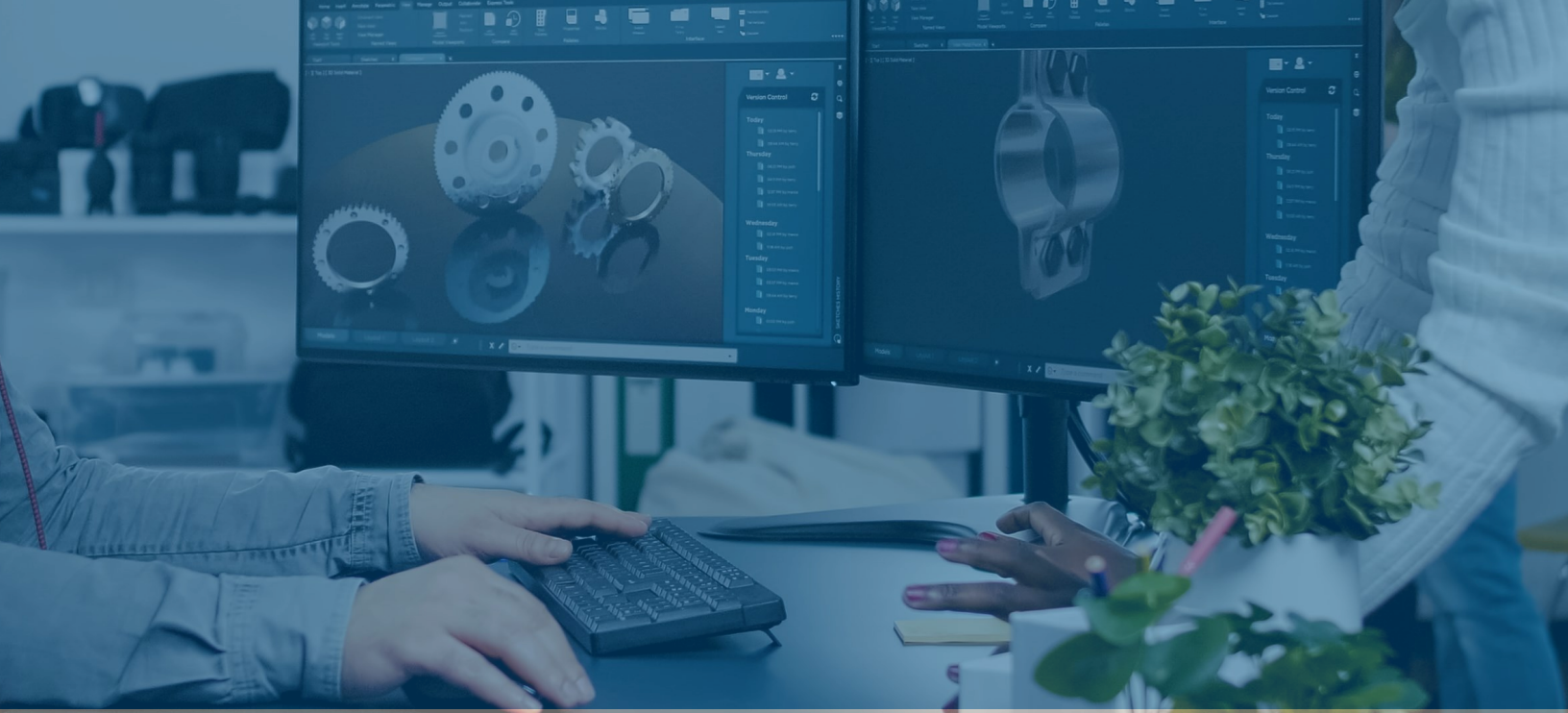# CASE STUDY

HUCKABEE

ClearCube

Re-Equipping an AEC Industry Leader:

A Case Study on the Triumph of Blade Computers Over Virtual GPUs for CAD-Intensive Users.

In the ever-evolving worlds of architecture, engineering, and design, technological advancements play a pivotal role in transforming design processes and boosting efficiency. This case study delves into the journey of a large architectural, design, and engineering firm that once embraced virtual computers with virtual GPUs, only to discover that dedicated A-Series blade computers from ClearCube Technology outperformed the virtual setup in terms of responsiveness, rendering capabilities, and cost-effectiveness.

BACKGROUND:

The firm, Huckabee, has a reputation for pushing the boundaries of innovation in the industry, and its team values the role that technology plays in empowering this kind of leading innovation. Seeking to streamline their design workflows and facilitate collaboration among their design-heavy team members, Huckabee initially transitioned from a mix of conventional and blade PC workstations to a virtual environment with virtual GPUs. The virtual setup allowed designers to access shared computer resources from any location, providing flexibility for a recurring monthly charge, but performance was disappointing.

