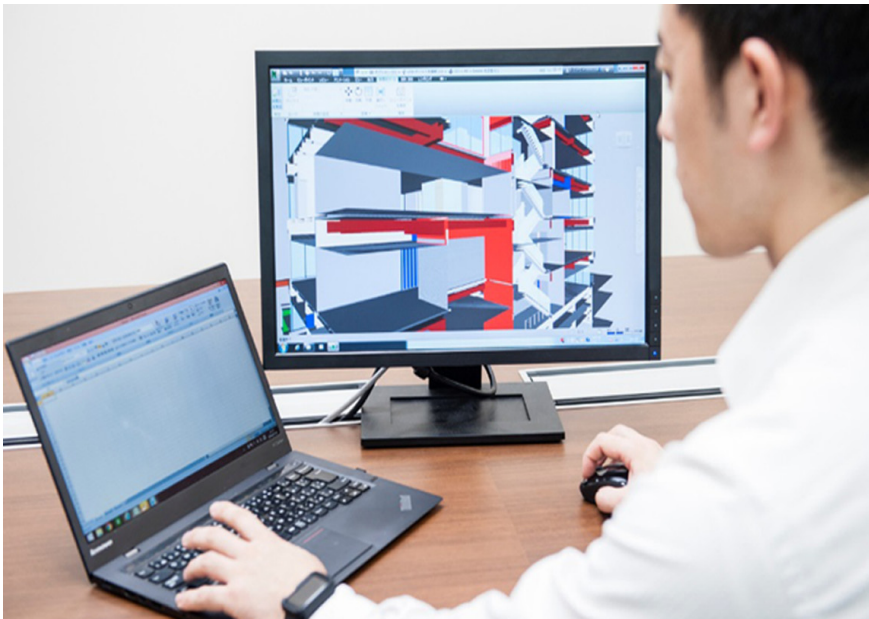




Fujita is convinced that Lenovo's CAD on VDI solution shows a glimpse of the future of construction



Overview

To give employees easy, on-demand access to advanced 3D modeling applications, construction company Fujita worked with Lenovo Japan and partner OTSUKA to implement a Lenovo System x CAD on VDI solution. Today, thanks to the Lenovo server's powerful processing performance, employees can create complex 3D models at their own workstations, boosting productivity.

With over 100 years' experience, general contractor Fujita offers construction, development, planning, design and consultancy services. Part of the Daiwa House Group, the company specializes in urban regeneration and redevelopment. Headquartered in Tokyo, Japan, Fujita operates across Asia, as well as in Central and South America, and has a strong presence in China and Mexico. Fujita employs more than 2,600 people and reports annual revenues of JPY 14 billion (USD 140 million).

Moving from 2D to 3D

Fujita has been using computer-aided design (CAD) software to create technical architectural drawings since the 1990s. The company recently added building information modeling (BIM) technology to its portfolio. This enables staff to create and manage digital information for 3D models of buildings and structures. With the introduction of BIM, Fujita expects to boost productivity.

Hiroshi Oda, Deputy Director of the Productivity Promotion department at Fujita, explains: "With BIM software in place, we have been able to progress from 2D CAD drawings to more advanced 3D models."

"After seeing the system for myself, I was convinced that this is the future of computer-aided design."

—**Hiroshi Oda**,
Deputy Director, Productivity Promotion,
Fujita



Takuya Nagaoka, Manager of the Planning Design department at Fujita, adds: “We currently use BIM to help us plan for the different phases of a building’s lifecycle, including initial planning, design, construction and maintenance. We would like to expand our use of BIM throughout the company in the future. Similarly, construction information modeling [CIM] is becoming increasingly popular in the civil engineering field and we are gradually introducing the technology at Fujita.”

The introduction of 3D BIM and CIM has transformed processes at Fujita, as Hiroshi Oda explains: “There is a consensus that, compared to 2D drawings, 3D models give employees a greater understanding of building designs. With BIM and CIM, we can also give clients a much better ‘preview’ of what the building will look like when completed.”

Today, everyone from designers to construction teams work with BIM and CIM models – 3D modeling is a major industry trend. Takuya Nagaoka says: “Our goal is to create all designs with BIM and CIM within the next three years.”

Due to the resource-intensive nature of 3D modeling, more and more employees will need access to high-performance workstations. Hiroshi Oda remarks: “The number of employees using BIM and CIM applications will increase significantly – pushing up the cost of procuring and maintaining PCs and laptops.”

Fujita also needed to find a way of providing employees based at construction sites with high-specification workstations. Takanori Ishizaka, Manager of the Advanced System Development department at Fujita, says: “Construction sites spring up and move around as work demands. We wanted to be able to provide employees with the ability to use BIM and CIM applications whenever and wherever needed. Moving physical workstations between sites would be difficult to manage, costly and inefficient.”

