

# BLADES GIVE TRADING APPLICATION AN EDGE

Tora Trading Services optimizes space by 35 percent and reduces energy consumption by 30 percent with Dell PowerEdge blade servers



Tora Trading Services is the recognized leader in electronic trading systems and access to liquidity for Asia. The TORA Trading Platform provides hedge funds, long-only asset managers, and proprietary trading desks with access to 75 brokers across 24 markets in 14 Asian countries. The platform also provides access to over 150 algorithmic trading strategies to trade equities, futures, options, derivatives, and synthetics. It is used by clients across Asia, the US, and Europe, and accounts for more than 25 percent of the electronic trading flow on the Tokyo Stock Exchange.

## SOLUTIONS

- VIRTUALIZATION
- STANDARDIZATION



## CUSTOMER PROFILE

**COMPANY:** Tora Trading Services®

**COUNTRY:** Japan

**INDUSTRY:** Banking & Finance

**FOUNDED:** 2004

**EMPLOYEES:** 140

**WEBSITE:** [www.toratrading.com](http://www.toratrading.com)

## CHALLENGE

Due to power constraints and a reliance on 1U and 2U rack servers, Tora Trading Services data center was unable to scale to provide necessary resources. It was also too complex to manage, making the data center inefficient and unwieldy.

## SOLUTION

Working with Dell, Tora migrated its proprietary trading application to 3 Dell™ PowerEdge™ M1000e enclosures with 33 Dell PowerEdge M600 blade servers deployed. The blade system provided excellent power management, optimized space, and reduced infrastructure costs

## BENEFITS

### Get IT Faster

- Blade servers help save physical installation time by up to 90 percent and improve productivity

### Run IT Better

- Unified management interface helps simplify and speed up administration by more than 80 percent
- I/O module greatly simplifies and reduces time to configure blade servers

### Grow IT Smarter

- Compact blade servers help reduce hardware footprint by 35 percent
- Power management and cooling features help save 30 percent in energy consumption



In production since 2000, the TORA® Compass trading platform was made commercially available for the first time in 2004 in response to increasing demand and growth for Asia-specific multi-broker, multi-product trading solutions. Tora's proprietary platform offers clients significant benefits including broad connectivity across Asian exchanges, industry-leading order processing time, and full transparency of orders. The result is high quality trade execution and efficient trade order management.

In early 2005, Tora established the TORA Equity Trading group to support its Asian clients. TORA Equity Trading offers agency-only trading services to clients looking for an alternative to the cost and complexity of setting up and managing their own internal trading desk for Asia.

The TORA Compass trading platform relies on state-of-the-art data centers in Tokyo and Hong Kong to provide 99.99 percent up time. With 140 employees dedicated to Asia, Tora can provide real-time assistance from offices in Tokyo, Hong Kong, Singapore, New York, and San Francisco.

Such demanding work and high availability requires an efficient, scalable, and robust IT infrastructure to meet the ever-growing demand for real-time trades in Asia. The company's existing data centers could not resolve these issues due to a dependency on 1U and 2U servers, which consumed significant power and management resources. "Because our business is growing rapidly, the challenge is to create an efficient data center by reducing power consumption and simplifying server management," says Keith S. Smith Jr., Systems Engineer, Tora Trading Services.

## **"WE WANTED TO SWITCH GEARS COMPLETELY IN AN EFFORT TO GET THE MOST USE OUT OF OUR DATA CENTER SPACE. WE BEGAN THIS PROCESS THROUGH THE USE OF VIRTUALIZATION; DELL BLADE SERVERS MADE OUR ASPIRATIONS A REALITY."**

Keith S. Smith Jr., Systems Engineer, Tora Trading Services

### **TORA SELECTS DELL BLADES TO POWER LINUX DATA CENTERS**

After conducting an internal review of its data centers, Tora concluded that it needed a system that would draw less power than the existing 1U or 2U server configuration. In addition, the system had to integrate advanced I/O connectivity options, including multiple network interface card ports per blade and fiber channel connectivity. Tora also wanted a streamlined and simple built-in management system. Finally, the system had to be redundant to meet the stringent requirements of both the company and its client base.

Tora determined that Dell's blade servers would be the ideal solution to this problem. "This was our first foray into blade servers. We wanted to switch gears completely in an effort to get the most use out of our data center space. We began this process through the use of virtualization; Dell blade servers made our aspirations a reality," says Smith.

Tora evaluated offerings from several vendors, but in the end it was impressed by

Dell's solution feature set and superior cost advantage. "We've been a Dell customer for a while, and chose its blade servers, in part, because we wanted to continue to receive the high level of technology, support, and price competitiveness the company provides."

Tora selected the Dell PowerEdge M1000e enclosure and turned to Dell Infrastructure Consulting Services for assistance in determining the best blade server configuration. Tora purchased 33 PowerEdge M600 blade servers and three enclosures, and will purchase three more enclosures in the near future. The blades were first deployed in their Hong Kong data center but the company also plans to install blades in the Tokyo data center to replace existing 1U and 2U servers. Smith says, "We've also installed VMware® ESX 3.5 in an effort to squeeze even more servers into our data center. In the future we will deploy Dell/EMC fiber channel to create a shared storage solution." Tora received delivery and completed the blade server installation and Linux operating system setup in only two weeks.

