

Private Optical Networks Deliver Competitive Edge for Financial Firms

CN 4200® delivers low-latency, high-capacity WAN connectivity

Executive summary

Financial firms engaged in algorithmic and high-frequency trading are looking to minimize latency within the trading process to enable faster access to market data and trade execution. Microseconds count, and latency can affect a firm's competitive position. As latency becomes a strategic advantage critical to success, financial firms are realizing the benefits of a privately owned fiber optic network, versus a switching/routing network that introduces undue latency.

Allied Fiber's Chicago-to-New York dark fiber route, lighted with Ciena's CN 4200 WDM platform, provides financial traders ultra-low latency and high-capacity connectivity and offers firms a distinct strategic advantage over their competitors.

Background

Financial services firms that rely on securities trading for a large portion of their revenue have developed algorithmic trading systems that have changed how investment products are priced and sold. Recently, as competition has grown, financial firms increasingly deploy trading strategies that leverage multiple exchanges, which are rarely collocated. This situation has created a need for ultra-low-latency WAN connectivity.

According to the TABB Group, high-frequency trading among hedge funds, brokers, market makers, and independent traders now accounts for 61 percent of the U.S. equity share volume—and is still growing, increasingly driving a technology race in which latency is the dominating metric. Fractions of milliseconds impact revenue; a one-millisecond advantage can equate to over \$100M per year. Lowering network latency also enables a wider range of trading strategies and provides a competitive advantage.

"For those high-frequency traders that need lower latency and greater control, leasing dark fiber on the Allied Fiber route and lighting it with Ciena's fiber optic networking solutions is a perfect fit."

Hunter Newby,
Allied Fiber CEO

Benefits

- Reduces latency for competitive advantage
- Enhances security
- Provides high capacity to meet bandwidth needs
- Improves network availability
- Offers a comprehensive set of professional service offerings to match the specific requirements of high-performance mission-critical networks

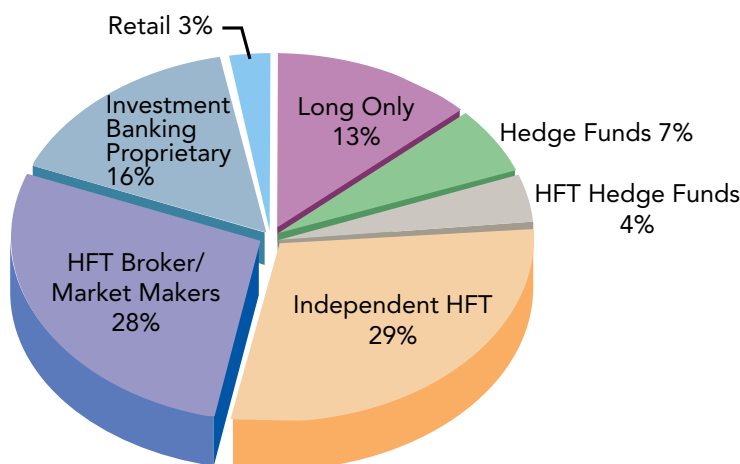


Figure 1. High-Frequency Trading (HFT) accounts for 61 percent of U.S. equity share volume

New Allied Fiber route: Chicago to New York

Allied Fiber was created to address America's need to eliminate obstacles to broadband access, wireless backhaul, and lower latency through new, next-generation long-haul dark fiber construction, based on sound principles and an open access philosophy. The Allied Fiber team is dedicated to building

and providing access to an abundant supply of dark fiber where it is most needed. The first phase of new duct and fiber construction will occur between New York City, Ashburn, Virginia, and Chicago. For more information, please visit www.alliedfiber.com or email info@alliedfiber.com.



Ciena's industry-leading CN 4200 delivers ultra-low latency and high capacity

Ciena has developed technology features to address emerging low-latency, high-capacity networking requirements over fiber.

These features provide:

- Latency-optimized server connectivity with the lowest-latency GbE or 10GbE connections over fiber
- Lower transport latency through the reduction of fiber dispersion compensation delay
- High-capacity, future-proof network platforms for 10G, 40G, and 100G solutions

Ciena's enhanced low-latency features:

CN 4200 2RS Module

Ciena's 2RS module for the CN 4200 offers the ultra fast, lowest-latency server GbE interconnection. The 2RS module simply reshapes and retransmits the data signal, adding virtually no latency. The latency tested for the 2RS module was 0.2 μ s round trip, or 0.050 μ s through each card. The 2RS supports Small Form-factor Pluggable (SFP) transceivers for easy plug-and-play interfaces to optical fiber over a variety of distances.

CN 4200 Dispersion Compensation Modules

Dispersion compensation modules reduce the signal distortion caused by chromatic dispersion as light travels down the fiber. However, some modules, like Dispersion Compensating Fiber

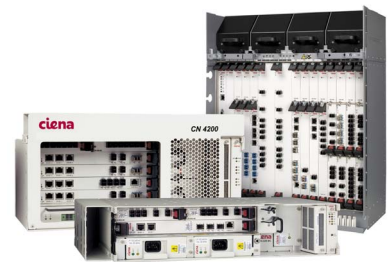
(DCF) modules, can add up to 70 μ s of latency for 100 km fiber transmission. Ciena is offering new ways to reduce the time it takes for light to travel through the fiber. Ciena's new Dispersion Compensation Modules reduce latency to less than 0.15 μ s.

Comprehensive Network Service Offerings

High-performance network solutions offering the lowest latency and high-capacity connectivity form the infrastructure for mission-critical applications. Such requirements often are accompanied by demands for ultra-high availability; being offline is just not an option. To ensure the highest performance and availability, Ciena offers an enhanced service portfolio, which can be leveraged as needed or bundled to create a fully managed network solution.

Summary

As latency becomes an advantage critical to success, financial services firms can deploy private optical networks—based on CN 4200 platforms—to transform network infrastructures into strategic assets and lay the foundation for continued competitive differentiation.



Specialists in practical network transition ... from complicated to automated.

1201 Winterson Road
Linthicum, MD 21090
1.800.207.3714 (US and Canada)
1.410.865.8671 (outside US)
+44.20.7012.5555 (international)
www.ciena.com