



Engineer



Engineers use high-end workstations to drive industry and process transformation.



What an engineer does

An engineer is employed to design the products that are integral to global economic development. They use computer-aided design (CAD) and computer-aided manufacturing (CAM) software for designing products, but also for visualizing the results for presentation to managers and clients.

As an engineer, your work requires a powerful workstation. It will have a high-end processor and professional graphics that have been certified to work with the CAD and CAM software you use. However, you will also need to store assets in a shared collaborative space, as multiple engineers are likely to be working on different aspects of the same project. You may be rendering visualizations locally or sending them to a server for remote rendering – or even real-time viewing in virtual reality (VR).

Remote workstations

The way workstation power is delivered to an engineer is changing. In the past, it was necessary to place the workstation in the same room as the engineer, but these are powerful devices that have significant thermal systems. To provide the best working environment for engineers, these workstations can be moved to a central location for easy management, environmental control and security. The workstations can be rack-mounted and accessed remotely via keyboard, video, mouse (KVM) connections.

Virtualized workstations

It's even possible to deliver a workstation desktop via a virtualized environment over a regular Ethernet network. This can allow the modern engineer to work from anywhere and not be tied to a specific desk in the design studio. It could even be possible for engineers to work remotely, without having to worry about carrying storage-heavy assets.

The global engineering software market was worth

\$20 billion

in 2014

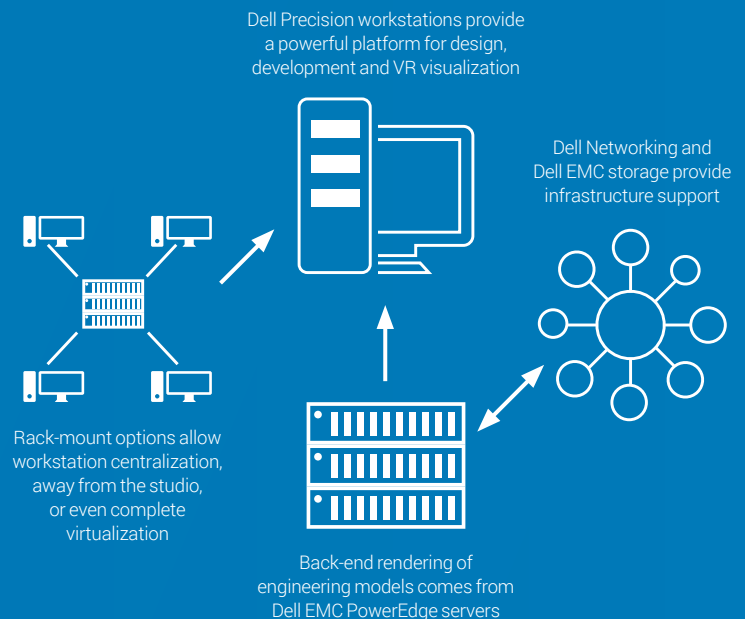
The global CAD market is expected to grow

7% per year

from 2017 to 2023

www.businesswire.com/news/home/20150603005668/en/Research-Markets-Engineering-Software-CAD-CAM-CAE

and www.bisresearch.com/industry-report/global-cad-market-2023.html





Case study

gkp fassadentechnik needed to replace ageing workstations, and found that a Dell virtualized solution had numerous benefits, including empowering staff mobility and lowering cost.

As a designer of building facades, gkp fassadentechnik creates complicated engineering models that aim to control environmental issues such as noise and sunlight glare. Engineering companies hadn't chosen virtualized systems in the past due to concerns about the performance and security of thin- and zero-client solutions. But the company saw that a Dell virtual desktop infrastructure (VDI) solution would help improve productivity.

The Dell VDI solution would enable gkp fassadentechnik to dramatically reduce the two days it took to install the necessary software for a new starter. It would also reduce the need for desk-side IT administration, promising considerable management savings. "We wanted to improve the mobility of our engineers too," says Reto Gloor, CEO of gkp fassadentechnik. "Because they're often out visiting customers, we needed to give them remote access to project data."

