CASE STUDY
Intel® Xeon® Processor E7 Family
Entertainment/Media
High-Performance Computing

Reliable IT infrastructure core secures advantage in digital services

Intel® Xeon® processors boost Wayi International Digital Entertainment's servers, strengthening their foothold in the gaming industry while giving them overall IT costs savings

wayi

Wayi International Digital Entertainment Co. Ltd. is a leading game company in Taiwan. It specializes in distributing pre-packaged software, as well as in the research, development, operation and marketing of online games. Its games are licensed in China, Japan, Turkey and other Asian market segments. Wayi has also been operating the entertainment website www.wayi.com.tw, which offers network societies, multimedia services, audio and video entertainment, news and information, and more.

"A huge number of manufacturers work with Intel. When we were looking for dual-core CPUs (for two-way servers), we had the luxury of choosing from a wide array of brands and models. That provided us a lot of flexibility when we were building our system."

Xie An
Chief Information Officer
Wayi International Digital Entertainment

CHALLENGES

- **Maintain competitiveness in the industry.** Keep up with the marketplace's demands by ensuring gamers get the most engaging entertainment experience, which demands a high level of server reliability and shorter downtime for maintenance.
- **Save on IT costs.** Extend equipment life cycle to lower the total cost of hardware for the company.
- **Seize greater opportunities.** Be free from hardware limitations, and pursue developing and acquiring new businesses with a dependable system.

SOLUTIONS

- **Use Intel® Xeon® processors.** Intel® Virtualization Technology's advanced capability that offers faster and easier virtualization is proven to have a high level of reliability with low instances of malfunctions, to provide customers an exceptional gaming experience.
- **Acquire high-quality equipment.** High-quality equipment provides greater stability beyond the warranty period. This allows for coordinated replacement of both hardware and software systems.

Introduction

IT infrastructure plays a very important role in an enterprise built on e-commerce. This is no exception in the gaming industry. Wayi relies on three data centers spread out across Taiwan, housing over 1,500 servers

"Unlike servers used for general business transactions, servers that support the gaming industry need to have greater capacity, and any maintenance downtime has to be shorter than what is acceptable for other industries," explained Xie An, chief information officer of Wayi's information centers. "Faced with the need for high-performance computing, and the sheer number of servers in the cluster, the equipment used to provide our core IT infrastructure has to be extremely reliable in order to satisfy the needs of the gamers."

Keeping ahead of the competition

Having worked in the gaming industry for many years, Xie has handled many IT infrastructure projects. He believes, to deliver quality IT services, the servers and processors that power them are critical enablers.

This led Wayi to deploy servers based only on Intel Xeon processors. Wayi specifically relied on Intel Xeon processor E7 family, with features like Machine Check Architecture Recovery (MCA recovery), which has a proven high level of reliability that results in fewer malfunctions. This feature is imperative for key players in an industry where the competition is fierce. Xie believes it helps Wayi stay ahead.

The uptime requirements for gaming servers are extremely high. Using parity and Error Correcting Code (ECC), Wayi is able to detect and correct errors in the servers it uses. On top of that, it needs to keep maintenance procedures within six to eight hours each week as compared to servers that support typical business transactions in other industries, where the volume of traffic decreases significantly after office hours and servers sometimes have the luxury of being shut down during holidays. "Gaming servers experience a greater surge in traffic during the holidays, in addition to an already high volume of usage on regular days," Xie said. This is why processors in gaming servers run at high capacity continuously for long periods. Intel® processors, with their superior production process and reliability, are an ideal choice for building a dependable gaming platform.

Intel Xeon processors provide reliability and cost-efficiency, keeping Wayi on top of its game in every aspect of its business

Big in efficiency. Big in savings.

High-quality processors ensure fewer breakdowns, even over a long product life cycle. For a company like Wayi, with over a thousand servers deployed, every single malfunction has a direct impact on maintenance and labor costs. As Xie points out, "If there is a software or system error, the problem can be resolved remotely. However, for hardware issues, management information systems (MIS) personnel have to be dispatched to fix the problem."

While comprehensive backup mechanisms reduce the chance of a service disruption, replacing equipment such as servers or storage devices due to hardware failure requires manpower and increases maintenance costs significantly. By choosing servers based on Intel Xeon processors, Wayi can reduce hidden operating costs due to such hardware issues.

The durability of the Intel Xeon processors ensures they can be deployed for up to eight years at Wayi. This extensive lifespan satisfies Xie, since electronic parts tend to deteriorate and fail over time, particularly if they are used extensively and consistently. This proves Intel Xeon processor's excellent quality, since it continues to operate with great stability and better thermal control even after the warranty period. More importantly, the stability and longer lifespan that Intel Xeon processors provide gives Wayi's customers greater satisfaction since there is less or no down time at all, which ensures no service disruption and only an exceptional gaming experience.

