

BROCADE EDGE M3000



STORAGE AREA NETWORK

Improve Access, Streamline Management and Drive Business Efficiency

HIGHLIGHTS

- Interconnects the global enterprise for improved data availability
- Saves money by making efficient use of bandwidth capacity
- Saves time and money by leveraging existing FC and IP resources
- Delivers your data dependably over any distance
- Provides configuration flexibility to adapt to changing requirements

The Brocade® Edge M3000 interconnects Fibre Channel SAN islands over an IP, ATM or SONET infrastructure to improve information access, streamline storage management and drive business efficiency. In addition, it enables many of the most cost-effective, enterprise-strength data replication solutions available, including both disk mirroring and remote tape backup/restore to maximize data availability and business continuity. Its any-to-any connectivity and multi-point SAN routing capability provide a flexible storage infrastructure for remote storage applications.

The product supports the following applications:

- Synchronous or asynchronous disk mirroring
- Backup/restore
- Archive/retrieve
- Extended tape or virtual tape
- Extended disk
- Data migration
- Content distribution
- Shared storage

APPLICATIONS

The Brocade Edge M3000 enables the extension of mission-critical storage networking applications in order to protect your information or push data access out to the far corners of your enterprise, driving new business opportunities.



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BENEFITS

The IP Storage Architecture of the Brocade Edge M3000 does much more than simply move data across the network. It provides the tools and intelligence necessary to ensure predictable throughput, efficient bandwidth utilization and data integrity—across any distance. It also provides configuration flexibility, enabling a routed storage infrastructure that can easily adapt to changing connectivity requirements.

Interconnects the global enterprise for improved data availability

The Brocade Edge M3000's unique buffered architecture and flow control capabilities provide the ability to interconnect remote facilities, regardless of location, creating a unified, global storage network for the mid-tier business. Whether for data sharing, content distribution or Disaster Recovery, the Brocade Edge M3000 ensures access to data, where and when you need it.

Saves money by making efficient use of bandwidth capacity

The unique compression capabilities of the Brocade Edge M3000 can significantly reduce the amount of money you'll need to spend on telecom lines. Depending upon the compressibility of the data, UltraNet technology can compress your data anywhere from 2:1 to 20:1, dramatically reducing bandwidth costs.

For example, with compression, you can achieve gigabit per second performance using your existing 100 Mb Ethernet infrastructure—at a fraction of the cost.

In addition, the same infrastructure can be used for synchronous disk mirroring by day and asynchronous tape backup by night when the bandwidth is underutilized. Using the Brocade Edge M3000's WAN segmentation capabilities ensures quality of service even in a shared network environment. Combining disk and tape in this way is a significant savings for your bottom line.

Saves time and money by leveraging existing FC and IP resources

By leveraging the Fibre Channel and IP infrastructure and skill sets you already have in place, you can avoid the costly and time consuming task of adding dedicated infrastructure. You'll take advantage of lower-cost IP bandwidth, an easier-to-manage environment and quicker deployment of new storage applications.

Delivers your data dependably over any distance

When you are moving, storing, accessing or backing-up business-critical information, you must be assured that the information reaches its destination and that the correct data was received. Like an extra insurance policy against corrupted data, the Brocade Edge M3000 performs cyclical redundancy checks (CRCs) at the network level to ensure a constant mirror with no interruptions.

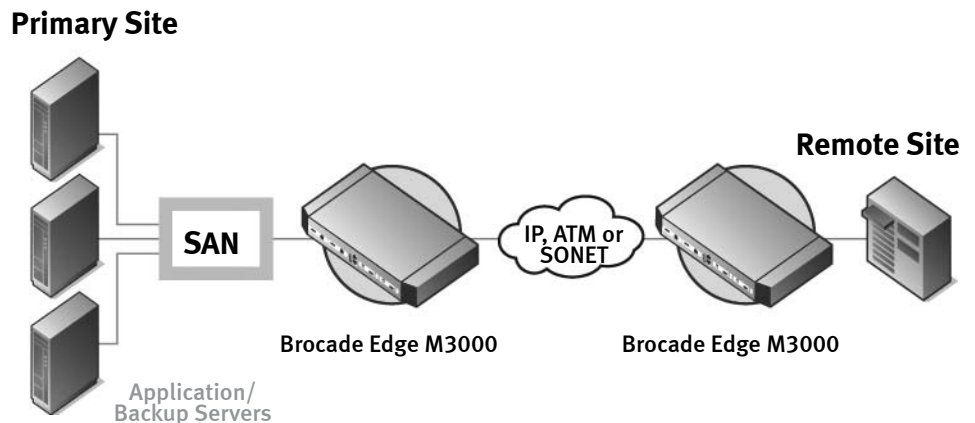
And, it delivers dependable, distance-independent application performance. The Brocade Edge M3000 combines Fibre Channel switch buffer credit negotiation with its unique flow control and pipelining techniques across the network so your application performance will be at optimal levels whether over 10 miles or 10,000 miles.

Tape Pipelining

Brocade's unique tape pipelining capability virtually eliminates the impact of latency on the sustainable throughput of tape backup over distance. The Brocade Edge M3000 emulates a buffered device controller and queues up operations remotely to ensure that the next operation is available to send to the device controller as soon as the previous operation completes. Operations and data in the pipeline are retained in the buffer until successful completion. