



## Case Study: Investment Bank

Capital costs lowered by 70 percent

### Business Value

- Capital costs reduced 70 percent
- Management costs reduced 50 percent
- Performance increased by 2.8x
- N+1 failover
- Better IT responsiveness

### Executive Summary

This global securities firm wanted to increase the throughput of its order-management system. To leverage Linux, lower capital expenditures and simplify administration—without sacrificing the high availability of its existing solution—the bank turned to Egenera. The firm estimates that selecting the Egenera® BladeFrame® system reduced its capital costs by 70 percent and lowered management costs by 50 percent.

### Business Challenge

This global securities firm wanted to increase the throughput of its order-management system. With several billion dollars in underlying securities moved each day, the bank needed an extremely reliable, high-performance system that would enable it to execute trades more quickly and help its portfolio managers secure better per-share prices for their customers. However, the needed upgrade would have entailed significant capital costs based on the proprietary Unix platform then being used. The goal was to source a Linux system with the enterprise-class functionality needed to run a mission-critical application.

The application—a combination of middleware, C and C++ code, and a Java-based program-trading system—was running on several Sun E4800 machines networked to enable the hot clustering needed to balance the load. To guard against unplanned downtime, the trading system also used high availability software, which introduced a high degree of complexity in both setting up and managing the systems. To leverage Linux, lower capital expenditures and simplify administration—without sacrificing the high availability of its existing solution—the firm turned to Egenera.

### BladeFrame Solution

During a pilot phase, the team evaluated the BladeFrame in several areas:

**Performance:** The BladeFrame was tested against a Unix machine by running three of the bank's internally developed applications on each system. A two-way Egenera Processing Blade™ module based on Intel® processors ran up to 2.8 times faster than a 4-way Unix box with its proprietary chips. It was also noted that Egenera blades can be shipped with up to 32 GB of memory, higher than that of other vendors.

**Virtualization:** With Egenera PAN Manager™ software, resources can be easily reallocated as requirements dictate, enabling the bank's IT personnel to right-size applications and better support business customers. Moreover, by eliminating per-server connections to networks and storage, virtualization has also lowered capital and operational costs.

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**Application portability:** The bank found no difficulty porting its Java-based applications from Unix to Linux, which had previously been a concern.

**Networking:** The team perceived that the BladeFrame's internal high-speed, low-latency network could be much faster than traditional networking among discrete servers, enabling a faster response to market changes.

**High availability:** Traditionally, the bank backed up every production server with a dedicated failover machine, at great cost and complexity. With the Egenera system, a few blades are leveraged for backup across many production blades, with no third-party software required.

**Provisioning and maintenance:** The ability to hot-plug additional Processing Blades as needed notably decreased the time required to deploy new servers. Moreover, unlike Unix systems, the BladeFrame can be maintained without powering the system down.

**Investment protection:** With Unix systems, forklift upgrades are the norm to move to next-generation processors. The BladeFrame enables the bank to mix CPU sets within a single frame, protecting earlier investments.

Ultimately, Egenera replaced the firm's legacy environment with the BladeFrame platform, installing multiple systems in the U.S. and the U.K. Using Egenera's powerful virtualization software, the firm is now able to dynamically reallocate resources as needed, reducing provisioning and management time and creating a more stable environment during peak trading hours. The firm estimates that selecting the Egenera system reduced its capital costs by 70 percent and lowered management costs by 50 percent while delivering the performance and high availability required for this mission-critical application.



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