

# Securities Trading Firm Gains Competitive Edge



## Executive Summary

### Mantara

- High-Frequency and Electronic Trading
- Jersey City, New Jersey
- 50 employees

### Challenge

- Reduce complexity of multivendor, multiproduct infrastructure
- Help customers comply with evolving security regulations while maintaining ultra-low latency market access
- Support rapidly growing global client base

### Solution

- Cisco Nexus 3064 Switches provide ultra-low latency with isolated private VLANs
- Cisco Nexus 7000 Series Switches offer highly scalable, modular switching system
- End-to-end Cisco Unified Fabric creates simplified homogenous environment

### Results

- Eased management and reduced administrative costs by 30 percent
- Reduced TCP retransmission errors, accelerating development efforts
- Gained more efficient, secure infrastructure that can adapt to evolving business needs

## Mantara improves performance and eases management of ultra-low latency trading platform with Cisco Unified Fabric.

### Challenge

Based in Jersey City, New Jersey, Mantara develops ultra-low latency technology solutions for the high-frequency trading industry. With a strong focus on accelerating pre-trade risk controls, the company's product suite has garnered a significant client base, experiencing double-digit month-over-month growth in 2011.

To continue on this growth path, Mantara realized that it would need to reassess its data center network. Not only did the company need to prepare for a ramp-up in activity, it had to do so while maintaining the ultra-low latency and robust security that its customers demand. This task was complicated by the fact that Mantara's data center environment was a mix of products from various vendors, including Arista, Juniper, and Cisco.

"Our infrastructure at the time was made up of different products serving different purposes, which created unnecessary complexity," says Victor Kokaram, head of infrastructure for Mantara. "On top of that, some products were not capable of handling market fluctuations without packet loss. What we needed was a reliable and scalable solution that could function at the required security level without attacks on latency, while working well with other products."

Due to federal regulations put in place by the U.S. Securities and Exchange Commission, having a robust security infrastructure was especially critical. "As a result, you cannot connect multiple clients into the same switch without some type of security," says Kokaram. "But when you add security to a switch, it can affect the speed and performance. It can take you away from ultra-low latency nanosecond switching down to microsecond switching, which is unacceptable. In this industry, the name of the game is speed."



“Cisco has a track record of successfully partnering with market leaders. We believe that the Cisco Nexus 3064 plays a significant role in the future of ultra-low latency switching.”

– **Victor Kokaram**,  
Head of Infrastructure,  
Mantara, Inc.

## Solution

After evaluating various products, Mantara felt that the Cisco Nexus™ 3064 Switch came out on top. Ideally suited for high-frequency trading, the Nexus 3064 offers ultra-low latency and a resilient operating system in a high-density design.

“What really interested us about the Nexus 3064 switch was its isolated port security,” says Kokaram. “It allows us to connect multiple customers to our ultra-low latency hub securely, without having to set up access lists or VLANs [Virtual Local Area Networks].”

Mantara also chose to implement Cisco® Nexus 7000 Series Switches to lay the foundation for a modular switching system. “With everything on a common Cisco command-line interface, we can easily address any issues in the network,” says Kokaram. “Plus, we have the better security and ease of management that Cisco is so famous for.”

The company is currently in the process of building four new data centers, which will be colocated with the four major U.S. stock exchanges: New York Stock Exchange, NASDAQ, Direct Edge, and BATS. Mantara uses the Cisco Nexus 3064 in a top-of-rack solution that customers can choose to plug into directly or through a local venue. Says Kokaram, “The increased port density means that we can avoid a two-tier deployment, as well as the consequent doubled latency that can result from solutions with lower port density.”

From its core and ultra-low latency switching down to lower end connections, Mantara now has an end-to-end Cisco Unified Fabric that reduces its previous challenges.

## Results

Thanks to a new Cisco networking infrastructure, Mantara’s data center team has been able to save both time and money spent on management. “We’ve seen a roughly 30 percent reduction in administrative costs associated with configuration and setup,” says Kokaram.

Even more importantly, Mantara has a more stable and reliable trading platform. “Because we now have a homogenous Cisco environment, we no longer see TCP [Transmission Control Protocol] retransmission errors due to spanning tree mismatches,” says Kokaram. “These kinds of problems can not only slow down development efforts, they also give misleading results. But with our end-to-end Cisco Unified Fabric, we no longer have to worry about that.”

Mantara is now perfectly positioned to take on the significant growth that lies ahead. “Cisco has provided us a cost-competitive solution with more ports, better security, higher scalability, and nanosecond-speed performance,” says Kokaram. “We expect tremendous growth in the future, and we’re confident that Cisco is here to stay with us as we grow.”

## Product List

### Routing and Switching

- Cisco Nexus 3064 Switches
- Cisco Nexus 7000 Series Switches

## Next Steps

With the recent unveiling of its new office in Toronto, Canada, Mantara hopes to continue expanding its reach to Europe as well as Asia. Kokaram has a wealth of new ideas to drive that initiative forward, and he looks forward to seeing where the Cisco Nexus 3064 switch will take them. “Cisco has a track record of successfully partnering with market leaders,” he says. “We believe that the Cisco Nexus 3064 plays a significant role in the future of ultra-low latency switching.”

## For More Information

To find out more about Cisco Nexus Switches, visit: [www.cisco.com/go/nexus](http://www.cisco.com/go/nexus).

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