

Global Financial Services Enterprise Chooses Net Optics to Provide Scalability for Database and Network Protection in the 10G Environment

Net Optics devices enable a pre-validated Partner solution: building a fault-tolerant architecture for this Enterprise that answers the challenges of growth

Director Pro, iBypass



Industry: Financial Services

Objective:

Build a fault-tolerant, high-availability solution in the 10G environment that defends the Financial Services Enterprise's databases and Web applications from attack and intrusion.

Approach:

Develop a pre-validated architecture using Net Optics Director Pro and iBypass appliances to provide network access and scalability and Net Optics' technology Partner's devices to secure the databases.

Technology Improvements:

- Enhances scalability for cost-efficient upgrade to the 10G environment
- Alerts or blocks database attacks or unauthorized activities in real time
- Detects and virtually patches database vulnerabilities
- Accelerates incident response and audits all access to sensitive data
- Secures against data loss or corruption
- Enables link-state-aware load-balancing for a highly fault-tolerant bridge
- Prevents bottlenecks, oversubscription, and under-utilization
- Supports multi-gigabit traffic loads with minimal impact on application or network performance.

Project Outcomes:

- Enhanced security for the Financial Enterprise's information assets
- A cost-effective, high-value approach to the challenges of growing traffic
- A high-availability, high-performance solution for the 10G environment



For nearly a hundred years, this unique Financial Services Enterprise has served customers in both the public and private sectors. From its base of insurance, the company has successfully diversified into the banking, investment, and retail—including automobile—industries. All the while, it has grown steadily and intelligently, building a massive database along the way. Prudent decision-making and successful investing have earned the Enterprise the loyalty of seven million customers and a highly influential market position. Its longevity, experience, and reputation for integrity make it a premier provider.

The Challenge: Scaling Cost-Efficiently to Protect Vital Data in the 10G Environment

In a world where networks are swiftly evolving to 10G, the Enterprise needed a high-performance access and security solution that was cost-efficient, scalable, and flexible. Ideally, such a solution would provide both high-speed network access and comprehensive database security with five-nines availability—as well as enabling cost-efficient growth.

The Enterprise's current network provider could not deliver the required level of technology cost-effectively. In addition, the vendor couldn't provide the pre-validation that the Enterprise required for its in-line, fault-tolerant bridge. Net Optics, in partnership with another trusted vendor, was able to deliver all of these qualifications and engineer a joint solution that incorporated the scalability and functionality the Financial Services Enterprise needed.

Net Optics Forms a Partnership to Develop a Pre-Validated, High-Availability Solution

Net Optics has earned a position as a pioneer and leader of intelligent monitoring access for security and network management applications. With a growing family of innovative products, Net Optics offers comprehensive interoperability with leading-edge Web and database firewalls, intrusion detection and prevention systems, protocol analyzers, and network forensics. The company provides 24/7 passive network access and 100 percent visibility without ever introducing a point of failure. Using Net Optics technology, companies can monitor, troubleshoot, and secure their networks with confidence. Net Optics Director Pro™ data monitoring platform offers a spectrum of capabilities to answer the Financial Service Enterprise's tough challenges, including dynamic load-balancing and smart filtering. Dual redundant Director Pros and Net Optics 10G iBypass™ switches provide the High Availability (HA) aspect of the joint solution.

"At Net Optics, enabling our customers to scale smoothly and affordably to the 10G environment is a primary goal," said Sharon Besser, Net Optics VP of Technology. "We work to understand each customer's unique technology and business concerns as they upgrade, so that we, in partnership with proven vendors, can deliver the ideal solution at the right price."

Net Optics Director Pro Contributes Sophisticated Data Monitoring

Director Pro is unique in its ability to control, filter, and dynamically load balance traffic sent to monitoring appliances. Built to handle extremely high volumes of traffic, Director Pro reduces the complexity of managing an integrated network fabric in several ways: Each port is bidirectional—effectively doubling port density.

