

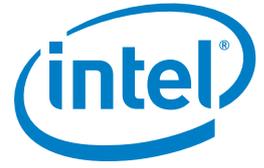
CASE STUDY

Intel® Xeon® Processor 5600 Series

Enterprise Server

Enhanced Virtualization

Energy Efficiency, Environment and Performance



Aiming for sustainable server room energy usage and management

Intel® Xeon® processors enable Panasonic Taiwan to achieve an enhanced virtualized environment through high-performance servers while providing energy and cost efficiency

Panasonic

Formed in 1976, Panasonic Industrial Sales (Taiwan) has an annual turnover of NT\$63 billion. It was established with 100 percent investment from Japan's Panasonic Corporation. Its main business operations include assembling and installing electronic parts for factory automation, supplying components for other manufacturers of electronic goods, and selling automation equipment. It also provides services such as maintenance and product training.

"Stability is our priority. At Panasonic, we have chosen to deploy Dell* servers with Intel® Xeon® processor 5600 series, running Hyper-V* virtualization technology, which allows us to manage different systems that used to work on various physical servers onto a single virtual platform. It means that the physical space needed by our IT systems can be compressed, freeing up capacity for new equipment in our server room."

Huang Ming Shun
IT Department Deputy Chief
Panasonic Taiwan Administrative Division

CHALLENGES

- **Reduce server room space.** Compress physical space in the IT systems to free up capacity for new equipment in the server room.
- **Eliminate congestion in the server room.** Effectively manage different systems that used to work on various physical servers onto a single virtual platform.
- **Enhance stability to achieve a high-performing virtual platform.** Use high-performance hardware to ensure effective building and deployment of information systems.

SOLUTION

- **Deploy Dell* servers with Intel® Xeon® processor 5600 series.** Expand server capabilities through Intel Xeon processor 5600 series running on Dell servers, which reduce server rack space by up to 50 percent while lowering server room energy consumption by up to 45 percent.
- **Use virtualization technology to effectively relocate and manage physical servers.** Through Dell's virtualization solution, supported by Intel Xeon processors, virtualized systems will increase the utilization rates of physical servers significantly.
- **Use the full capacity of a single virtual platform through Hyper-V* virtualization technology.** Deploy hardware built with Intel Xeon processors that supports the latest virtualization technology.

Introduction

Since its establishment, Panasonic Japan has continued investing in its Taiwan facility to meet the demands of its growing market segment in the region. It has since grown to become a pioneer in introducing cutting-edge technology to the local industry that enables Taiwan firms to reach new heights in the electrical and electronics industry.

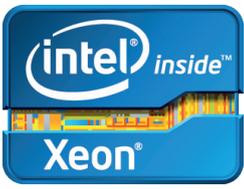
With its expansion, Panasonic Taiwan's supporting IT infrastructure has grown. More IT systems were developed and introduced to support a wide range of business functions. Its increasing number of servers and other network equipment have made their way into the server room. As a result, the server room faced constraints in terms of physical space, both on the racks and in the room. This led Panasonic Taiwan to start looking for solutions to help it meet its IT demands. The company found its solution in Dell servers powered by Intel Xeon processor 5600 series, allowing it to use virtualization technology for a successful and efficient migration of its information systems.

Server rack space problems hinder business growth

Assistant Manager Xiao Wei Zhong from the Administrative Division relates that most of their clients are manufacturers of electronic items, an industry known for its intense competition. To thrive in the electronics industry, Panasonic places great emphasis on the quality of its IT operations, since sustainable business growth can only be achieved if all systems are working smoothly and reliably.

Department Deputy Chief Huang Ming Shun from the IT department says Panasonic needs to use a fairly large number of systems in its daily business operations. These range from customer relationship management (CRM) systems to workflow management systems, to systems supporting Web and other network functions, to information security systems. In addition to keeping the company's operations running smoothly with very little manpower, the team is constantly looking for ways to simplify management procedures and ensure that they contribute to the profitability of the company.

With server room constraints, the IT team is faced with the challenge of keeping up with expanding information and network systems. The team needs to solve the problem of relocating medium to large server rooms physically, which is one of the biggest challenges a company can encounter. Usually, the biggest problem lies with the new server room. Both expansion and relocation to a larger space can translate into technical difficulties as well as significant costs.