The company tested the concept using a pair of Dell EMC PowerEdge R730 servers equipped with NVIDIA

GRID K2 graphics cards and running VMware Horizon View 6.2. Dell Wyse 7030 PCoIP zero clients for VMware were chosen for their certification by leading computer-aided design (CAD) software vendors. "Feedback from personnel was that CAD ran just as well on the VDI environment as on the previous infrastructure," says Gloor.

Rolling out the VDI solution has allowed gkp fassadentechnik to provide access to 25 years of projects held securely on a central server. Engineers now have remote access to applications and files when showcasing work to clients. Gloor expects the rollout to cut IT spend by up to 30 percent per employee over the next five years. Plus, new starters can be set up with all the software they need in just two hours, and around 60 hours of update management time is saved every year.



"We gained a high-performance VDI solution from Dell while saving around CHF20,000 on the price of replacing the physical workstations."

Reto Gloor, CEO, gkp fassadentechnik

Dell Technologies for engineers

Dell EMC has a complete portfolio of products for engineers, from front to backend

Dell EMC provisions for every stage of the engineer's workflow, starting with the workstation. The new flagship Dell Precision 7920 is a dual-socket system supporting CPUs up to 24-core Intel Xeon processors, for massive processing power. The full Tower version supports up to four NVIDIA Quadro graphics cards, providing enormous modelling and general purpose graphics processing unit (GPGPU) processing power, perfect for developing and reviewing VR content with the Dell Visor. Dell UltraSharp Monitors with PremierColor provide a vivid, fully immersive experience. Every Dell Precision workstation comes with the Dell Precision Optimizer, which automatically detects the software you're using and tunes the workstation to maximize the performance for this application.

Dell Precision Rack Workstations

The Precision 7920 and Windows 10 Pro for Workstations is also available in 2U rackmount, which supports up to three graphics cards. This unit includes iDRAC9 remote management hardware and quad-port Gigabit Ethernet. This version of the 7920 is ideal for centralizing workstations within a secure and environmentally controlled machine room. The iDRAC9 enables remote configuration, operating-system deployment, updating, and health monitoring.

Virtualized workstations and thin-client endpoints'

The Dell Precision Rack 7920 workstation can be used to provide a powerful and responsive remote workstation using Dell Wyse terminals as endpoints,

Teradici Tera 2 hardware-based compression and the PCoIP protocol. Alternatively, virtualized Citrix XenServer and VMware ESXi environments can extend workstation service to multiple users with NVIDIA Quadro GRID to serve remote graphics. Endpoints can be Wyse terminals, OptiPlex FX100, or software clients on local workstations including notebooks.

Dell EMC PowerEdge servers

Dell EMC PowerEdge servers are designed to be the bedrock of the modern data center, with the scalability, manageability and security required from IT today. From rack servers to software-defined storage (SDS), Dell EMC PowerEdge servers are equipped to provide back-end rendering and storage support so engineering professionals can work on the same project simultaneously. Perfectly configured for engineering workloads, the PowerEdge R740xd and R740 can be either SDS nodes with up to 24 2.5-inch NVMe solid-state drives to maximize I/Os per second, or built with up to three 300-watt GPUs. The combination of Dell and EMC provides the most powerful, comprehensive server portfolio and support in the industry.

Dell EMC Storage and Networking

Dell EMC Storage provides scalable capacity from tens of terabytes to many tens of petabytes. The range includes Dell EMC Isilon networked attached storage and Dell EMC Elastic Cloud Storage platforms, which can be combined into one file system with native tiering. This allows data to move seamlessly between production and archiving. Dell EMC Networking, including the S4000 Series switches, provide the glue stitching endpoints to virtualized workstations, servers and storage. The S4000 Series offers class-leading low latency and is optimized for virtualization.

Talk to your Dell EMC partner
about how you can benefit from
the full Dell Technologies portfolio.
workforcetransformation.com

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Windows 10 Pro means business.

 Windows 10 Pro

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