



High-Performance Trading: Algo Speed 2.0

Accelerate Front-Office Automated Trading Applications

Executive Summary

Financial markets are undergoing sweeping changes, due to new regulations, changes in market structure, and market economics. The shift from manual to automated trading requires speed and the handling of huge volumes of data, with maximum reliability and predictability, which together create a huge strain on the information infrastructure of financial firms. Globalization magnifies the challenge by requiring that people, processes, and technology work 24 hours a day and across the continents. To stay ahead of the curve, firms need to meet the challenge of exponential growth with a technological leap in their trading infrastructure. In response, Cisco, with the help of its ecosystem of partners, offers the next generation in trading infrastructure, Cisco® High-Performance Trading (HPT).

The Challenge

Automated trading has created a trading cycle in which even microseconds matter. The faster the trading infrastructure, the better the chance of hitting price points in a very dynamic market. Regulatory changes such as the Regulation National Market System (Reg NMS) in the United States and the Markets in Financial Instruments Directive (MiFID) in the European Union will generate more quote, order, and cancel/replace messages as equity firms adapt to more electronic business processes. Between 2007 and 2012, the global market data volume is expected to increase by 900 percent according to the TowerGroup report “Preparing for the Data Flood.”

Business cannot tackle this exponential growth in market data with a linear approach to upgrading the supporting infrastructure.

The Solution: Cisco High-Performance Trading—Algo Speed

The Cisco HPT infrastructure is a highly available, modular, scalable, low-latency architecture that helps firms to handle the exponentially increasing volumes of market data and trades.

High performance means low latency (in the microsecond range), high predictability and availability, and the ability to efficiently handle volumes at close to the level of one million messages per second.

Cisco and its partners are offering an integrated set of technologies to help financial firms accelerate their migration to a next-generation trading platform.

Algo Speed—one solution in the HPT portfolio—helps transform the front office to meet the demands of today's high-velocity, high-frequency trading environment.

The Algo Speed solution offers the following advantages:

- **Acceleration:** Automated trading applications can capture very short-lived opportunities, such as pricing anomalies and can react fast to changes in market conditions.
- **Predictability:** The variation in application messaging delay is reduced, helping to ensure consistent data input into algorithmic trading engines.
- **Reliability:** High-availability features in Cisco switches enable the design of robust networks, proven by large deployments in critical environments.
- **Manageability:** The solution facilitates end-to-end management across multiple switching fabrics.
- **Visibility:** The solution detects micro-bursts in market data traffic and identifies the source of a delay.

Solution Benefits

- **Minimizes latency and increases capacity across the trading platform:** In a system that delivers time-sensitive data, it is imperative to minimize end-to-end latency. As the data traverses the different components of a trading platform—including market data delivery, order routing, and execution—the HPT infrastructure provides a lowest-latency interconnect at each component.
- **Helps firms comply with regulations:** Regulations such as Reg NMS and MiFID generate more quote, order, and cancel/replace messages as equity firms adapt to more electronic business processes. Acceleration of trading applications helps ensure that best execution requirements are met and increases competitive advantage.
- **Provides flexibility to support a service-oriented architecture:** The Cisco HPT Algo Speed solution adheres to industry-standard protocols. An application environment that supports these industry protocols will truly benefit from the open architecture, as it becomes part of a service-oriented architecture strategy for the adaptive enterprise. This architectural approach shortens the time to market for new financial products, providing a competitive edge.

Cisco is building key relationships across the HPT value chain. Technology companies such as Thomson-Reuters, 29West, TIBCO, and Wombat are among the first in a growing list.

Why Cisco?

Cisco is the industry leader in networking solutions. With its breadth of products and services covering network infrastructure, security, and unified communications, Cisco is uniquely positioned to deliver a high-performance trading platform with the following characteristics:

- The broadest portfolio of enterprise-class products from a market leader
- Robust solution, validated by a third-party testing facility
- Flexible platform that enables firms to tailor their infrastructure components to optimize service delivery and efficiency for variable processing requirements

- A single, unified fabric that incorporates switching, routing, load balancing, quality of service, and content acceleration as needed. The results are speed, scalability, and cost efficiencies.
- Comprehensive ecosystem of key partners across the HPT value chain
- World-class support (24-hour global support; depots in 122 countries)
- Global training, scalable advanced services, and robust escalations

For More Information

For a more detailed discussion of the High-Performance Trading architecture, please visit:

http://www.cisco.com/web/strategy/docs/finance/trading_floor_architecture.pdf

<http://www.cisco.com/go/financialmarkets>



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