



Cisco High-Performance Trading: Performance Management

More Control Over the Delivery of Trades and Market Data

What You Will Learn

This solution overview describes:

- The challenges facing financial market firms to address changes in latency more quickly
- How the Cisco Performance Management solution can help meet those challenges
- Why Cisco and Corvil are the right business partners for you

Challenge

Automated trading has created a trading cycle in which milliseconds and even microseconds matter. The slightest delay in the execution of a trade can mean missed opportunities, which can mean loss of revenue, loss of reputation, and compliance problems.

New trading applications, such as the algorithms designed to take advantage of very brief pricing anomalies in the market, require not just low-latency access to market data, but also very predictable latency. Any variation in latency can throw the algorithm off.

Smart order management systems, which route trades to the best execution venue, need low-latency connectivity to a wide range of trading system networks. They need real-time information about the response time of each venue to ensure best execution, which is one of the main requirements for regulatory compliance. Current tools are not granular enough to catch microbursts, which happen in the span of a millisecond or less. Lack of visibility leads to lack of control.

Performance Management

Financial applications have very demanding service-quality requirements. Many market participants purchase services like co-location, proximity, direct memory access, and high-speed network connections seeking the lowest possible latency and highest possible service quality. The Cisco Performance Management solution provides tools to measure latency and microbursts, detect anomalous behavior, and configure the network to meet these low-latency demands. The solution is built around Corvil CorvilNet™, a next-generation network performance management tool. CorvilNet offers unprecedented visibility into network events that affect application latency and loss.

The main features of CorvilNet are:

- **Granular measurement:** CorvilNet measures traffic and network latency with microsecond granularity.
- **Detection:** Real-time detection of microbursts (congestion) occurs simultaneously on all interfaces.
- **Analysis:** CorvilNet can analyze latency, jitter, and loss with per-packet resolution. Network events can trigger traffic captures, which can be used for forensic analysis to identify the cause of congestion.
- **Optimization:** Using the results of the analysis, CorvilNet provides actionable information for tuning applications to meet quality targets.

Figure 1. CorvilNet Dashboard



Business Benefits

By implementing the Cisco Performance Management solution, you can reduce the time it takes to troubleshoot and fix issues relating to application performance. You can also use latency statistics to prove best execution, a major regulatory requirement in the United States and Europe, and to prove that you meet service-level agreements (SLAs) with clients.

Traditional network monitoring tools operate with minutes or seconds of granularity. Next-generation trading platforms, especially those supporting algorithmic trading, require latencies of microseconds or low milliseconds and extremely low levels of packet loss. On a gigabit LAN, a 100-millisecond microburst can cause 10,000 transactions to be lost or excessively delayed. In these environments, latency must be measured much more precisely, and in enough detail that each step in a transaction can be properly measured. Understanding where a bottleneck occurs is necessary to effectively tune any system. Cisco Performance Management offers these capabilities in an easy-to-use, easy-to-maintain package.

The Cisco Performance Management solution offers many benefits. It can help you reduce risk by:

- Identifying and reducing network bottlenecks
- Avoiding network latency brownouts

Cisco Performance Management helps you control costs by:

- Pinpointing the targets for upgrades and services that offer real latency improvements
- Buying only the infrastructure capacity needed to achieve latency objectives
- Reducing time and money spent diagnosing and fixing latency problems

Cisco Performance Management can help you raise revenues by:

- Letting market participants execute at higher speeds, with greater confidence of achieving expected fill rates
- Enabling execution venues to attract more orders through greater transparency of execution quality and reduced likelihood of latency brownouts
- Allowing service providers to assure and validate the speed and quality of services to clients

Why Cisco and Corvil?

Cisco gives you the ability to tailor your infrastructure components to optimize service delivery and efficiency for variable processing requirements.

Cisco is well positioned to deliver the next-generation data center fabric for financial firms. This platform can scale to meet the exponential growth in volume and speed expected in financial markets.

Corvil provides a comprehensive array of innovative technologies for managing high-performance trading networks for:

- SLA compliance
- Always-on microvisibility
- Event troubleshooting
- Real-time analytics

The CorvilNet Latency Management System is a leading system that offers interparty latency management and transparency between trading partners.

For More Information

To learn more about how the Cisco Performance Management solution can benefit you, contact your Cisco account manager or visit: www.cisco.com/go/financialservices.

Learn more details from our white paper, "Design Best Practices for Latency Optimization," at: <http://www.cisco.com/web/strategy/financial/markets.html>.



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