

CASE STUDY

Intel® Xeon® Processor E5649

Transportation

Cloud Computing and Virtualization



Using cloud technology to deliver quality taxi services

Taiwan Taxi makes use of a cloud computing system powered by Intel® Xeon® processors to develop a variety of IT services that provide passengers and drivers with a comfortable and safe riding experience, challenging stereotypes about taxi services



Taiwan Taxi is a publicly-listed company established in 2002. It places great importance on the commuting environment of its drivers and passengers, and strives to actively reform its operations to create a safe and comfortable commute for all. By providing innovative IT services, Taiwan Taxi continuously improves its service quality and brand image. Taiwan Taxi has become a high-technology passenger service enterprise, delivering quality taxi services to passengers all over Taiwan.

CHALLENGES

- **Ensure smooth operation and efficiency of IT framework.** Proper maintenance of backend systems and supporting computers should be monitored all the time despite limited manpower.
- **Simplify existing systems.** Ensure efficient integration of a large number of systems onto a small number of physical computers to cut down on maintenance time.
- **Find stable hardware to support rolling out of new IT services.** IT facilities being set up should be supported by necessary hardware to keep with the rapid pace of software development.

SOLUTIONS

- **Build cloud system with Intel® Xeon® processor E5649.** Blade servers powered by Intel Xeon processor E5649 build a strong foundation for cloud services to ensure overall efficiency of IT systems.
- **Use virtualization technology for efficient integration of systems.** Cloud computing systems allow large numbers of systems to be combined onto a single interface, which simplifies the management of existing systems.
- **Deploy servers running on Intel Xeon processors for a stable IT infrastructure.** Stable hardware needs less time for troubleshooting and maintenance.

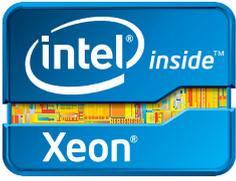
Introduction

Taiwan Taxi strives to provide its passengers with the optimum environment for commuting. This is why it regularly introduces new IT service systems for its daily operations. These services include various call services for taxis, as well as general packet radio services (GPRS) taxi monitoring services. IT Department Manager Nan Qiang shares that with the ongoing development of different types of IT services, there are currently as many as 20 major IT systems in operation at Taiwan Taxi. Many of these systems, such as the taxi calling service systems, are further developed into smaller service applications. As a result, each system supports an average of 10 different functions—expanding the company's software use that proved challenging for their operations.

With an IT framework that expands day by day, Taiwan Taxi had to search for new solutions. The company discovered that cloud computing systems powered by Intel Xeon processors ensure the overall efficiency of IT systems, streamlining its maintenance, which is ideal for limited manpower.

Bottleneck in hardware infrastructure impedes smooth systems operations

Despite limited manpower, Taiwan Taxi has been able to quickly roll out new IT services including entirely new systems. However, each system needs to be supported by the necessary hardware. The bottleneck that continues to develop on the hardware infrastructure proved to be a challenge, since the hardware has not been able to keep up with the rapid pace of software development.



Using servers running on Intel Xeon processors allows Taiwan Taxi to use the power of cloud computing to roll out IT services efficiently, while achieving hardware stability to meet its growing software demands.

“Superior efficiency and excellent stability were key reasons for choosing blade servers powered by Intel Xeon processors for our cloud system. These features are essential in order to provide the best services for our drivers and passengers.”

Nan Qiang
IT Department Manager
Taiwan Taxi

Cloud system brings efficiency in IT operations

After attending a number of seminars, Nan learned about cloud computing and the solutions it can offer to eliminate Taiwan Taxi's IT system problems. The virtualization technology used by cloud computing systems enables the integration of a large number of systems onto a small number of physical computers, allowing management with a single interface. This cut down the manpower required for maintenance and simplified management of the existing systems. Furthermore, the ability to share resources like memory and processors between applications on cloud systems enabled new services to use existing resources, providing additional support for constant innovation.

Efficient cloud system is only as good as its server

To make the most of this powerful solution, Nan's team began to evaluate solutions to build a strong foundation for its cloud system. Keeping in mind the value of providing the best services for both its passengers and drivers, the IT team considers stability as a top priority when setting up IT facilities.

“IT is the lifeblood of Taiwan Taxi,” Nan states. Thus, the company puts a premium on deploying products that stand true to its service commitment and meet its brand image. To maintain its brand image, Taiwan Taxi only uses products from reputable companies in its enterprise systems. Taiwan Taxi selected blade servers powered by Intel Xeon processor E5649 to build its cloud services platform. Using Intel's Blade Cloud Builder Guide, Taiwan Taxi set out to build a strong foundation for its cloud services. After positive experiences deploying Intel products, Taiwan Taxi always chooses servers running on Intel Xeon processor E5649 and Intel Xeon processor E7350 when hardware is required.

A stable IT infrastructure and a platform for innovation which provide customers better cab service experiences

Nan points out that stable hardware is crucial for IT operations. “Hardware is a very basic IT resource. Therefore, too much time should not be spent on its maintenance. Stable equipment helps us save a lot of time on troubleshooting and maintenance. The time saved can be used to promote innovation—develop new service applications, or enhance existing systems to benefit the company's operations. This, in fact, should be the most important task for IT personnel in an enterprise.” He suggests that only 30 percent of the time in each work day should be used to maintain hardware, while the other 70 percent should be spent on innovations and exploring new ways to improve the company.

Having completed the setup of its cloud platforms, Taiwan Taxi is now migrating each of its systems onto the cloud platform. These include a variety of customer service systems, driver membership management systems, as well as the information systems of companies in which Taiwan Taxi has investments. With the rollout of the cloud system, customers now have the option of accessing relevant services from their mobile

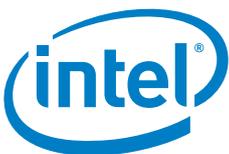
devices, bringing drivers and customers closer together, and providing a higher level of service for users.

Now Taiwan Taxi is looking to set up a business intelligence system (BIS). Using passenger information collected over the years, the BIS will analyze and compile taxi service schedules and passenger pick-up routines, and identify service shortage areas. With the intelligence gained from this system, Taiwan Taxi aims to help drivers achieve greater pick-up efficiency, fulfilling its goal of providing services that benefit passengers, drivers, and, in turn, the company.

Taiwan Taxi focuses on increasing the quality of its services through information technology. Its IT services are not only more advanced than other passenger transport enterprises in Taiwan, but they have garnered attention from transport companies and agencies overseas. Taiwan Taxi is a success story for merging traditional enterprise with IT. Having implemented its cloud system, Taiwan Taxi continues to strive for service improvements that will enable its taxis to provide passengers with better leisure and business trips. This will, in turn, stimulate improvements in Taiwan's passenger transport industry as a whole.

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



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