Director Pro enables scalability with its Dynamic Load Balancing feature, which splits the traffic into multiple streams so two or more parallel monitoring appliances can process data. Unique in the industry, Director Pro Dynamic load balancing can process bidirectional traffic and ensure that data flows in both directions are allocated to the same monitoring tool, allowing load balancing to in-line devices such as Database Firewalls (DBFs) or Web Application Firewalls(WAFs). The load balancer also makes decisions to transfer loads from one appliance to another based on current system state, preventing bottlenecks, oversubscription, and under-utilization.

Director Pro's Deep Packet Inspection (DPI) extends a device's filtering capabilities beyond the conventional L2-L4 header information, into L5-L7 headers and the entire packet payload. Director Pro's hardware DPI engine also enables deeper packet exploration at full wire speed up to 10Gbps.

Net Optics iBypass Switch Enables Active, In-Line Connectivity

High Availability is essential to protecting the Financial Services Enterprise's vast database, so the architecture deploys two Net Optics Director Pros and two iBypass Switches for the necessary redundancy. While one firewall is often sufficient to protect a solution, the backup enabled by the second set of devices offers requisite higher certainty for the HA solution. One device remains inactive while traffic flows to the first, but when needed, the second set also processes traffic flow.

Net Optics 10GigaBit iBypass Switches protect the Enterprise from power, link, and applications loss with full 10Gbps heartbeat protection, offering reliable fail-over for DBFs, WAFs or other in-line appliances. Management interfaces enable remote switching and provide access to baseline traffic statistics including utilization levels across the network. A configurable Heartbeat packet real-time health check sent from the Switch helps identify anomalies in the connection. The device's XFP-based monitoring ports accommodate monitoring network links with Data Security appliances that may contain dissimilar interface transceivers.

Partnership Delivers a Comprehensive, Cost-Effective Solution

The technology provider that Net Optics partnered with to provide the Enterprise's new architecture is a specialist in security, compliance, and risk management for sensitive data. Such high-value information has become a prime target for malicious purposes of all types, as well as the subject of intense regulatory

scrutiny. This means that organizations are challenged not only to secure their data and maintain legal compliance, but to control cost, complexity, and risk associated with this protection.

To support its customers, the technology Partner provides a sophisticated framework for lifecycle threat protection of databases, files, and Web applications. The Partner company offers a range of solutions within this framework that comprise a family of database security products for monitoring database activity, firewalls, and management activities.

Net Optics' technology Partner's appliances deliver a powerful, reliable means of deploying Web, database, and file security solutions. For the purposes of the Financial Services Enterprise's joint solution, the appliances contribute exceptional levels of performance, scalability, and flexibility. Fail-open interfaces provide fast, cost-effective fail over while out-of-band management supports optimal security.

The Partner's appliances are engineered for high-performance architectures and the management of heavy traffic loads without affecting application or network performance. The model used in the joint solution supports high traffic loads with multi-gigabit throughput. Hot-swappable components, redundant power supplies, hard drives and fans support uptime and reliability.

