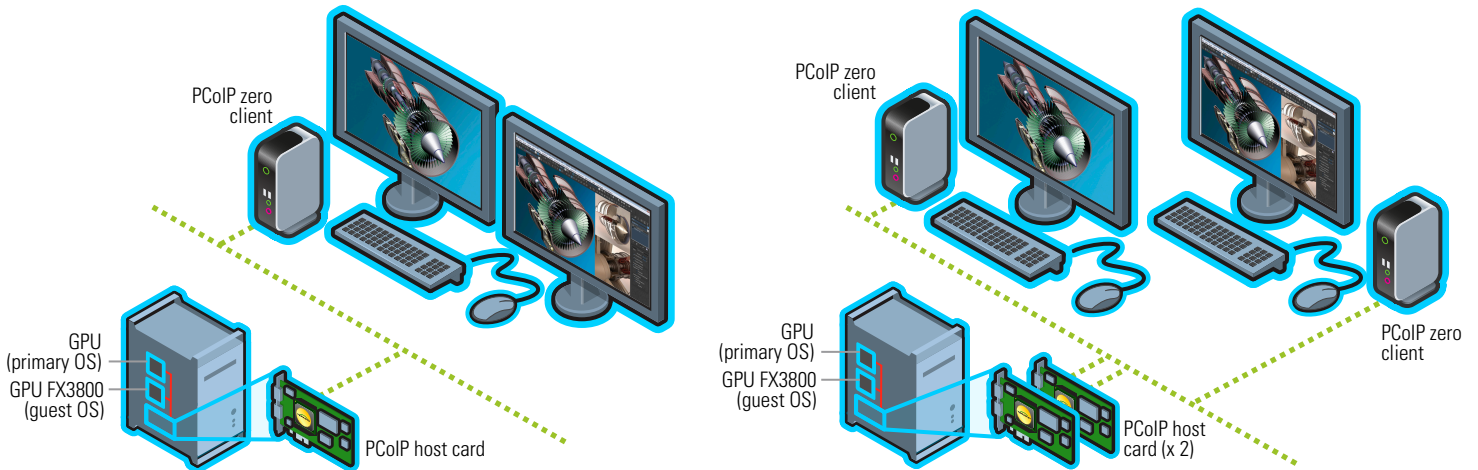


## Deployment examples leveraging direct assignment technology for remote graphics



single user, multiple OS, dual monitors, single session

multiple users, single OS per user, single or dual monitors

# Work remotely with graphics-intensive applications using PCoIP® Technology and Parallels® Workstation Extreme

There are myriad reasons why businesses deploy remote desktops: enhanced security, reduced management costs, effective collaboration, remote access, a quieter, less cluttered work area, and savings in space, electricity and cooling. Traditionally though, remoting has not been a practical reality for businesses needing to use graphics-intensive applications because it involves sending vast amounts of data over the network. This clogs up the network, particularly over long distances where a wide area network (WAN) is used, and effectively renders the application unusable as latency increases and images render too slowly.

PC-over-IP® (PCoIP®) technology is a remote workstation and desktop solution, designed and developed by Teradici specifically to tackle this problem. The PCoIP protocol reduces the amount of data being transmitted by sending only the pixels that change and compressing them so the overall network payload is vastly smaller. This means users can experience native performance and responsiveness – even from heavy 3D graphics applications – while the business as a whole can enjoy the usual security and support benefits associated with remote solutions.

PCoIP technology allows enterprise PCs and workstations to be centrally managed in a data center while providing high resolution full frame rate 3D graphics and HD media. On the host PC, all remote encoding and compression are performed entirely by the PCoIP host card with no additional load on the host CPU. This means the host PC can devote all of its processing power to running applications as quickly as ever, without the need to upgrade machines to accommodate the remoting technology itself.

The performance of graphics-intensive applications is further enhanced by support for full frame rate dual-DVI video, bi-directional stereo audio and full USB peripheral interoperability, creating a user experience comparable to having a workstation under the desk.

Parallels, the leader in desktop virtualization, now supports the direct assignment of PCoIP Host Card in virtual machines. This means that a single workstation can now support multiple users (2 to 3), as each virtual machine has its own dedicated graphics, PCoIP zero client (including USB and Audio), and network adapter.