### **HOW IT WORKS**

#### **HARDWARE**

- Dell™ PowerEdge™ M1000e enclosure
- Dell PowerEdge M600 blade servers with Intel® Xeon® processors

#### **SOFTWARE**

- VMware® ESX 3.5

#### **SERVICES**

- Dell Global Infrastructure Consulting Services



**“DELL BLADES ARE THE RIGHT SOLUTION FOR OUR BUSINESS BECAUSE THE REDUCED POWER, SPACE, AND MANAGEMENT REQUIREMENTS ALLOW US TO FOCUS OUR RESOURCES. WE ARE CONFIDENT THAT OUR CLIENTS ARE BENEFITING FROM THE MOST RELIABLE AND EFFICIENT TECHNOLOGY AVAILABLE TODAY.”**

Keith S. Smith Jr., Systems Engineer, Tora Trading Services

“Dell was invaluable in the assessment and design phase. This is because we were taking a chance on a system that had not yet been released. Dell demonstrated its excellent customer service in getting us crucial, unreleased information in time to make our decisions,” Smith notes. “Dell was extremely helpful in obtaining crucial information and advice pertaining to the system and its abilities. Additionally, Dell worked closely with Tora to achieve its desired configuration at an attractive cost,” he states.

The Tora server platform is being used by Tora’s offices in Tokyo, Singapore, Hong Kong, San Francisco, and Europe, as well as a large number of funds located around the world. In Asia, the data centers will support 75 brokers, 24 exchanges, 14 countries, and over 150 algorithms, all on one platform. Tora’s clients can also route orders globally, connecting to more than 60 exchanges worldwide.

#### **DELL BLADE SERVERS SAVE TORA 30 PERCENT IN ENERGY CONSUMPTION**

Due to power constraints in Tora’s data centers, there was a limited number of servers that the company could fit in a rack with proper power redundancy. The blade server system offered enhanced design features that brought immediate savings in energy consumption. Smith remarks, “We had significant power savings when we installed the three enclosures.” He continues, “For example, we tested 16 of our original 1U 1950 rack servers at 4,266 VA as opposed to 3,016 VA with one of our the enclosures housing 16 blades. That’s a 30 percent power decrease.”

Smith also cites design features such as the high-flow/low-power fans, ultra-efficient power supply, and optimized airflow as useful in managing the power consumption efficiently in its data centers. “Intelligent design features on the Dell blades, like the dynamic power management tool, ensure we can operate the blades within a specified power envelope. It lets us throttle down some of our management servers to make room for higher-purpose servers,” Smith notes.

#### **BLADES SIMPLIFY AND UNIFY MANAGEMENT**

With such a large number of rack servers, management was always a chore for Tora’s data center personnel. “We needed to spend a significant amount of capital and support resources on a unified remote management system. Also, we had to manage the systems onsite due to their size and the skill involved in adding or removing equipment,” adds Smith.

The blade system has greatly simplified server management. In particular, Tora can now easily manage the entire system from the built-in Chassis Management Controller. From a single console, staff have redundant, secure access paths to manage multiple enclosures and blades. “Chassis Management Controller is invaluable. Before, we didn’t have access to each individual server, or had to use a third-party device,” says Smith.

In addition, real-time reporting for enclosure and blade power consumption through the integrated Dell Remote Access Controller greatly enhances the visibility and accuracy of resource utilization. Smith says, “The entire blade solution is very user-friendly; it’s wonderful to have everything in one place.”

#### **DELL BLADE SERVERS HELP SAVE SET-UP TIME BY UP TO 90 PERCENT, BOOSTING PRODUCTIVITY**

By utilizing the latest blade technology, Tora can also deploy new server resources quickly and efficiently as the need arises. “Dell’s unified Web interface saves us a tremendous amount of administration and set-up time on our blade servers,” Smith remarks. “For example, with 1U and 2U servers, initial setup and pre-OS configuration can take several hours for 16 1U servers, compared to just five to 10 minutes with a chassis full of blades,” he adds. The unified Web interface can remotely shut down a blade in minutes, compared to over 30 minutes to arrange a remote hands service to press the power button on a standard rack server. Additionally, power readings only take two minutes with blade servers; this is great for checking power circuit utilization before adding new equipment.

The flexibility of the Dell blade design also simplifies hardware access and configuration. “It only takes us two minutes to slide a blade into the chassis and have it ready for use. In our experience, a similar task with 1U and 2U servers would take more than 20 minutes, even with an experienced engineer onsite,” says Smith. He also notes that configuring the I/O module takes only five minutes on blade servers and eliminates any need for network patching to a separate Ethernet switch that is associated with 1U and 2U servers.

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Keith S. Smith Jr., Systems Engineer, Tora Trading Services

**DELL SERVERS SAVE INFRASTRUCTURE COSTS AND UTILIZE 35 PERCENT LESS SPACE**

One of the biggest benefits of using Dell's blade servers is the future-proof, modular design. The ability to install components such as switches into the chassis, for example, has saved Tora time and infrastructure costs. "We could not have done this without Dell's FlexIO switch technology," says Smith. "We can scale to provide more stacking functionality without having to throw out existing hardware investments."

Tora has also benefited from the offer of greater density blade servers compared to 1U servers. "The Dell PowerEdge M600 blade servers provide 35 percent greater density than our 1U servers. They are excellent in saving space costs," notes Smith.

"We will rely on Dell blades because they allow us to get the most out of our data center space at the best price," comments Smith. "Dell blades are the right solution for our business because the reduced power, space, and management requirements allow us to focus our resources. We are confident that our clients are benefiting from the most reliable and efficient technology available today," he continues.

**For more information on this case study or to read additional case studies, go to [www.dell.com/casestudies](http://www.dell.com/casestudies) or [www.dell.com.sg](http://www.dell.com.sg)**

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