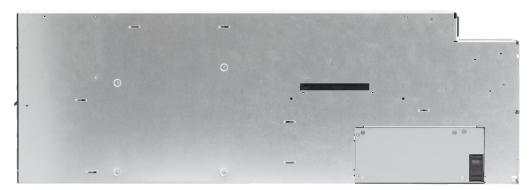# ENGINEERING & DESIGN
Solution Brief

> **Technology enhancements by ClearCube address key issues for professional engineers and designers who use CAD/CAM/3D/Simulation and Geospatial applications that demand full graphics capabilities. These advancements provide incredible performance experience from secure zero clients connected to remote access engineering workstations located in remote datacenters.**

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Rack Mounted
Blade PC

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A-Series
Blade PC

Remote processing with fast local

display performance

Designers and engineers need instantaneous graphics performance with no processing delays. ClearCube Engineering Solutions deliver 60 frames per second (300 megapixels per second) to dual 2560x1600 displays from rack mount Blade PCs/Workstations with no compromises in performance over distance.

Our Blade PCs have the same feeds and speeds as traditional desktop workstations, but with form factor changes that provide high-rack density, better manageability and integrated PCoIP host adapters for high speed connection to zero client devices. A6106SLW Blade PCs support single slot NVIDIA Quadro P400, P1000, P2000, and P4000 GPUs + Dual/Quad Host Card.

Unparalleled data security

For more complex workloads, the single processor M1032W and the dual processor M1034W 10-core Xeon workstations support dual slot GPUs such as the highest performing NVIDIA Quadro P6000 and P5000 adapters along with integrated PCoIP host compression adapters. Even though all the CPU/GPU processing is datacenter host-rendered, engineers/designers/ analysts will think their workstation processing engines are still under their desks because the performance will be the same, but they'll wonder where the noise, heat, and cable clutter went.

Another benefit is application compatibility. The PCoIP protocol, which just sends pixel changes and redirected USB signals from the host-rendered source, is certified with numerous workstation ISVs including Dassault Systemes (CATIA, Solidworks), Autodesk (3ds Max, Softimage), Siemens-UGS (NX, Solid Edge), Schlumberger (Petrel, GeoFrame), etc.

Engineering companies want to ensure their intellectual property is secure. They want no data to reside at the desktop on hard drives. Youcannot provide this capability with standard PCs where data resides on local hard drives for GPU rendering. With ClearCube centralized desktop infrastructure, (CDI) you can remove all data from the desktop area.

Zero clients are stateless devices with no operating system, no memory, and no storage. All data resides in the secure datacenter on Blade PCs or Engineering Workstations. No data travels across the IP connection — only pixel change updates are sent to the displays.

M-Series
Blade PC

M-Series
Blade PC

Solving the last mile network problem

CAD collaboration often involves transferring huge files to the end point PCs for processing. With distributed PCs, the 1Gb Ethernet network is the choke point for large file transfers. One costly remedy is to replace 1GbE cabling with 10Gb Ethernet infrastructure out to the desktops to speed file transfer.

The better alternative is to leave the existing 1Gb Ethernet in place, and expand network bandwidth for the very short distance between the M1034W workstations and the 10Gb Ethernet switch in the datacenter. This

can only be accomplished if the workstations are in the datacenter near the switch, allowing huge file transfers to travel only short distances. This workstation/network switch proximity can be accomplished using M1034W workstations with 10Gb Ethernet adapters, saving you massive M1034W Blade PC — Powerhouse infrastructure cabling costs. Only pixel changes are sent between the M1034W and the zero client to Dual Xeon PCoIP Engineering which it is connected. The bandwidth requirement from the datacenter host computer to the Workstation. engineering desktop is minimal.

Alternative for remote users migrating large files can be reduce from 10's of minutes to seconds by locating the workstation closer to the data. By having the workstation in the datacenter and providing remote visualization, the user experience can be greatly increase.

Business Continuity

CAD/CAM engineers and geospatial analysts need to be happy and busy creating new designs and processing enormous amounts of data. The disruption of work is costly and unacceptable. If a traditional PC fails, restoration of service is time and labor-consuming, with negative ramifications for engineers on scheduled deliveries to their teams.

Centrally located and managed Blade PCs have higher uptimes than standard PCs, and restoration of service is much quicker. If a user's primary Blade PC experiences down- time, the user can be switched to a spare Blade PC dynamically to immediately restore service and business continuity. ClearCube management software provides a summary snapshot of how the environment is performing. If a user loses his session due to network or device failure, multiple

administrators are notified via visual and email alerts. Management of centralized resources is easier than trying to manage distributed PCs on a network. It's easier to access equipment in racks, easier to troubleshoot issues, and easier to add software and services. The results are increased productivity and reduced operating costs.

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