CASE STUDY

Intel® Xeon® Processor E7 Family

Financial Services

Cloud Computing

Private cloud enhances financial enterprise

ICBC Credit Suisse elevates business vitality with an enterprise private cloud computing platform powered by Intel® Virtualization Technology (Intel® VT)

ICBC 工银瑞信

"By building an enterprise private cloud computing platform based on Intel® VT, ICBC Credit Suisse has achieved a more flexible and efficient computing resource management mode, significantly enhancing business operation vitality."

Zhang Yi
Executive Director
ICBC Credit Suisse Fund Management Company Limited

As one of the fully licensed companies in China's fund management industry, ICBC Credit Suisse has made great achievements since its establishment. Its assets under management (AUM) have now reached 100 billion Yuan after seven years of rapid development. Its 12-member IT team manages more than 300 products for over five million customers. As its clientele continues to grow, the IT department wanted to ensure that the system remains stable and operates normally during trading hours. With this goal in mind, ICBC Credit Suisse's IT department aims to constantly use and update information technology to maintain its operation's vitality.

CHALLENGES

- **Improve business operation flexibility.** Optimize computing resource allocation and shorten the cycle from development testing to normal business operation.
- **Increase computing resource utilization rate.** Make full use of computing resources to improve utilization rate during non-trading hours and when the server's capacity is greater than the actual application requirements.
- **Reduce cost of IT management.** Find a new IT resource management system to reduce the cost of managing physical servers.

SOLUTIONS

- **Build an enterprise private cloud computing platform.** Deploy 300 servers running on Intel® Xeon® processor E7 family to build a cloud-based data center.
- **Utilize Intel VT.** Implement virtual machine deployment and management based on standardized templates and allow application not to bind together with the physical servers.

IMPACT

- **Improved business operation flexibility.** With the computing resource allocation cycle time sharply reduced, provisioning of development, testing and deployment computing resources are fulfilled within a few minutes. The application can be transferred to a better-performing server without business interruption, thus improving business operation vitality.
- **Fully utilized data center computing resource.** With Intel VT, ICBC Credit Suisse is able to fully utilize and manage its idle computing resources. Accordingly, the data center has become more energy-efficient and environment-friendly.
- **Reduced IT management costs.** Implementing a virtualized platform has unified server management, providing scheduling flexibility and allowing each IT team member to manage 100 servers with ease. Improved IT management efficiency has therefore reduced the cost of IT management.

Expanding business puts pressure on IT management

Since its establishment in 2005, ICBC Credit Suisse's business scope has developed rapidly. From operating equity and mutual funds, it now offers nearly 300 financial products and services to the Chinese marketplace. The company owes its continuous expansion to its ability to effectively utilize information technology to efficiently serve its clientele. It needed to ensure that it was using the most updated information technology tools to ensure its continuous expansion.

With the growth of ICBC Credit Suisse's business, the IT Infrastructure needs to be expanded in tandem. The number of servers in ICBC Credit Suisse had grown from a few, to 300 in 2011. For an IT team composed of only 12 employees, it became increasingly difficult to manage and maintain so many servers without compromising normal business operations.

The company has been facing challenges on product development cycle time. The rule of thumb has always been the shorter the time from the product development to the launch and operation, the better the company's business operations.

"The time for the development and testing of our application consumes about 15 days. However, from server procurement to the installation of the operating system, and to the configuration of the

An enterprise private cloud computing platform based on Intel® Xeon® processor E7 family and Intel VT has helped ICBC Credit Suisse face the growing demands of the financial industry

application environment, a lot of energy is being consumed and the consumed time hardly guaranteed any positive results," shares Zhang Yi, executive director of ICBC Credit Suisse.

"For example, problems like server supplier delays, limitations in power supply and space in the computer room, and unexpected software errors could result in increased deployment time in the application. Delays could even last several weeks. Such a lengthy operation resource allocation mode and cycle has been threatening our business operations," adds Yi.

