Empowering engineering teams to work efficiently, on location and remotely.

How **JVCKENWOOD** boosts performance and reliability of the virtual desktop infrastructure supporting demanding engineering design applications with Lenovo ThinkSystem SR650 servers and VMware Horizon® software.

Lenovo Infrastructure Solutions for The Data-Centered

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Background

JVCKenwood Corporation (JVCKENWOOD), is a Japanese multinational electronics company headquartered in Yokohama, Japan. It was formed in 2008 from the merger of Victor Company of Japan (JVC) and Kenwood Corporation.

JVCKENWOOD focuses on car and home electronics, wireless consumer electronics systems, and professional broadcast, CCTV, and radio equipment. It operates through three core business segments—Automotive, Media Services, and Public Services—as well as the recently established DX (Digital Experience) segment, which combines existing products and solutions with digital technologies such as artificial intelligence and Internet of Things.

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Challenge

In 2015, JVCKENWOOD consolidated company-wide design and development departments into a new centralized business unit. One of the division's first tasks was renewing 230 computer-aided design (CAD) workstations, following the end of Windows XP support for these devices.

As the company had already introduced virtual desktop infrastructure (VDI) for office PCs, it decided to migrate to a VDI-based CAD environment with the aim of renewing the design environment and operating hardware more efficiently.

With the support of longtime partner Kanematsu Electronics Corporation (KEL), JVCKENWOOD migrated the CAD system that had been running locally on workstations to a VDI environment. Workstations that had previously been dispersed among design and development departments at different locations for each business field were integrated into a single virtual infrastructure, enabling efficient operation of hardware and CAD licenses.

However, around four years after the introduction of VDI, performance started to decline as underlying hardware aged and CAD data volumes grew.

Mr. Hideshu Shimada, Leader of the CAE Technology Group, Automotive Field at JVCKENWOOD, explains: "In the automotive field, we design car navigation systems and drive recorders for automobile manufacturers and the aftermarket. The scale of CAD data supplied by automobile manufacturers and CAD data designed by us has been increasing year by year, and we have been receiving complaints from users that VDI is slow."

“We had adopted the full clone method for VDI, but we knew that the maintenance work would increase significantly since the OS was installed in each virtual machine [VM] for Windows 10, which underwent frequent OS updates. Therefore, we decided that it would be appropriate to revamp the VDI infrastructure to the link clone method in order to operate under Windows 10.”

Mr. Hideshu Shimada
Leader of the CAE Technology Group, Automotive Field, JVCKENWOOD

Why Lenovo? Prompt support and fine-tuned performance.

JVCKENWOOD decided that the time was right to renew the infrastructure underlying its VDI. After consulting with KEL and comparing offerings from several providers, the company selected a solution based on Lenovo ThinkSystem SR650 servers.

A spokesperson from KEL comments: “Support from Lenovo was more responsive than that of other companies. If we encounter problems, it is better for us as well as our customers to have a quick response. This sense of security is very important to us.”

Partnering with Lenovo also enabled JVCKENWOOD to tailor the hardware platform to meet demanding CAD application needs. For instance, the CAD VDI requires high-performance GPUs; however, the high density of the SR650 combined with the high-performance CPU tends to increase the temperature inside the chassis. With the original settings, the speed limiter would kick in, limiting performance during continued use. Lenovo was able to make adjustments to the system to ensure a stable, elevated level of performance.

“When we asked for improvements, they were made in a short period of time, and we were able to achieve the performance we had initially expected while maintaining stable operation,” recalls the KEL spokesperson. “This kind of quick response is another selling point of Lenovo.”

“One advantage of Lenovo's servers is that we can choose a high-performance model at the same price as other companies' servers, which is very cost effective.”

Spokesperson
Kanematsu Electronics Corporation (KEL)

Moving to a new level of performance and flexibility.

To support the virtual CAD infrastructure at JVCKENWOOD, KEL deployed a Lenovo ThinkSystem SR650 server. Using VMware Horizon®, it has provisioned and delivered 240 VMs, which support a range of CAD applications, including CATIA and NX 3D CAD and CR-8000 CAD for electronic circuits. VMware Horizon enables the efficient delivery of virtual desktops and applications.

Shortly after the new VDI went into operation, many engineers were forced to work from home following the outbreak of COVID-19 pandemic. Thanks to the Lenovo and VMware VDI solution, JVCKENWOOD was ready to accommodate the shift to remote work. With VMware Horizon, JVCKENWOOD's engineers have remote access to a secure workspace environment from anywhere at any time on any device.

"The fact that we were able to continue our design and development work even after the shift to telework was due in large part to the new VDI platform," says Mr. Shimada. "Even as the restrictions on movement have been gradually eased, I believe that the use of telework will remain strong in the future."

"We were satisfied with the performance and the cost of the virtual GPU [vGPU] proposed by Lenovo, and we decided to install it after receiving a strong proposal from KEL. Shifting graphics-intensive CAD workloads to vGPUs and managing those workloads through VMware Horizon and VMware vSphere Enterprise Plus enables better price/performance compared to individual GPUs per CAD user."

Mr. Hideshu Shimada
Leader of the CAE Technology Group,
Automotive Field, JVCKENWOOD

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Results

The Lenovo and VMware VDI platform supports the high performance and capacity demands of engineering teams at JVCKENWOOD, empowering them to work quickly and securely from any location.

Mr. Masahiro Otaki, an Expert from JVCKENWOOD’s CAE Technology Group, comments: "We have not heard any complaints from users since we moved to the new infrastructure. Unfortunately, we rarely hear from users that the system has improved, but at least the fact that there are no more complaints is an indication that we have made improvements.”

By moving to the new Lenovo and VMware VDI platform, JVCKENWOOD has significantly reduced the management and maintenance burden. VMware Horizon gives the IT team a simple way to manage desktops and applications from a single point of control, saving time and effort.

Looking to the future, JVCKENWOOD also sees an opportunity to extend VDI to support more applications and divisions of the company.

Mr. Shimada concludes: "Currently, we use the VDI environment for simple analysis, with individual workstations still supporting large-scale analysis tasks. In the future, we think it is possible to consolidate hardware by using VDI for high-performance computing. We expect that Lenovo's hardware, with its excellent cost performance and reliability, will also play an active role in this area."

JVCKENWOOD

- **Delivers strong performance for processor-intensive CAD applications**
- **Boosts productivity and flexibility of engineering teams**
- **Supported smooth transition to remote working during COVID-19**

“With Lenovo, VMware, and KEL we were able to build a VDI that operates stably and with high performance even when remote.”

Mr. Hideshu Shimada
Leader of the CAE Technology Group, Automotive Field, JVCKENWOOD

What will you do with Lenovo client virtualization solutions?

The Data-Centered use Lenovo smarter infrastructure solutions, powered by VMware, to drive demanding engineering design applications.

Explore Lenovo Client Virtualization Solutions