



What Is the Value of Managing Latency?

Latency management is a critical component of a trading infrastructure.

By providing micro-visibility into any change in latency across the trading cycle, the Cisco® Latency Management Solution enables the optimization of trade execution and market data delivery. It also helps reduce operational risk by providing real-time, actionable information and reducing the time it takes to troubleshoot and resolve application-performance issues.

What Problems Does It Help Solve?

Automated trading has created a faster trading cycle, in which milliseconds matter. Any delay in the execution of a trade can mean missed opportunities, which can lead to loss of revenue, loss of reputation, and regulatory compliance issues.

New trading applications, such as the algorithms designed to take advantage of very short-lived pricing anomalies in the market, require low-latency access to market data but also very predictable low-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 networks (Alternative Trading Systems [ATS] or Exchanges). These systems need real-time information about the response time of each venue, in order to ensure best execution, which is one of the main regulatory compliance requirements. Current tools are not granular enough to catch micro-bursts, which happen in the span of a millisecond. Lack of visibility leads to lack of control.

The Cisco Latency Management Solution

Financial applications are very demanding in terms of service-quality requirements. End-to-end latency needs to be in the single digit milliseconds range, with no packet loss and no jitter. The Cisco Latency Management Solution is providing the tools to detect and optimize the network to meet these demands.

The solution is based on the Cisco Bandwidth Quality Manager (BQM), a next-generation network performance management tool. Cisco BQM offers unprecedented visibility of network events that affect application latency and loss.

The components of the solution are:

- Cisco Bandwidth Quality Manager (BQM) software
- Cisco Application Delivery Engine (ADE) appliances

The main features of Cisco BQM are:

- *Granular measurement:* Cisco BQM measures traffic and network latency with microsecond granularity.
- *Detection:* Real-time detection of micro-bursts (congestion) occurs simultaneously on all interfaces.
- *Analysis:* Cisco BQM 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, Cisco BQM provides actionable information for tuning applications to meet quality targets.

What Are the Benefits of Managing Latency?

By implementing the Cisco Latency Management Solution, financial firms can reduce the time it takes to troubleshoot and fix issues relating to application performance. Latency statistics can also be used to prove best execution, which is one of the main regulatory requirements in the United States and Europe.

Exchanges and other financial service providers can use the solution to prove they have met the service-level agreements (SLAs) of their clients.

This solution also enables firms to reduce the time it takes to deploy services in a distributed architecture by providing the expected service quality targets.

Why Cisco?

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

- Cisco BQM helps financial firms boost network resilience and meet regulatory requirements.
- Cisco BQM provides micro-visibility, service-quality-aware forensics, and actionable analytics.