



## Case Study

Enterprise Server

Intel® Xeon® Processor

7400 Series

Intel® Virtualization

Technology

Manufacturing

Server Consolidation

# Gearing Up for Virtualization

## Automotive component manufacturer, Denso Malaysia gearshifts into virtualization technology to manage growing business demands

Denso Malaysia Sdn. Bhd. (Denso) manages a growing automotive components manufacturing business that is highly dependent on state-of-the-art technology for research and manufacturing purposes. The company has a strong brand name and prides on the quality assurance of its products that sets Denso apart from its competitors. With a growing business and user base, managing the company's network infrastructure and server numbers became a challenging task. To meet its needs, Denso worked with Integrated Global Solutions (IGS), a leading ICT business solutions specialist to implement a virtualization solution on Intel® Xeon® processor-based servers to better manage its growing business demands.

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### Challenge

▪ **Growing pains.** Increased business required additional business applications and dedicated server support. Managing a finite physical number of servers was a bottleneck to expansion.

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### Solution

▪ **Virtualization technology.** Deploy VMware virtualization software on physical servers based on the Intel® Xeon® processor 7400 series platform to manage virtual environments. The deployed platform consists of two quad-core servers and one dual-core server.

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### Impact

▪ **More machines in less space.** Capacity to deploy more machines using virtual space, increasing flexibility of operations with increased efficiency while reducing hardware costs and human resources.

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“The Intel Xeon processor-based servers together with VMware delivers on our expectation for server utilization and efficiency, enabling us to utilize virtualization technologies to our maximum benefit.”

Ng Sun Hock  
General Manager, information  
Systems  
Denso Malaysia Sdn. Bhd.

### High-octane growth fuels need for scalable solution

Established in Malaysia in 1980, Denso has seen tremendous growth in its business and staffing. The company has experienced growing pains as its Information Systems (IS) department struggled to cope with twice as many users compared to five years ago. Denso's 10-person IS department includes application developers and a network infrastructure team supporting more than 500 IT end users out of its 1,200 staff. The department provides critical IT resources to support the smooth operation of Denso's manufacturing plant and its administrative staff.

“Technology is very critical as a business enabler,” says Gan Sin Chuah, IS executive at Denso. As such, increasing business meant adding new servers to support the operations as every new business application required its own dedicated server and managing server numbers became a challenging exercise. This in turn led to increased technical support, IT staffing, server foot print, energy consumption and operational costs. Denso envisaged that its IT requirements would double again in the near future as new applications are deployed to support the business.

However, for every new physical server deployed, more time and resources were required to monitor and maintain performance, availability and uptime. Denso realized that in time, this would put a strain on its resources and degrade the company's ability to maintain the quality and standards it had built over the years. Denso had to find a cost-efficient and scalable solution to maintain its high service standards at all times.

### Going virtual on Intel® platform with VMware\*

Denso's IS team were not unfamiliar with the benefits of virtualization technology and wanted to find the best solution to run on an Intel® processor-based platform. According to Gan, the move was to capitalize on the “cost savings and improve system manageability” by implementing virtual machines on the Intel processor-based platform.

After evaluating several virtualization solutions, Denso decided to go with VMware Virtual Infrastructure solution. Besides being a leading vendor in virtualization technology, VMware was also a good choice for the Intel® Xeon® processor-based servers at Denso's data center. The Intel® processor-based platform provided the open architecture and scalability that the VMware solution could take advantage of. The Intel Xeon processor implements Intel® Virtualization Technology (Intel® VT)<sup>1</sup> within the processor, delivering hardware-assisted virtualization that improves traditional software-based virtualization. The combination of VMware and Intel Xeon processor supports multiple operating systems including Linux, and is a proven solution for datacenters.

Implementing the VMware Virtual Infrastructure solution on the Intel processor-based IBM® xSeries servers as VMware ESX Hosts was a quick and painless task which enabled Denso to consolidate multiple environments into fewer servers. With fewer systems required for the same tasks, the solution delivers:

- **Server consolidation, simplified resources management.** Consolidating physical servers and creating additional virtual machines frees up valuable resources and enables Denso to invest the same dollars into improving other parts of the company's IT infrastructure. Additionally, "Our internal IS team is able to support more servers with no increase in headcount," says Gan.
- **Decreased disaster recovery, better business continuity.** Through VMware VMotion technology, Denso can move an entire running virtual machine instantaneously from one server to another, allowing for zero downtime migrations and hardware maintenance without disrupting business operations.
- **Instant cost savings.** A single Intel® Xeon® processor-based server can manage multiple virtual machines, doing away with the need to invest in additional network points, switches and cabling for the additional servers created with VMware. "This reduces server costs through lesser hardware purchases and maintenance," Gan points out.
- **Faster server provisioning and application testing improvements.** A new virtual machine can be provisioned within minutes compared to hours in the past. Denso can also create a safe environment to try out new applications prior to production launch.

For Denso, the deployment was an unqualified success. Gan says that "With virtual machines running on Intel processor-based servers, our IS team is able to support more services with no increase in headcount."

### The future is virtually here

For Denso, the deployment has proven to be an unqualified success and has given the company the confidence to push ahead and explore new ways to utilize virtualization in every aspect of the business. "We also believe that engaging with industry leaders like Intel, VMware and partners like IGS truly make a difference in any successful virtualization project," declares Ng.

The Intel® Xeon® processor-based servers and VMware have exceeded Denso's expectation for server utilization and efficiency, achieving cost savings from server consolidation and gaining scalability for future business growth. As far as Denso is concerned, the future is virtually here.

### Spotlight on Denso Malaysia Sdn. Bhd.

- Denso (Malaysia) Sdn. Bhd. began in 1980 as a joint venture between Denso Corporation, Japan and its local partners.
- The Malaysian company grew to become the largest automotive components manufacturer in Malaysia, and is a major automotive components supplier to national car projects.
- Denso Malaysia employs about 1,200 people across its business units in production, administration and management.

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<sup>1</sup> Intel® Virtualization Technology (Intel® VT), Intel® Trusted Execution Technology (Intel® TXT), and Intel® 64 architecture require a computer system with a processor, chipset, BIOS, enabling software and/or operating system, device drivers and applications designed for these features. Performance will vary depending on your configuration. Contact your vendor for more information.

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