ENHANCING BIM & CAD PERFORMANCE IN THE CLOUD

Leading AEC Firm Elminatrd Lag and Transform Collaboration

Case Study

ABOUT THE CLIENT

An engineering and technical services firm based in the north-central region of the US is recognized as a leader among North America's top firms. With hundreds (1300+) of employees working across multiple (15) office locations across the USA, the company is dedicated to delivering innovative infrastructure solutions for diverse projects.

Their teams specialize in managing complex engineering challenges using industry-standard software tools such as Autodesk Revit, AutoCAD, and other advanced design and engineering applications.

THE CHALLENGE

Maintaining seamless communication is critical for managing construction schedules and controlling costs. Regular collaboration between onsite engineering teams and clients necessitated real-time communication, which was hindered by the firm's geographically dispersed teams.

The firm relied heavily on advanced CAD and Building Information Modeling (BIM) tools like Autodesk Revit and AutoCAD for design and engineering workflows. However, scaling their infrastructure to support these resource-intensive applications presented several challenges:

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The Cloud Made Simple.

CHALLENGES

- **Performance Bottlenecks:** Latency and lag in rendering 3D models and large-scale Revit projects disrupted productivity.

- **Collaboration Delays:** Sharing complex design files and working collaboratively on BIM projects was slow and inefficient.

- **Data Integrity Concerns:** Ensuring the integrity of large, complex design files (such as Revit models) during collaboration across teams was increasingly difficult. Versions of files often become inconsistent or corrupt when transferred across systems.

- **File Transfer Security:** As project data grew, securely transferring large files between multiple teams and external partners became a significant concern. Unprotected file transfer channels exposed sensitive design data to potential breaches.

- **Infrastructure Limitations:** Existing platforms struggled to meet the high computing and GPU requirements of engineering workflows, leading to downtime and frustration for end-users.

The firm needed a high-performance, secure solution capable of handling compute-intensive engineering applications while maintaining data integrity, ensuring secure file transfers, and providing enhanced authentication.

THE SOLUTION

IronOrbit implemented its GPU-accelerated INFINITY Workspaces, optimized specifically for engineering and design software like Autodesk Revit, AutoCAD, and other CAD tools. This solution delivered:

- **Unparalleled Performance:** Leveraging NVIDIA RTX GPU technology ensured fast rendering and smooth performance for even the most complex 3D models and BIM workflows. The solution eliminated lag and latency, making remote workflows as seamless as working on local high-end workstations.

- **Real-Time Collaboration:** Centralized project data enabled engineers to work on shared Revit files simultaneously without delays, enhancing collaboration and reducing project turnaround times.

- **Enterprise-Grade Security**: SOC 2, Type 2-certified infrastructure safeguarded intellectual property and ensured compliance with industry standards.

- **Effortless Scalability:** The firm could instantly scale resources to meet project demands, adding users and deploying applications as needed.

- **Data Integrity:** IronOrbit's cloud solution ensured that all project files, including large Revit models, remained consistent and intact across all versions. Built-in version control and file synchronization tools automatically detect and resolved conflicts, ensuring accurate collaboration.

- **Secure File Transfers:** IronOrbit's secure file transfer protocols and end-to-end encryption safeguarded sensitive design data throughout the entire transfer process, preventing unauthorized access.

- **Multi-Factor Authentication (MFA):** To further secure access to the firm's critical systems, IronOrbit implemented MFA across all user accounts. This additional layer of protection ensured that only authorized users could access sensitive design files and applications, mitigating the risk of unauthorized access or data breaches.

NVIDIA RTX GPU TECHNOLOGY

SOC 2 Type 2 CERTIFIED INFRASTRUCTURE

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THE IMPACT

The migration to IronOrbit's cloud solution transformed the firm's ability to manage design and engineering workflows, delivering measurable results:

- **Productivity Gains:** Engineers experienced a notable reduction in rendering times for complex Revit and CAD files.

- **Improved Collaboration:** Shared access to centralized BIM models reduced project delays, enabling teams to complete workflows 30% faster.

- **Data Integrity:** Version control and secure synchronization improved accuracy and consistency across all project files, reducing errors due to data corruption or inconsistency.

- **Cost Savings:** Optimized IT infrastructure reduced operational costs by 20%.

- **Enhanced User Experience:** Engineers reported smoother performance and fewer disruptions, even for resource-intensive applications.

- **Enhanced Security and Compliance:** MFA ensured that only authorized personnel had access to sensitive data, significantly reducing the risk of unauthorized access. IronOrbit's SOC 2 Type 2 compliance also enhanced the firm's ability to meet regulatory requirements, giving it a stronger compliance posture.

By centralizing Revit and CAD workflows in a secure cloud environment, the firm gained unparalleled flexibility. Engineers and external partners could securely access tools, models, and project data from anywhere, knowing their work was protected and always available.

THE FEEDBACK

The firm's enterprise technology lead stated:

> "We needed a reliable and scalable VDI provider that could meet our performance demands for tools like Revit while delivering excellent ROI. IronOrbit was the best fit for us, resolving our technical challenges and demonstrating a deep understanding of our industry needs."

FUTURE VISION

This transformation has equipped the firm to embrace the demands of an increasingly digital engineering landscape. By leveraging IronOrbit's scalable infrastructure, they are now prepared to handle future growth and tackle more complex projects without compromising performance, data integrity, or security.

IronOrbit's cutting-edge technology and ongoing support have empowered the firm to lead in the competitive engineering sector, ensuring their teams can focus on innovation and delivering world-class infrastructure solutions.

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IronOrbit is Recognized in the 2023 and 2024 Gartner Magic Quadrant for DaaS (Desktop as a Service) and is included in the 2021 & 2023 Gartner Market Guide for DaaS.

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