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CONTENT-AWARE NETWORKS IN THE FINANCIAL INDUSTRY

By Larry Neumann and Bill Wagner

Recent advances in technology are bringing together the best of low-latency and high-volume data infrastructures using new networking technology that natively understands how applications can most effectively route and distribute content. These content-aware networks deliver the assurance of persistent messaging and the flexibility of SOA and XML, by embedding functionality to route, transform, analyze, secure and deliver content in hardware, directly within the network.

A single high-throughput, low-latency, content-aware network can simultaneously support many common financial applications including:

Market Data Distribution

Financial institutions are looking for more efficient architectures to distribute normalized market data and news to traders in the front office, to algorithmic engines in the back office and to straight through processing applications throughout the world. A hardware-based content-aware network intelligently distributes content, providing fanout and efficient use of bandwidth without requiring the jump to IP multicast.

Complex Event Processing

An increasing number of financial firms are turning to Complex Event Processing (CEP) to identify unique insights within high-volume real-time event streams. A content-aware network can pre-filter and normalize content in real time to offload and simplify the work done by leading CEP engines. Pre-filtering reduces the load on the CEP engine servers, can minimize traffic over expensive links such as a WAN and improves performance in deriving CEP results.

Back Office Order Processing

Sell-side firms rely on persistent messaging software to guarantee delivery of trade-related messages between order processing systems throughout the back office. In recent years, requirements for high-volume and low-latency back-office processing has dramatically exceeded improvements in underlying persistent messaging software, leaving firms with little choice but to partition work across racks and racks of servers. A hardware-based content-aware network provides fully persistent and failsafe messaging at rates an order of magnitude higher than traditional solutions, with much lower and more predictable latency.

Database Synchronization

To remain competitive many organizations are speeding up their business processes, expanding operations through growth and acquisition and embracing global customer care. Yesterday's data is no longer acceptable, but with key data scattered across multiple databases, geographies and business units, out of date information is costing businesses millions of dollars in lost revenue, fraud, waste and high operational costs.

Content-aware networking between data locations, coupled with off-the-shelf change data capture (CDC) software, allows corporations to synchronize heterogeneous databases in real time with higher performance and dramatically reduced operational complexity than point-to-point solutions.

This emerging new technology delivers significantly simpler and lower cost solutions for financial firms. With a content-aware network, firms no longer need to build and manage parallel infrastructures in order to be competitive and can benefit from high-throughput and low latency across all their business systems. The technology lends itself to a variety of service delivery methods. Customers may choose to procure and manage such equipment in house. Current managed service providers may choose to upgrade their infrastructure and offer new and improved services as a result. This also allows new market entrants, such as carriers who are unencumbered by legacy platforms, to provide this technology as part of a wholesale or retail service. This will give firms the ability to manage cost and provide a better service level to their clients.

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