Intel Xeon processors power the Dell virtualization solution, enabling Panasonic Taiwan to consolidate its IT systems, maximize its server room, and make its operations more energy efficient.

Virtualization: The key for a sustainable IT environment

To avoid having to face the challenge of relocating servers physically, Panasonic opted to use virtualization technology to eliminate congestion in its server room.

"Through Dell's virtualization solution, 20U equipment can be reduced to 50 percent of its original footprint," Huang states. "This then decreases daily electricity consumption in the server room significantly. We have gone from about 7,000 watts to about 3,000 watts in consumption.

"The virtualized systems have also increased the utilization rates of our physical servers significantly. It has simplified our maintenance procedures. Backups can now be easily configured and executed. And it has brought us many benefits in terms of the overall stability and ease of management," he adds.

Creating a stable virtual platform with reliable and flexible hardware

Stability is the top concern when it comes to building and deploying information systems at Panasonic. For this reason, the hardware selection process for the virtualization solution was a stringent one. In addition to testing the computers for stability, Panasonic's management information systems (MIS) team also worked with IT teams from other firms to exchange information on the strengths and weaknesses of various IT products. By gathering information from other firms, the IT team can gain a better understanding of products from different manufacturers as they are deployed in their industry. This helps in the decision-making process for selecting the new system.

Apart from stability, virtual platforms also demand high-performance hardware. In particular, the CPU needs to be able to deliver against the demands of the virtualization technology used by the Hyper-V solution. After much evaluation, Panasonic chose to deploy hardware built with Intel Xeon processors at its core. The Intel Xeon processors not only support the latest virtualization technology, their large market share is a testament to customers'

acknowledgement of its product compatibility and stability. Having had good experiences with the Intel platform, consumers have consciously chosen to rely on Intel Xeon processors over and over again.

While evaluating solutions to address space constraints in its server room, Panasonic considered options such as blade servers. Taking into account scalability and overall management, the team at Panasonic decided to build its virtual platforms on Dell PowerEdge® R710 rack-mounted servers, pre-installed with Intel Xeon processor 5600 series. Although ordinary rack-mounted servers are not as space efficient as some blade servers, there are more options for future expansion. This gives the company added flexibility and enables the IT team to respond quickly to ever-changing business needs.

Professional service eliminates bottlenecks in the rollout of new system

The successful rollout of Panasonic's IT systems on virtualized platforms has been attributed to the excellent service provided by Intel and Dell. Huang expresses gratitude for the enthusiasm and high level of technical skill the team at Intel and Dell exhibited throughout the implementation. By sharing information on the latest technology and industry know-how, the project team was able to devise solutions that catered to Panasonic's needs as soon as the requirements were established.

Besides providing detailed implementation plans, the teams also assisted in getting Panasonic's systems online quickly. After tweaking some parameters, the systems came online smoothly without any disruptions to the business operations, something that Huang is very pleased about.

Huang believes that while the initial stage of building virtual systems may appear to be costly, it is a good investment, especially if the total cost of ownership is measured over a three-year life cycle. Furthermore, when it comes to implementation, the selected firm may have professional know-how to help MIS personnel resolve a number of

hardware maintenance issues. Intel and its manufacturing ecosystem members demand high standards when it comes to the production and deployment of their products and technical services. For example, Dell provides direct technical support for implementation and maintenance of its systems, and this ensures the systems are built and maintained according to a high standard.

Huang is even more impressed with the enthusiasm and after-sales services provided by Dell: "We had an engineer from Dell come out to make some adjustments on our storage devices used in our backup systems. Coincidentally, a hard disk malfunctioned while he was on site. The engineer immediately informed his company and assisted in the repair of the device. The replacement part arrived the very next day. Such high-level service and efficiency is really unheard of."

Panasonic has begun moving many of its key systems, such as CRM, business processing and IT monitoring systems, onto the virtual platforms. The migration has not affected the stability and efficiency of the systems in any way, and the IT team has been very happy with the results. Panasonic plans to move even more of its information systems onto the virtual platform and procure more computers based on Intel Xeon processors to strengthen its business operations. Making use of the backup mechanism of the virtual systems, Panasonic also plans to establish an offshore backup system to reinforce its IT infrastructure and ensure that Panasonic reaches its goal of long-term growth in business operations.

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