## Maximizing your Investment with Parallels Workstation Extreme

While the benefits of a centrally-managed IT infrastructure are obvious, the reality of housing large numbers of PCs in the datacenter is not particularly pragmatic in terms of space, power consumption and cooling. However, several workstation manufacturers have provided a solution to this problem by integrating the PCoIP protocol into rack-mounted workstations. These can be combined with Parallels Workstation Extreme to enable IT departments to provide multiple, simultaneously-running workloads on a single high-end workstation.

Parallels Workstation Extreme is a powerful, next-generation virtualization platform specifically developed to give end-users dedicated graphics, networking, and PCoIP resources in multiple guest workstation environments. This means that even GPU-intensive workloads can be consolidated on to a single, high-performance workstation without sacrificing the performance of graphically demanding 2D/3D applications.

By enabling multiple remote users to simultaneously leverage one workstation, organizations can fully utilize their hardware and avoid the expense of providing one computer per user. Each workload is fully isolated, so security is not compromised, while the company benefits from consuming less power, reducing ambient noise and heat, saving space, and promoting green computing.

### SOLUTION SPOTLIGHT

## Digital Content Creation

In an effort to control costs, increase business agility, and ensure it has the best expertise possible on its projects, a digital content creation company may work with a number of freelance and remote designers working in a range of locations. Providing and maintaining computing facilities in this scenario is costly and hard to manage, and is made more difficult because most remote desktop solutions do not support 3D graphics applications. With PCoIP technology, organizations can now host desktops centrally and provide remote workers with secure, cost-efficient “zero clients” to deliver native high-performance graphics to users’ desks.

The savings are further enhanced by deploying high-end workstations virtualized with Parallels Workstation Extreme, halving the number of machines needed. Virtual machines can be quickly and easily added or removed as designers join or leave projects, increasing flexibility and ensuring security.

### SOLUTION SPOTLIGHT

## Financial Services

In the financial services industry, security is paramount and centralized computing environments are common. This is challenging for those involved in financial modeling, such as traders, who are often seen with one or more workstations under their desks to support the graphics-intensive analysis applications they use. This compromises security, complicates moves, creates a significant amount of noise and heat in trading offices, and uses a large amount of (often very expensive) real estate.

With PCoIP technology and Parallels Workstation Extreme, all the workstations can be moved to a data center, often at a less costly address. Workloads can be consolidated onto half the number of workstations, delivered remotely over a WAN. This reduces the business’ costs and increases security without impacting the performance of graphically intensive financial modeling applications.

## Parallels Workstation Extreme Virtualization Solution

Parallels Workstation Extreme Virtualization Solution enables the deployment of multiple users per workstation via virtual machines, each with its own dedicated graphics card, PCoIP Host Card, and network adapter.

### SYSTEM OVERVIEW

A Teradici PCoIP deployment with Parallels Workstation Extreme requires:

Workstation	<ul style="list-style-type: none"> <li>Intel Processor 5500 or 5600 Series with the 5520 chipset (which has Virtual Technology for Direct I/O enabled)</li> <li>Sufficient power and PCI slots to support 3 graphics cards</li> <li>2 PCoIP Host Cards</li> <li>Optional: multi-port network adapter</li> </ul>
Host graphics card	<ul style="list-style-type: none"> <li>Any supported by RHEL/CentOS</li> </ul>
Guest virtual machine graphics cards	<ul style="list-style-type: none"> <li>NVIDIA Quadro FX 1800, FX 3800, FX 4800, FX 5800</li> <li>NVIDIA Quadro 2000*, 4000, 5000, 6000* (*Supported on release)</li> <li>AMD FirePro RG220, V4800, V5800, V8800</li> </ul>
Network adapter (optional)	<ul style="list-style-type: none"> <li>Any supported by the planned guest OS (i.e. Windows 7)</li> </ul>
Operating system	RHEL or CentOS 5.5/5.4/5.3 64-bit Host OS software
Guest OS Licenses for Windows deployments	2 zero clients (up to 3 per workstation depending on PCI slot consumption by PCI devices)