Another problem was not being able to fully utilize the computing resources. During trading hours, the business application servers were idle, so the computing resources were not being used. Although ICBC Credit Suisse needs a large number of computing resources to deal with massive transaction data generated from fund transactions, it was still very hard to temporarily allocate these idle computing resources.

The issues were also taking a toll on ICBC Credit Suisse's 12-member IT department. Only two to three members were responsible for managing the IT infrastructure. The ever-increasing number of physical servers was posing grave challenges to the IT department.

In a fund industry that relies heavily on information technology, ICBC Credit Suisse knew it needed to change its IT infrastructure. The company's IT department believed building an enterprise private cloud computing platform would solve its IT issues.

Supporting business expansion with a virtualized platform

To build an enterprise private cloud computing platform, ICBC Credit Suisse chose Intel VT. The technology allowed ICBC Credit Suisse to complete the 100 percent virtual transition of its business applications, except for a few applications that have to rely on a physical encryption card. The 300 servers, based on Intel Xeon processor E7 family, formed the data center. With a cloud computing platform, ICBC Credit Suisse has achieved the effective utilization and efficient management of its computing resources, enhancing the productivity of its IT department and making business operations more flexible.

With an Intel-based platform, ICBC Credit Suisse has shortened the operation resource allocation cycle time. In past, it usually took half a month to provision a server for a new application after the server is procured. Explains Yi: "We are now able to allocate our computing resources as simply as making an order in a restaurant. When a new application needs to be launched, we just need to let the system administrator know the application's computing performance and memory as well as the storage requirements. Then the system administrator can allocate the computing resources in just a few minutes with the click of a mouse."

Yi also shared that virtual machine deployment mode based on Intel VT allows the system administrator to monitor the performance of the virtual machine in real time. When an application needs higher performance from a virtual machine, the virtual machine can be transferred to a better-performing physical server without interrupting business operations. This allowed ICBC Credit Suisse's business operations to become more flexible.

After the deployment of the enterprise private cloud computing platform based on Intel VT, ICBC Credit Suisse was also able to fully utilize the server's computing resources by customizing several dozen virtual machine templates with varying performance. These virtual machines can be assembled to the physical server like toy bricks; they can also flow like water between the physical servers with varying levels of performance. Through this, ICBC Credit Suisse can release the computing resources from the virtual machines operating the business applications during non-trading hours for the purpose of processing the transaction data. Subsequently, at a specified time, these computing resources can be automatically recovered for the business operation.

LESSONS LEARNED

- Virtualization is the base of cloud computing. An enterprise private cloud computing platform based on Intel VT is an ideal solution to meet the high availability demands in the financial industry.
- Intel VT helps enterprises shorten the computing resource allocation cycle time from several weeks to only a few minutes.
- The standardized cloud computing resource deployment and management mode based on virtualization helps enterprises improve their IT efficiency.

"Our previous business applications had no high demands in the server's computing capability but had nonetheless taken up a lot of space on the physical server. Now, the computing resources can be allocated on an as-needed basis. All the computing resources in the ICBC Credit Suisse data center have been fully utilized," says Yi.

More importantly, ICBC Credit Suisse's IT management efficiency has been significantly improved. In the traditional infrastructure management mode, the management difficulty and complexity would increase exponentially. One IT person could only manage 20 to 30 servers. With an enterprise private cloud computing platform based on Intel VT, one IT person can now manage more than 100 servers, since the allocation or reorganization of the computing resources can be done with just a few mouse clicks. The IT managers were freed from jobs like system installation and configuring the operation environment. This has significantly improved the efficiency of the IT department.

The improvement of IT management efficiency has also produced a significant effect on ICBC Credit Suisse's operations. Since the allocation and management of computing resources no longer affect the online operation of business applications, business applications have been standardized in every way from development to online operations and are controllable, ensuring ICBC Credit Suisse's quality of service.

Find a 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).

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