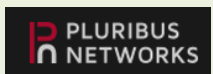




**terrapin**  
Delivering the  
Open Network Advantage



## High Speed Trade Drives High Performance into the Enterprise

In the time it takes you to read this sentence, tens of thousands of high speed financial trades have been made. Time is measured in milliseconds and latency that results in packet loss can result in errant trades and financial loss. Welcome to the world of high speed trading where the availability of 10 Gigabit Ethernet technology has increased bandwidth so that network congestion is the primary source of bottlenecks. The financial sector is leading the way in high-speed network performance but enterprise network managers with high-performance demands like big data centers, social media feeds and high resolution video are not far behind.

To quantify the high-speed challenge, the financial industry CTCQ (consolidated trade/consolidated quote ticker) averages one million messages per second with options and equities bursts of up to twenty-million messages per second. Top social media enterprises also feed millions of messages per second. Enterprises hunger for high performance networks with higher bandwidth and lower latency and are demanding intelligent, programmable networks and switches with data processing functionality that was previously provided by servers.

One prominent switch provider, for example, has integrated packet flow accelerator module compute functionality and customizable software logic onto a new Ethernet switch. The enhanced switch can process over one billion packets per second and ingest input from hundreds of global data sources and parse them to customers with different feed requirements. The switch can even do ongoing pre-trade risk analysis to take advantage of big-data analytics and emerging market opportunities such as hyper-contextual trading. The technology provider thinks this new switch will help customers in finance, insurance, energy, research, education and large enterprises where split-second decisions and mission-critical applications are essential.

Another switch provider offers technology for a series of switches that gives network managers real-time visibility into network queues. Network managers can see when and where congestion arises before packets are dropped and identify potential bottlenecks to reallocate resources accordingly. Instead of microbursts building into congestion and packet loss, switches can be configured with a user-defined threshold above which the switch will trigger alerts and actively monitor queue length. The switch collects data with microsecond granularity that can be exported for analysis and resource planning. This technology also communicates directly with the application layer for real-time application adaptation based on network conditions.

Switches are being complemented by high performance enhancements within other network technology areas. One application delivery technology provider offers controllers that increase network speed and lower latency with an advanced operating system that efficiently uses computational resources and enables programming for dynamic workloads. A leading security technology provider is increasing security by driving the firewall's perimeter defense functionality directly into the network core and into the access switching layer.

Today, high demand organizations recognize that a high-performing network is critical to the bottom line and is a competitive asset. Intelligent switches, efficient firewalls, network optimization and software-defined data centers are crucial components of a future-proofed business.

For information on high-performance networking technology and how your network can become a competitive asset, contact Terrapin Systems to design a network customized for your organization's individual needs.

### TERRAPIN SYSTEMS:

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