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Wire-Speed Encryption Services for Service Providers

HIGHLIGHTS

- Create and roll out differentiated encryption services to satisfy customer demands and fuel revenue growth objectives

- Enable enterprise customers to secure the transport of their critical intellectual property, via a dedicated connection or a managed service

- Preserve margins with a comprehensive, wire-speed encryption solution that is simple to deploy, manage, and maintain, to secure traffic between the customer's campus, data center, and hybrid cloud environments

The Increasing Demand for Encryption Services

Enterprise customers increasingly face advanced attacks targeting their operations, sensitive financial data, and intellectual property. Most are trying to avoid being the next high-profile breach headline by increasing spending on their cybersecurity efforts. A recent survey by Piper Jaffray found that security was ranked as the top spending priority for CIOs, with 75 percent saying they plan to increase spending.[1]

Service providers that can step in and offer services that help companies ensure the integrity and security of their business-critical information will fill a vital need for customers and capture some of that spend. Encryption services that enable companies to easily and effectively secure business traffic between sites, either via a dedicated connection or managed service, represent a great opportunity for service providers to work with their customers and help them mitigate the legal, regulatory, and financial risks associated with today's security breaches.

A New Kind of Network Encryption Is Required

Organizations cannot take data security for granted, even on private networks. Using network encryption, which obscures the application and user flows (which may also be encrypted) and encapsulates them within a "tunnel" to transfer the data between sites is widely recognized as one of the most effective ways to keep that information confidential and safe from an attacker's eavesdropping, interception, and corruption tactics. While effective, encryption traditionally has been used sparingly because of the costs and complexity it can introduce to the ongoing operations of the network.

Most organizations cannot afford to deploy, manage, and maintain a dedicated solution that provides the encryption performance levels needed to keep pace with today's networks. The investments required to enable encryption and achieve true multiple gigabit-per-second (Gbps) performance within

1   http://www.businessinsider.com/piper-jaffray-survey-shows-companies-spending-more-on-cyber-security-2015-1.

existing security appliances or routers often puts encryption out of reach for all but the most vital connections. In the past, service providers looking to fill this gap and provide encryption services faced the same constraints. Existing encryption technologies make it difficult to deliver an affordable service that meets the performance requirements of the customer and margin requirements of the provider.

Given the scale and performance of today's networks, their varied nature, and the move to public, private, and hybrid clouds, the simultaneous need for and limits of encryption have never been so great. A new kind of encryption is required to finally be able to realize its full benefits: one that can deliver wire-speed performance at a reasonable price point to support connections between any campus, data center, or hybrid cloud environment.

High-Performance Network Encryption for Today's Networks

With the massive increase in digital data, encryption is no longer a luxury that can be reserved for only a few links, applications, or flows. There is a pervasive need for increased encryption services throughout an enterprise's network, a need that often extends to hybrid cloud environments, which is creating opportunities for those providers that can deliver.

A successful solution is one that can encrypt data for enterprises as part of their larger security strategy, without impacting the performance, operational ease, or cost structure of the network. Such a solution should deliver these benefits:

- **Strong security:** Support of IP Security (IPsec)[2] and MAC security (MACsec)[3] encryption to deliver the strongest security solution to support a customer's layered security objectives

- **High performance:** Wire-speed performance at an affordable price point that preserves a customer's margins

- **Operational ease and economy:** The ability to quickly and easily integrate within any environment to support cost-effective deployments that help customers monetize their networks

Brocade High-Performance Network Encryption Offers the Differentiated Security Services That Customers Need

Brocade delivers a comprehensive encryption solution that provides customers with cost-effective, pervasive network encryption at wire speed. As a module within the Brocade® MLXe® Series Core Routers, service providers can quickly and easily deploy IPsec to secure the sensitive traffic between campus, data center, and hybrid cloud environments. Brocade eliminates the need for dedicated appliances by simply and securely connecting workloads within the network itself, with both hardware-based, site-to-site encryption (using IPsec), and hop-by-hop encryption (using MACsec). These in-flight solutions deliver wire-speed encrypted performance up to 1 terabit per second (Tbps) in a single device, ensuring security for all data on all links.

