

PLM Engineering Virtual Desktop Infrastructure: Enhancing Engineering Innovation & Collaboration

CIMdata Commentary

Key takeaways:

- *Developing new and innovative products faster by collaborating on complex engineering information is critical for business success*
- *New cloud based tools positively impact product development by providing connections to additional company resources*
- *Gaining access to 3D corporate knowledge anywhere and on any device provides a competitive advantage*

Engineering Information Collaboration

The amount and complexity of engineering information required to develop innovative products continues to grow at an unprecedented rate. The capabilities and tools that provide access to information for most engineers lags behind the increasing level of complexity demanded to create innovative products. The need to collaborate on highly detailed 3D solid models has eclipsed traditional tools. A global workforce has added additional pain to the process of interacting with colleagues on important 3D product design issues.

What most companies need is a way to share complex 3D information and collaborate both internally and externally without the traditional challenges of time, location, and access to knowledge. The inability to share detailed and complex 3D information can often prevent true collaboration and lead to inaccurate conclusions, delays, and a failure to accurately portray needed information.

Providing both secure access to 3D data and support for collaboration can provide significant benefits to a business. This is true in a remote office, on the shop floor, out in the field, or even at a supplier or customer site. With the right tools, innovative products can be produced and delivered by global development teams around the world with increased security.

State of the Market

Modern businesses need to focus on innovation, time to market, quality, efficiency, and cost reduction. To create, modify, and interact with 3D data, high performance hardware is required but is often not broadly deployed. Many people need team access to high-level 3D information during the product design process. Unfortunately, there is not an easy way to collaborate on this information without an expensive, high-performance, engineering workstation. As important intellectual property (IP) is included in complex 3D models, they must be secured at all times. Most companies provide inadequate access to product information vaults, and even when information is available, collaborating with others is often difficult, or impossible. This leads to data latency that creates out-of-sync product information, mistakes, and often results in extensive product design re-work.

How to collaborate with product design teams on 3D product information safely, securely, and broadly becomes a challenge that is not easily solved with today's standard technologies. Not everyone needs access to all the data all the time. The goal is to allow the right level of access to the right data at the right time during the product design process. Along with direct access to complex 3D data, comes the need for collaboration by anyone, anywhere, at any

time. A global business cannot achieve high levels of innovation if important 3D CAD data is locked tight in a vault where only one or two people can get access in early product design stages with limited ability for collaboration.

Focus On HP's PLM eVDI

With their partners, NVIDIA, VMware, Citrix, and Microsoft, HP has developed a secure virtual collaboration environment called engineering Virtual Desktop Infrastructure (eVDI). This solution provides secure access to complex 3D information by global partners and supports faster product innovation.

The HP PLM eVDI solution provides technology to enhance collaboration between global teams, increases productivity around complex 3D models, provides improved security for all users, and supports the ability to work with large product design models and data. The secure environment provided by HP's PLM eVDI also supports access from mobile devices; improving efficiency and decreasing time to market. These capabilities support a more connected product design process that leads to more innovative products with higher quality and faster time to market.

At its most basic level, virtualization provides access to low-cost servers, with HP's hypervisor software that can share or combine CPU, disk, memory, and graphical processing unit (GPU) resources as required. This combination of hardware and software keeps data centralized, and provides higher performance and greater security. This kind of technology also provides an environment on which the deployment of internal and external cloud-based solutions can be undertaken.

Virtualization supports the efficient use of limited resources. Most of the time one user requires the use of one GPU and some CPU with appropriate memory. No one uses their desktop computing resources 100% of the time. With virtualization, computing resources can be shared by multiple people as required. The technology allows this to be transparent to users, and the end result is more efficient use of valuable computing power. This approach also provides flexibility to allocate extra computing power to those users who occasionally need more.

These tools are already being used in real product development scenarios. For example, at HP they have diverse teams working on various projects related to product design. These teams work with complex 3D models that require constant collaboration to support product development. They have been using virtualization in engineering for some time. The goal of the solution was to provide the right level of access to the right information at the right time. While at the same time providing high levels of security to protect IP, and provide speedy access to information. Other companies can now take advantage of the advanced work that HP has already perfected around these virtualized tools.

The HP PLM eVDI solution provides faster access and improves collaboration speed for product development teams as it reduces delays while large CAD files move through the network. Additionally, the eVDI solution can be part of a reduction of Total Cost of Ownership because it reduces the number of data vaults and instances required. This leads to quicker product upgrades, and reduces time and effort for product integrations.

Conclusion

Increasing innovation and supporting global access to 3D product design information is a challenge for every company. The capabilities inherent in a virtualized engineering collaboration solution support a more innovative product design activity. Global teams can

more easily collaborate around complex 3D information and achieve innovative solutions to engineering challenges with better results.

HP's PLM eVDI provides a solution that can help any company improve their business outcomes, ensure responsiveness, protect their intellectual property, and take advantage of new and secure mobility options. These technologies become a very important part of any business that desires to increase their design integrity with complex 3D geometry. This will clearly lead to more innovative products and greater support to increasingly global business.

Recent CIMdata consulting engagements have highlighted the need for greater access to information by more people early in the design process. In our experience, earlier and broader collaboration leads to more innovation products with higher quality.

CIMdata believes that these types of solutions will become a requirement for anyone who attempts to deliver innovative global products to the market. When products require complex 3D models and high levels of global collaboration, HP's PLM eVDI technology will be required to achieve success.

About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design and deliver innovative products and services through the application of Product Lifecycle Management (PLM). CIMdata provides world-class knowledge, expertise, and best-practice methods on PLM. CIMdata also offers research, subscription services, publications, and education through international conferences. To learn more about CIMdata's services, visit our website at <http://www.CIMdata.com> or contact CIMdata at: 3909 Research Park Drive, Ann Arbor, MI 48108, USA. Tel: +1 734.668.9922. Fax: +1 734.668.1957; or at Oogststraat 20, 6004 CV Weert, The Netherlands. Tel: +31 (0) 495.533.666.