

# Industry-Leading 100 Gigabit Ethernet Routing Solutions

## Carrier-Class Routing



**Figure 1.**  
The Brocade MLXe Series  
and 100 GbE module.

### HIGHLIGHTS

- The Brocade 100 GbE solution helps transform network infrastructures and business models to combat explosive traffic growth and deliver differentiated new services
- The Brocade two-port 100 GbE module delivers 400 Gbps of throughput per module with full IPv4, IPv6, and Multi-Protocol Label Switching (MPLS) performance and provides unmatched scalability for 32 wire-speed 100 GbE ports in a single chassis
- The Brocade 100 GbE solution is ideal for next-generation service provider networks, virtualized data centers, high-performance computing networks, and large distributed enterprises

### Terabit Networking Provides Scalability with Unparalleled Speed and Value

Networks today are at the forefront of a deluge of traffic straining their existing infrastructure—with demands for ubiquitous high bandwidth delivering on-demand personalized content at any time and anywhere. Leading-edge services such as high-definition video streaming, mobile broadband, and cloud services have significantly altered network traffic behavior. Instead of localized flows with occasional bursts, traffic flows are more collaborative over geographical distances and last longer. These new traffic patterns not only consume enormous amounts of network capacity, but they also add a greater degree of complexity to network operations.

Additionally, as many organizations look to transform their businesses and networks to offer IT services via the cloud, the need for networks to be cloud-optimized and cloud-ready is pressing. As a result, today's network planners are seeking solutions that provide the right mix of scalability, performance, and operational simplicity. The solution to meet this rising commodity traffic demands while maximizing the revenue-cost gap is the next evolution in Ethernet—high-density 100 Gigabit Ethernet (GbE).

Brocade delivers 100 GbE on its flagship routing platforms: the Brocade® MLX® Series and Brocade NetIron® XMR Series. The Brocade two-port 100 GbE module provides industry-leading performance and scalability, enabling networks under extreme pressure—such as next-generation service provider networks,

virtualized data centers, high-performance computing networks, and large distributed enterprises—to support increasing application traffic. Each 100 GbE module delivers 400 Gbps of throughput per module without compromising the performance of features such as IPv4, IPv6, and MPLS. This high-capacity module delivers services to these networks using less infrastructure, vastly improving operational efficiency and lowering costs. The Brocade 100 GbE module and its ports-on-demand capability is designed for the business challenges of today and tomorrow, providing flexibility that not only protects prior investments but that enables the ability to migrate and evolve networks with unmatched simplicity for years to come.

### **100 GbE in the Service Provider Network**

The core of a service provider's network experiences peak traffic levels every day, and this is where the demand for 100 GbE links is the greatest. Currently, most service providers use 10 GbE Link Aggregation Groups (LAGs) to combat the heavy load of traffic, but there are severe limitations to this method. In the service provider network core, traffic flows are very heavy, and LAGs are ineffective when the traffic flow is large, relative to individual constituent links. In this case, 100 GbE becomes more efficient by delivering terabit capacity. Not only is 100 GbE a better performance option in the core, but it also offers considerable economic benefits compared to 10 GbE LAG solutions. Through simplified management of links, installation costs and operational expenses can be reduced while preparing for anticipated bandwidth growth. Networks that want to scale beyond 100 GbE can utilize the industry's only multi-terabit trunks—a single logical connection formed by aggregating multiple 100 GbE ports—to achieve superior scalability and performance.