Key Benefits and Differentiation
Brocade uniquely offers encryption within the router that no longer results in a performance "tax." The inline hardware-based encryption within Brocade physical platforms ensures data security without performance compromise or complexity. Brocade solutions deliver:

- **Pervasive Network Encryption:** Brocade solutions provide the highest encryption standards available in the network itself, making it easy to offer customers a service that can encrypt all their site-to-site connections and protect their critical IP.

  - Support for industry-standard IP security (IPsec Suite B) ensures information security and integrity when transiting across distance or a publicly owned infrastructure. IPsec provides encryption for data cloaking on networks that are vulnerable to snooping, ensuring the integrity of information as it is transmitted on a publicly owned infrastructure.

  - Support for industry-standard MAC security (MACsec) ensures data security, with support for flexible policy application on a private network. MACsec encryption and visibility provides great flexibility, helping to secure against denial-of-service attacks, to identify malevolent users within the network, and to apply policies for specific application needs.

- **Superior Price Performance:** Brocade solutions deliver wire-speed performance—44 Gbps encryption and decryption rate per trunk—at one-third the price, to ensure an affordable service that does not degrade the network or the user experience.

- **Comprehensive Solution:** Secures traffic between campus, data center, and hybrid cloud environments to support customers' layered security and compliance requirements. The Brocade comprehensive solution, with four 10 Gigabit Ethernet (GbE)/1 GbE and four 1 GbE ports, delivers up to five times the performance of existing solutions without the need for separate service modules, additional licenses, or offloading to expensive security or encryption appliances.

  - Brocade MLXe routers support external connections between data center environments with IPsec and internal connections with MACsec.

  - Brocade security vRouters support all the connections in other cloud environments with IPsec.

Differentiated Security Services

Brocade high-performance encryption solutions offer customers a differentiated encryption service via a dedicated link or managed service.

Dedicated Connection

Many organizations are struggling to adhere to strict compliance and regulatory guidelines that require them to maintain data security when information leaves a controlled environment. Brocade solutions help secure traffic between data centers (which is particularly challenging for organizations to achieve) with a secure dedicated interconnect. Brocade MLXe routers with the IPsec module (which offers support for OpenFlow, IPv4 Unicast, Multicast, and Ethernet Jumbo Frames at line rate) deliver pervasive, high-performance data security that differentiates enterprises in the market and preserves their margins.

Managed Encryption Service

With Brocade, service providers can confidently deploy and manage an encryption service to support their enterprise customers' varied environments and needs. Regardless of the complexity and varied nature of the infrastructure, the solution allows organizations to easily deliver encryption services throughout their environment. Brocade MLXe routers with the IPsec module provide differentiated encryption services that can maintain the data security of all traffic to satisfy customer concerns and simplify network operations. The service can be used to encrypt traffic within data center racks (with MACsec) and between remote offices, data centers, and hybrid cloud environments to maximize the security and revenue potential of a service offering.

Conclusion

Enterprises are looking to add security capabilities to their environments to mitigate the threats they face from targeted advanced attacks. Service providers with a strong security services portfolio can leverage this market inflection to increase their footprint and deepen the relationship they have with their customers. Brocade solutions enable enterprises to deploy pervasive encryption to offer differentiated security services that help their customers address security, compliance, and risk management objectives. They can take advantage of the superior price and performance of Brocade comprehensive encryption solutions to quickly and easily roll out wire-speed encryption services that protect customers' connections between office, data center, and hybrid cloud environments to grow revenues and increase customer satisfaction, while controlling costs.

About Brocade

Brocade networking solutions help organizations achieve their critical business initiatives as they transition to a world where applications and information reside anywhere. Today, Brocade is extending its proven data center expertise across the entire network with open, virtual, and efficient solutions built for consolidation, virtualization, and cloud computing. Learn more at www.brocade.com.

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