securely in a centralized data center
- Provided high-performance access to virtual workstations using Teradici Cloud Access Software and PCoIP Zero Clients
- Continued using existing hardware and peripherals, including Wacom tablets
- Automated management of zero client endpoints with Teradici PCoIP Management Console

Results

- Provisioned virtual workstations for 200 artists in new studio in record time
- Matched or exceeded performance of physical graphics workstations
- Covered the cost of Teradici software and zero client endpoints with savings from sharing server and storage resources among artists
- Increased security and complied with industry regulations by moving creative content off workstations

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“DNEG is all about using technology for storytelling,” says Graham Jack, the company’s Chief Technology Officer. “We’re constantly looking for ways to make artists more effective. The solution might involve workflow, software, or just adding processing power.”

In most of the company’s offices, VFX artists work on graphics workstations beneath their desks. DNEG purchases workstations with very powerful processors and graphics processing units (GPUs) to meet the demands of applications such as Maya for computer animation and modeling; Clarisse for look development, lighting, and rendering; Houdini for effects and simulation; and Nuke for digital compositing.

Although performance was good, the physical workstations inhibited expansion. “We need to quickly set up teams of artists in locations where there’s a work opportunity or tax incentives,” Jack explains. But preparing new studio space was costly and time-consuming because of the workstations’ power and cooling demands. Some spaces could not meet the demands and had to be ruled out.

The workstations were also costly. They were spec’ed for the most demanding tasks, which meant they were frequently underutilized. They had to be lockable and tamper-evident to protect content. And they were noisy, a distraction during the creative process.

DNEG decided to investigate virtual workstations when it expanded to Montreal. The company would move into at least one temporary space before settling in its permanent new studio. Bringing in the necessary power and cooling solutions would be expensive and time-consuming—and DNEG would just have to do it all over again in the permanent location. “We needed a virtualization technology that took away the noisy, power-hungry workstations under our artists’ desks but kept the creative content secure,” says Daire Byrne, Global Head of Systems for DNEG.

Topping the company’s list of requirements for a virtual workstation solution were stability, color accuracy, and support for Wacom pen-style tablets that DNEG’s artists like to use.

Today DNEG delivers virtual workstations to 180 artists in its temporary Montreal studio using Teradici Cloud Access Software. The company chose Teradici after a 3-month, side-by-side comparison with another virtual desktop solution. “Teradici Cloud Access Software has better accuracy, compression, and support for Wacom tablets than other solutions,” Jack says. “We also felt extremely well supported by Teradici during the trial.”

Housed in a nearby data center, the virtual workstation infrastructure for the Montreal studio consists of 36 Dell servers, each hosting five or six virtual machines, and two NVIDIA P40 graphics cards. The virtual servers access 230 TB of virtual SAN storage over a high-speed network.

Artists access their virtual workstations from 10ZiG Tera2 PCoIP Zero Clients, with full-frame rendering. With no hard drive or fan, the zero clients are blissfully quiet. The IT team uses a simple browser-based management tool, PCoIP Management Console, to provision the zero clients, match them to the Remote Workstation Cards, create reports, and update firmware.



Products used

PCoIP Remote Workstation Cards

Teradici Cloud Access Software

10ZiG PCoIP Zero Clients

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DAIRE BYRNE
GLOBAL HEAD OF SYSTEMS
DNEG

Artists like the experience. They don't have to change the way they work because Linux applications and Wacom tablets behave the same as they do on physical workstations. “Our new environment is virtualized and hosted on-premises, which keeps our office more comfortable and quiet,” Byrne says. High-resolution files load and refresh more quickly because servers connect to the high-speed data center fabric. That helps artists complete projects faster—or try out more effects in the same amount of time.

Moving to the permanent Montreal studio will be fast and simple. No special power supplies, no need for expensive chillers outside the building. The IT team will simply connect the zero clients to the high-speed network.

Housing workstations in the cloud provides another layer of security and compliance. DNEG takes data security very seriously because leaked content can affect clients' box-office revenues. Teradici Cloud Access Software is part of DNEG's “defense-in-depth” strategy. Creative content never leaves the data center: only encrypted pixels travel over the network to the zero client. “Teradici Cloud Access Software allows our studio to increase the security of creative content, stay compliant with MPAA [Motion Picture Association of America] and TPN [Trusted Partner Network] requirements, and use the well-established and cost-effective PCoIP Zero Clients,” says Byrne.

TCO dropped. Moving to virtual workstations enables DNEG to oversubscribe CPU and GPU resources, which paid for the costs of zero clients and the Teradici software licenses. “When you consider the cost savings from not having to worry about workstation power and cooling, our overall costs dropped,” Jack says. Jack concludes, “Virtualization is the future. Any VFX firm that's not using virtual workstations is underutilizing its workstations, leading to higher costs. Teradici Cloud Access Software is the best solution because Teradici understands VFX challenges and is committed to solving them.”