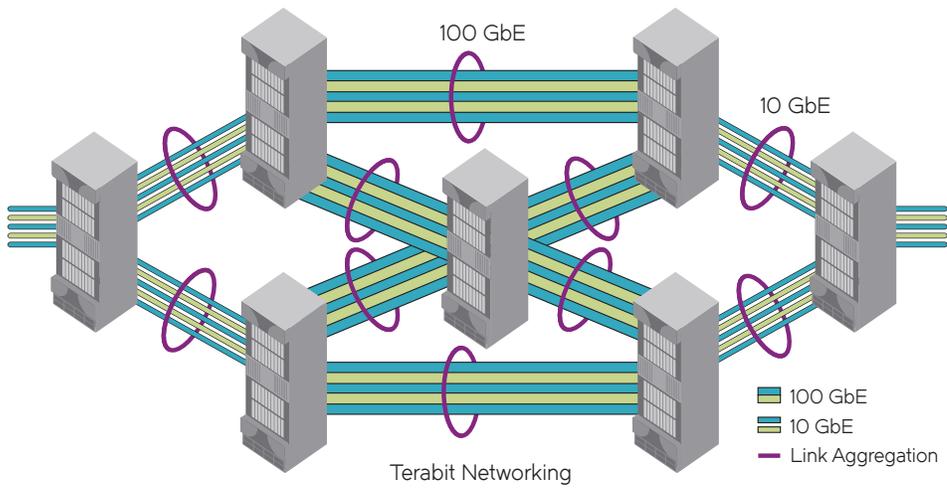
By deploying a Brocade MLXe Series Core Router with 100 GbE wire-speed performance, service providers can scale to and support a massive capacity of up to 1.6 Tbps and 32 wire-speed 100 GbE ports in a single Brocade MLXe-32. In Figure 2, the Brocade MLXe is interconnected in the core, utilizing the industry's first terabit trunks. Between the core and the core-edge, the Brocade MLXe and MLX routers are connected through one single managed connection, significantly reducing the complexity of the network.

### **100 GbE in the Enterprise**

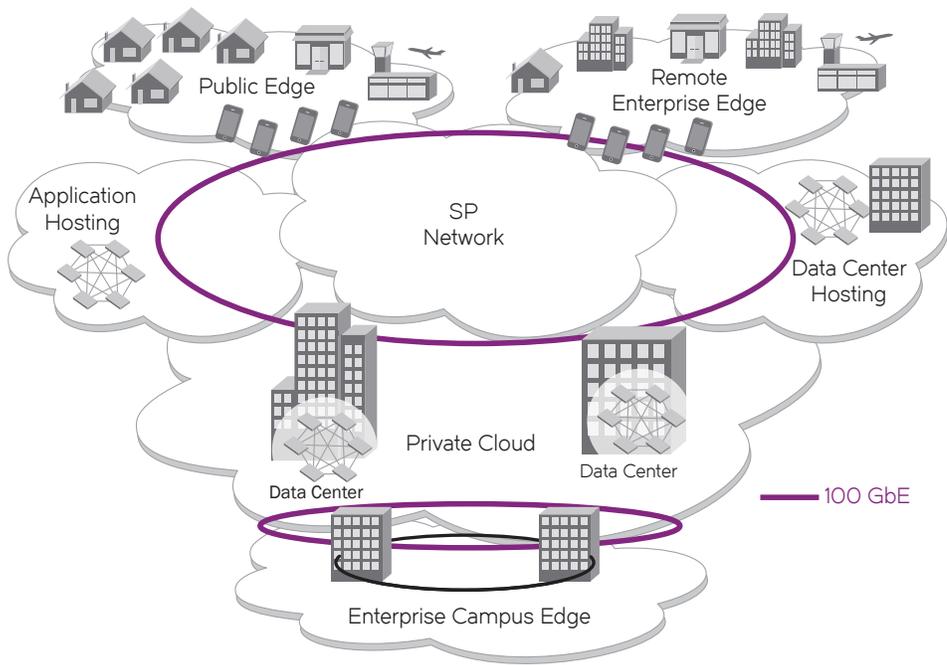
High-density 100 GbE switching and routing is not just a solution for service providers. Globalization has made an incredible impact on the way companies and organizations of all types conduct business today. More than ever they need to reach corners of the map instantaneously, simultaneously, and effortlessly for collaboration within their organization and—more importantly—with their customers thousands of miles away.

The Brocade multiservice high-capacity routing solutions enable such secure and seamless collaboration through virtual routing and LAN extension.

For more information about Brocade IP products, visit [www.brocade.com](http://www.brocade.com).



**Figure 2.**  
Terabit networking for massive throughput in the core.



**Figure 3.**  
100 GbE for service provider core and aggregation, metro core, large campus core, and data center core and aggregation applications.

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