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ACCELERATING THE EFFICIENCY OF AUTOMOBILE DESIGN

Mitsubishi Motors continues to empower staff through digitization—virtualizing desktops so design data is accessible 92 percent faster

MITSUBISHI MOTORS

Automotive | Japan

Business needs

Mitsubishi Motors wanted to virtualize desktops so that engineers on the development and production teams could access data more easily. The company also looked to reduce the amount of time spent managing client machines.

Solutions at a glance

- Servers
  - Dell EMC PowerEdge rack server

- Storage
  - Dell EMC XtremIO X2

Business results

- Empowers workforce through remote data access

- Supports continued digitization of design processes

- Cuts design data load times by 92%

- Lowers time to deploy 200 desktops from 80 hours to 1 hour

- Cuts stored data by 87% of previous amount

- Simplifies future migration to Windows 10

“*It used to take us 80 hours to set up 200 PCs, but now with the VDI and our Dell EMC solution, we can do this in about an hour—which is a huge improvement.*”

Noriyuki Hiratsuka, Assistant Manager, Engineering IT Department, Mitsubishi Motors

Automotive design today is largely digitized. Manufacturers can now test the performance of their designs and assess their looks using 3D computer-generated models without building physical prototypes.

Mitsubishi Motors, which is among the world's leading automobile manufacturers, uses cutting-edge digital technology. Yoshinori Higashimura, manager of both the Engineering Section of the Global IT Department and Systems Infrastructure at Mitsubishi Motors, says, "Digitization and using 3D data is now the norm. We no longer use 3D data just to check for interferences between car parts, we also use it to assess the look of the car as well."

Drive for workforce empowerment

As part of its continued investment in digitization, Mitsubishi Motors wanted to deploy a virtual desktop infrastructure (VDI) to support its development and production. Higashimura says, "We wanted to accommodate our employees who want to use 3D data when they're in meetings or on business trips. Our development and production departments used special PCs for CAD software and analysis tools. However, maintaining, updating and disposing of these PCs took a lot of time and effort. We wanted to make sure that our IT department could focus on higher-value work."

Traditionally, data used by the development and production departments was stored at the Mitsubishi Motors factory in Okazaki. If an employee from one of the departments wanted to access the data from another Mitsubishi Motors factory in Kyoto or Mizushima, it had to be downloaded across the company's wide area network—taking up to four hours to read and display the data for one vehicle on a PC. Furthermore, managing the large number of PCs was also an issue. As many as 1,600 PCs would need to be relocated each year because of company reorganization.

Computer design needs all-flash solution

Mitsubishi Motors decided to run the VDI on VMware Horizon View. Applications used for design and production would be distributed by VMware App Volumes. Higashimura says, "Over 200 different applications are used in our development and production departments, but the application and version is different for each group of engineers that use them. We used to send applications over the network to individuals, and then work with that person to get them installed. Using VMware App Volumes would make the operation much easier."

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Noriyuki Hiratsuka
Assistant Manager
Engineering IT Department
Mitsubishi Motors

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Nevertheless, Mitsubishi Motors had to ensure that the storage solution supporting VMware App Volumes was fast enough to deliver PC-like program performance. Higashimura says, "When users opened 3D-based, CAD programs, for example, it would place a huge burden on the virtual desktop. The only way to ensure that the programs booted quickly was by using all-flash storage."

The organization looked at several storage solutions before deciding on Dell EMC XtremIO X2 all-flash storage. Noriyuki Hiratsuka, assistant manager of the Engineering IT Department in the Global IT Head Office at Mitsubishi Motors, explains the decision: "The speed of XtremIO X2 was better than other solutions we assessed. While data is being written, the XtremIO architecture also runs background processes on the SSD instead of the CPU to provide a stable performance. Its unique inline compression and deduplication functions also make highly efficient use of our storage resources."

Increases productivity with rapid boot times

Mitsubishi Motors continues to be at the forefront of automotive design. Today, about 800 employees from its development and production preparation teams are using the VDI, supported by VMware, PowerEdge rack servers and XtremIO X2. They can work effectively from any of Mitsubishi Motors factories in Okazaki, Kyoto or Mizushima. Hiratsuka says, "We've created an environment with our Dell EMC XtremIO X2 solution where staff gain much faster access to data in Kyoto and Mizushima. Virtual desktops load and boot quickly; they only need about 20 seconds to start. Even for computers making use of an SSD, it only takes about 30–40 seconds. It is really smooth."

Improved collaboration with better data access

Better access to design data goes beyond the factories to other parts of Japan and even abroad. In the past, when engineers traveled, they converted it to 3D Viewer data such as simulation results before downloading the data to a laptop. However, sometimes the designers and engineers

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were asked for "surrounding" data that went beyond the simulation findings they had downloaded. Higashimura says, "By using our VDI, we've been able to solve these problems."

Need for stored data cut by 87%

Mitsubishi Motors has seen the volume of its stored design data reduced by 87 percent of what it was before, thanks to XtremIO X2. What's more, more than 80 percent of engineers from the development and production preparation teams have said they are satisfied with the result of the Dell EMC XtremIO X2–based VDI.

Endpoints deployed in one hour

The company has significantly reduced management time for the client infrastructure. Hiratsuka says, "It used to take us 80 hours to set up 200 PCs, but now with the VDI and our Dell EMC solution, we can do this in about an hour—which is a huge improvement." He continues, "When we used physical PCs, we also had lots of small requests to tend to, but we've been able to eliminate these completely. It's given us a boost as we move toward switching over to Windows 10."

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Dell EMC XtremIO X2 solutions

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