Fujita recognized that transporting workstations across sites would be time-consuming and hamper productivity. To overcome this challenge, Fujita wanted to offer all CAD tools, including BIM and CIM, on a virtual desktop infrastructure (VDI).

Easy access to advanced applications

In the past, Fujita’s client terminals – high-performance PC and laptop workstations with CAD applications – were each managed as a single instance. This meant that it took a great deal of time and effort to change specifications for CAD applications for individual workstations.

Running CAD applications in a VDI environment, on the other hand, means that all CAD applications run on the server. CAD data is processed by the server and then sent as an image to the client terminal over Fujita’s network. Despite higher volumes of network traffic, the load on individual client terminals is significantly reduced. The fact that CAD data is processed by the server enables more effective utilization of compute resources.

Solution components

Hardware

Lenovo System x3650 M5 with
Intel® Xeon® E5 family of processors
Lenovo System x CAD on VDI solution

Software

VMware ESXi

Services

Lenovo Consulting Services



Hiroshi Oda says: "Having a CAD on VDI solution in place would enable us to buy lower-specification PCs and laptops in bulk, cutting costs."

In the summer of 2015, Hiroshi Oda and Takanori Ishizaka visited the Lenovo Customer Experience Center in Tokyo. The Lenovo Japan team talked the Fujita representatives through the CAD on VDI solution and performed an in-depth demonstration. Hiroshi Oda recalls: "After seeing the system for myself, I was convinced that this is the future of CAD."

Fujita tested the CAD on VDI solution from Lenovo Japan for several months before engaging OTSUKA to implement the solution.

Hiroshi Oda recalls: "As this was our first experience of working with CAD on VDI, we thought it essential to have a partner involved. Lenovo Japan and OTSUKA didn't just provide and implement the hardware solution, they also provided valuable consultancy services. Support from both companies was invaluable."

Fujita worked closely with Lenovo Japan and OTSUKA to implement the Lenovo System x CAD on VDI solution based on Lenovo System x3650 M5 servers. Equipped with the Intel® Xeon® E5 family of processors and powerful graphical processing units, the Lenovo servers deliver the excellent performance needed to support Fujita's VDI environment, based on VMware ESXi.

The combined Lenovo Japan and OTSUKA team installed one server in Fujita's data center together with the CAD on VDI solution. The server is connected to each client terminal via Fujita's LAN environment, transforming any PC or laptop into a high-specification CAD workstation. Currently, 16 client terminals have concurrent access to the Lenovo server, with around 20 employees using the CAD on VDI solution on any given day. Allocation of server resources can be changed as and when needed, enabling Fujita to give fewer users more resources to use when required.

Expanding IT infrastructure for company-wide deployment

Fujita has installed around ten different CAD, BIM and CIM applications on the Lenovo solution, which will help the company to meet changing industry requirements.

Takanori Ishizaka comments: "Being able to manage all of the CAD applications centrally within the VDI environment is a huge benefit, as it would take a lot of time and effort to manage 16 different physical workstations. And it's not just the system administrator praising the solution. We've received positive feedback from the 20 employees who regularly use CAD on VDI.

"In the past, creating models using BIM and CIM applications put pressure on resources and CPU utilization was high. Using other office programs, such as email or spreadsheets, was difficult because performance was so slow. Today, with the

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CAD on VDI solution, the BIM and CIM data is processed by the server, freeing up terminal resources for other applications. This will no doubt increase employee efficiency and productivity.

“We don’t expect to have any problems with the CAD on VDI solution. Although the CAD and office applications use the same LAN environment and the load does increase at certain times of the day, performance doesn’t diminish.”

With the number of BIM and CIM users growing, however, Fujita recognizes the need to improve its network. The company is well on the way to transforming its IT infrastructure to meet future industry demands.

The CAD on VDI solution has also improved security. Since CAD data is processed and stored on the server, there is no longer any risk of data being lost should a laptop terminal get lost or stolen.

Hiroshi Oda concludes: “There are about 300 designers at Fujita but we hope to enable more than 1,200 employees to use BIM and CIM technology. We are working in collaboration with the IT department to expand our infrastructure and make this a reality. We started small but we plan to expand the CAD on VDI solution so that all employees have access to innovative BIM and CIM technology.”

For more information

To learn more about Lenovo Data Center Systems solutions, contact your Lenovo Sales Representative or Lenovo Business Partner, or visit: lenovo.com/systems

For more information about Fujita, visit: www.fujita.com

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