"A number of software systems used in the gaming industry have a product life cycle of about three to five years, after which they have to be updated or upgraded," said Xie. "This is a little longer than the product life cycle of hardware, which typically lasts only about three years. However, the use of high-quality processors enables a longer usable product life cycle. This extended hardware life cycle allows for a coordinated replacement of both hardware and software systems."

The extended life cycle provided by high-quality equipment also allows the company to match deployment cycles with their software systems, since it allows the servers to be deployed for general usage beyond their prime. This lowers the total cost of hardware ownership for the company.

Wayi selected servers powered by Intel Xeon processors to deliver smooth performance in the gaming environment for their users' enjoyment. With the reliability of the hardware, it can also be redeployed to support general business needs when the time has come to refresh the gaming servers. This extended usable lifespan maximizes the value of the hardware for the company, providing additional cost savings by eliminating the need to procure new equipment to meet these requirements.

A variety of solutions for maximum customization

Aside from the reliability and stability of servers based on Intel Xeon processors provide, they also come in a wide range of hardware specifications and are supported by a reliable supply chain. This offered Wayi great flexibility and convenience when they developed and launched their new online games.

The extensive product range met the specifications that suit the different needs they had to address. For example, when Wayi was looking for two-way servers, the equipment based on Intel processors not only came in a variety of chassis sizes, but was also available with a number of hard disk expansion options. "As a game distributor, we tend to follow the manufacturer's suggested specifications for deploying hardware," explained Xie. "Some games require high-capacity databases. In such a case, we would look for equipment that has more hard disk expansion options, but the Intel Xeon processors proved to be the best choice as it perfectly complements the deployment of our 10G solution for our networking needs." He adds, "And because a huge number of manufacturers work with Intel, with them, we can choose from a great array of brands and models." Being a leading supplier of processors with significant market segment share, the supply of Intel processors is also extremely stable. Even during production transitions, users can still easily acquire products with their desired configurations.

Game performance is largely driven by hardware, and because of that, processors must be interoperable before they can be deployed. Meanwhile, the development or launch of a new game is usually preceded by a long planning period. If there is a product transition during this period, the deployment would have to be done using the game manufacturer's suggested hardware requirements, which may require reverting to an older model of the core processor. With the wide circulation of Intel products, these situations do not pose operational problems for providers of Web services. With Intel Xeon processors, Wayi is not forced to forgo business opportunities due to hardware limitations.

In the e-commerce and gaming industry, IT equipment is essential for generating revenue. It is crucial for business operations, which is why so many factors are thoroughly considered before making a purchase. Xie believes that statistics speak for themselves when it comes to IT equipment. Be it CPUs or other components, a larger market segment share signifies greater consumer appeal, and this appeal is the result of countless user experiences. Hence, market segment share was greatly considered in Wayi's evaluation of a product. Securing gamers' personal information was also a priority for Wayi, which is why it opted for Intel Xeon processors. Intel Xeon processors proved to be the best software solution in the marketplace, which also has software solutions from Trend Micro and Symantec which secures gamers' info with its no-delay response.

With the upcoming launch of its new game, Dragon Excalibur* (Xiang Long Zhi Jian*), Wayi intends to rely on its high-quality IT infrastructure, built on Intel processors, to create the gamers' utopia it's always aspired to build.

SOLUTION PROVIDERS:

Find the solution that's right for your organization. Contact your Intel representative, visit Intel's Business Success Stories for IT Managers **(www.intel.com/itcasestudies)** or explore the Intel.com IT Center **(www.intel.com/itcenter).**

For more information on Intel® Xeon® processors visit **www.intel.com/xeon**

This document and the information given are for the convenience of Intel's customer base and are provided "AS IS" WITH NO WARRANTIES WHATSOEVER, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. Receipt or possession of this document does not grant any license to any of the intellectual property described, displayed, or contained herein. Intel® products are not intended for use in medical, lifesaving, life-sustaining, critical control, or safety systems, or in nuclear facility applications.

Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, and virtual machine monitor (VMM). Functionality, performance or other benefits will vary depending on hardware and software configurations. Software applications may not be compatible with all operating systems. Consult your PC manufacturer. For more information, visit http://www.intel.com/go/virtualization

Copyright© 2012, Intel Corporation. All rights reserved. Intel, the Intel logo and Intel Xeon are trademarks of Intel Corporation in the U.S. and other countries..

*Other names and brands may be claimed as the property of others.

0212/JAY/PMG/XX/PDF

326836-001US