THE SHIFT TO VIRTUAL COMPUTERS WITH VIRTUAL GPUS:

In their pursuit of enhanced productivity and scalability, Huckabee migrated from dedicated blade computers to a virtualized infrastructure. The implementation of virtual machines and virtual GPUs promised significant benefits, such as reduced hardware costs, centralized management, and the ability to accommodate a geographically dispersed team. As you will see as you continue to read, the promise did not deliver for their more CAD-intensive users.

EXPECTATIONS AND CHALLENGES:

With the virtual environment in place, the CAD-intensive users anticipated seamless design experiences with accelerated rendering and real-time collaboration; however, shortly after the transition and for an extended period thereafter, they encountered several unexpected challenges that negatively impacted their productivity and creativity.

Slower Responsiveness:

Rendering Bottlenecks:

Performance Limitations:

Designers noticed a noticeable lag in responsiveness while using virtual computers with virtual GPUs. This latency affected their ability to work efficiently, leading to frustration and decreased design output.

The virtual GPUs struggled to cope with intensive rendering tasks, often leading to delayed project timelines and compromised design quality.

Despite significant advancements in virtual GPU technology, the virtual machines could not match the raw computational power of dedicated blade computers.

THE TESTING PHASE:

Concerned about the decreasing efficiency and the impact on project timelines, Huckabee decided to conduct a comprehensive performance comparison between their previous blade computers and the virtualized environment.

THE BENCHMARKING PROCESS:

To ensure accurate results, Huckabee devised a series of standardized benchmarks that represented typical architectural design tasks. These benchmarks included 3D modeling, rendering, simulation, and real-time visualization tests. The tests were conducted by randomly selecting designers to avoid biased

RESULTS AND REVELATIONS:

The benchmarking results unveiled the stark contrast between the two setups. The blade computers consistently outperformed the virtual computers with virtual GPUs across all tested scenarios.

1. Responsiveness: The blade computers demonstrated instantaneous response times, providing a seamless design experience compared to the noticeable delays experienced in the virtual environment.

2. Rendering Speed: The rendering process on blade computers was significantly faster, enabling designers to complete complex renderings in a fraction of the time it took on virtual machines.

3. Real-time Visualization: Blade computers offered smoother and more interactive real-time visualization, allowing designers to make instant adjustments and iterate rapidly.

4. Cost-Effectiveness: Surprisingly, the total cost of ownership over time favored the blade computers, as they required less maintenance and fewer hardware upgrades.

REVERTING TO BLADE COMPUTERS:

Armed with the empirical data, Huckabee made the decision to revert to using dedicated blade computers for their design teams. The transition involved minimal disruption, and designers were relieved to return to a familiar and high-performance work environment. The architects, engineers, and designers are ecstatic with the improved experience and efficiency. As Huckabee acquires new firms, they keep coming back to the A-Series blade workstations by ClearCube as their preferred and standard platform for CAD-intensive users.

CONCLUSION:

In this compelling case study, we witnessed how the allure of virtualized environments with virtual GPUs initially captivated a large architectural, design, and engineering firm. However, when it came to the demanding world of architectural design, the tried-and-tested blade computers emerged victorious, delivering unparalleled responsiveness, rendering capabilities, and overall cost-effectiveness.

Through this journey of exploration and experimentation, Huckabee Architects reaffirmed that as technology continues to evolve, IT teams supporting architects, designers, and engineers must choose solutions that allow enable their most skilled and critical employees to remain at maximum productivity.

We are ready to start a conversation with you about how ClearCube's CAD-optimized computers could help improve your team's productivity, performance, and budget. We are experts in computers for CAD professionals, and no matter where you are in your education, research, shopping, or buying process, we would enjoy helping you get the information you need. Let's start the conversation today...
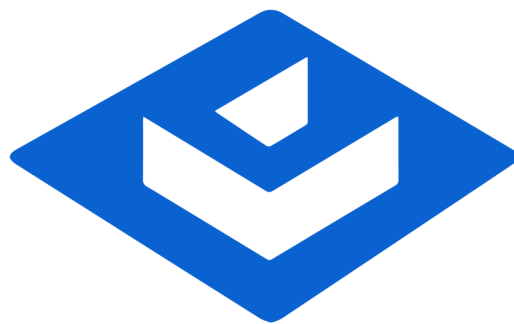
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