

## New Securities Trading System Provider Sets Standard with Fast, Reliable Solution

Alpha Trading Systems builds high-speed network with low latency, best in class reliability

### EXECUTIVE SUMMARY

#### ALPHA TRADING SYSTEMS

- Industry: Finance
- Headquartered in Toronto, ON
- Approximately 35 employees

#### CHALLENGE

- Build an end-to-end solution, including a fully redundant, high-speed network in a short timeframe
- Create a low latency solution to gain competitive advantage over other trading execution venues
- Reduce costs by working with strategic partners

#### SOLUTION

- Cisco switches and firewalls tie together two data centres within a very low latency network
- Layer 2 network based on industry standard and proprietary protocols

#### RESULTS

- Latency goals achieved
- Traders enjoy fast market response times
- On target to meet or exceed business objectives

### Challenge

Alpha Trading Systems (“Alpha”) was established in May, 2007 by nine of Canada’s leading financial institutions (BMO Capital Markets, Canaccord Capital Corporation, CIBC World Markets, CPP Investment Board, Desjardins Securities Inc., National Bank Financial, RBC Capital Markets, Scotia Capital Inc. and TD Securities Inc.), with the mission of providing the preferred trading venue for trading Canadian securities. To achieve that goal, Alpha wanted to use the latest technology to build an efficient trading system in Canada and to rely on strategic partners to assist in managing it.

“Our goal was to build a world class execution venue,” says Karl Ottywill, CIO for Alpha. “We knew that if we could build a best in class trading system, we would attract more activity.”

Building a trading system from the ground up in just over a year was a major project. “Our business mandate is to have smart outsourcing, so we decided to partner with key technology experts,” says Aleksandar Simic, head of infrastructure for Alpha. “We used their expertise to help deliver the system that we wanted.”

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– Karl Ottywill, CIO, Alpha Trading Systems

## Solution

Alpha turned to Scalar Decisions to help test its trading system and design a reliable, low-latency network. Headquartered in Toronto, Scalar has been designing innovative enterprise IT solutions since 1991.

Scalar and Alpha began testing the trading system, without the network, in late 2007. Once they created benchmarks for the trading system, they were able to set latency goals for the network.

“The transaction turnaround time had to be very fast, so the network was a very important piece of the solution,” says Roger Singh, Scalar’s vice president of technology and CTO. “We needed to achieve an aggressive response time on the network, including the wide area network (WAN) component.”

Alpha and Scalar chose a Cisco Systems Ethernet network as the backbone for the new trading system. “We zeroed in on Cisco quickly,” Ottywill says. “We wanted technology that had been tried, tested, and true thousands of times and something that would be widely used in our subscribers’ networks so we could minimize the chances of any potential conflicts.”

Alpha, Scalar, and Cisco began working on the network in late 2007 and had everything ready on schedule by fall 2008. “It was a massive job, but everything went as planned,” says Zaklina Petkovic, Head of Networks for Alpha. “We built a very fast network that was simple in design and very reliable.”

Alpha’s network encompasses two data centres: one inside Toronto and the other on the outskirts of the city. Both sites are active, which allows workloads to be balanced across all the available equipment. “If one site goes down, the other site can function independently, giving Alpha excellent disaster recovery capabilities,” says Dave Cole, network architect with Scalar.

The heart of the network consists of Cisco Catalyst® 6500 Series Switches equipped with modules featuring 10 Gigabit Ethernet and Gigabit Ethernet uplinks.

A stack of Cisco Catalyst 3750E Series Switches handles core management, while other stacks of 3750E switches handle the subscriber network. The network’s access layer includes Cisco Catalyst 2960 Series Switches. Cisco firewalls secure the network. The entire network operates at Layer 2 to minimize latency.

## Results

Alpha’s network was completed on-schedule in the fall of 2008, and the trading system launched on November 7. Alpha achieved its goal of establishing an efficient trading network for subscribers using its proprietary EMAPI low-latency protocol. Alpha also supports the industry standard Financial Information eXchange 4.2 (FIX) protocol for order entry.

Alpha's network has been very stable, and the company is on target to meet its goals. "The response has been great," Simic says. "Our goal was to change the industry landscape, and we're achieving that."

### PRODUCT LIST

#### Switching:

- Cisco Catalyst 6500 Series Switches
- Cisco Catalyst 6500 Series Supervisor Engine 720
- Cisco Catalyst 6500 Series Distributed Forwarding Cards
- Cisco Catalyst 3750E Series Switches
- Cisco Catalyst 2960 Series Switches

#### Security:

- Cisco ASA 5520 Adaptive Security Appliances
- Cisco Catalyst 6500 Series Firewall Security System

### Next Steps

Alpha plans to continue growing its trade volume. "We built everything with the goal of offering world class performance and response times for our customers," Ottywill says. "We've delivered on that goal, and we'll continue to offer superior performance and reliability as our business grows."

### For More Information

To find out more about Cisco, go to: [www.cisco.com](http://www.cisco.com)

To find out more about Scalar, go to: [www.scalar.ca](http://www.scalar.ca)



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