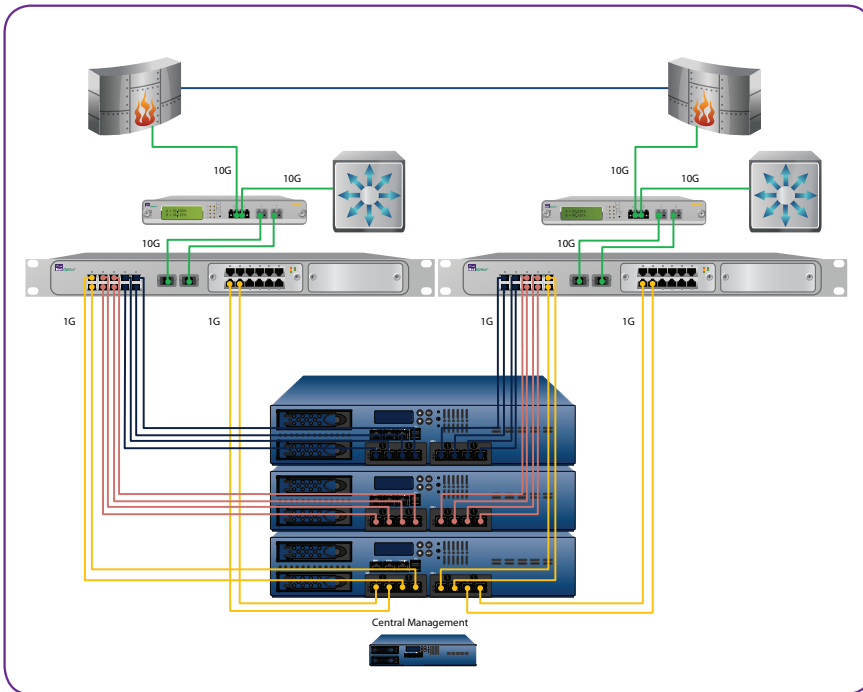
Partnership Brings Together a Scalable, High-Availability Architecture

The participation of Net Optics and its technology Partner in the joint solution offers benefits all around to both the Financial Services Enterprise and to Net Optics' Partner company itself. Net Optics devices allow the Partner company to scale its appliances in a single customer deployment—placing two, three, or even four appliances atop one Net Optics Director Pro—ensuring that the Partner devices perform optimally. Net Optics also gives its Partner the capability to connect in-line to a 10G network without compromising reliability.

All in all, the streamlined interoperability of Net Optics products with those of its technology Partner gives the Financial Enterprise the ability to access network data with confidence in its integrity. The Financial Enterprise can rely on this high-performance, high-availability architecture to safeguard the heart of its business and competitive viability—its proprietary and customer information.

The Solution: An intelligent, Flexible Architecture Offering the Right Technology, Capabilities, and Feature Sets

The solution as shown in the diagram below delivers an implementation consisting of the Partner's three 2 Gigaibits-per-second (Gbps) devices attached to 10 Gbps links by means of Net Optics Director Pro.



At the very top left and top right are firewalls (shown in red "brick"). On the left is the active firewall; on the right is the standby firewall which enables the High Availability aspect of the solution. At the bottom left and right in light blue are network switches. The diagram shows the Net Optics iBypass 10G Tap connected behind the firewall and network switches.

The green line running from the "brick" firewall to the Net Optics iBypass device represents traffic that has entered from the public Cloud. This traffic is partially cleansed of threats by the firewall, but it needs further inspection by the Imperva SecureSphere Database Firewall device. The traffic flows from the firewall to the iBypass Switch. From there, it travels to Director Pro at 10G speed. The Director Pro receives this traffic and fans it out over six 1-G load-balanced ports

to the three Imperva SecureSphere Database Firewall appliances: six links forward traffic to the SecureSphere devices, and six return it to Director Pro. The SecureSphere devices inspect this traffic for any threats to the Enterprise's financial database. Once secured from threats, the traffic is sent back to Director Pro, which aggregates the traffic at 1G speeds and sends it back up to the iBypass Switch. This device then forwards it down to the Cisco switch, which sends it out into the company's intranet.

Win-Win Technology with Comprehensive, Lasting Business Benefits

This solution represents a way to scale easily and quickly using products of proven interoperability in an ingenious configuration. Without the need to make a substantial investment in new infrastructure, the Financial Services Enterprise saves additional funds, while the use of familiar 2 Gbps IPS appliances lowers the learning curve and operational costs as well. The solution is compact yet powerful, using a high-port-density configuration with minimal power consumption. [Another 1U for the bypass switches, and it looks like 6U for the blue boxes.]

The benefits of this sophisticated joint solution are significant for the Financial Company, whose customers can now rely with confidence on the security of their confidential information.

To learn more, visit www.netoptics.com

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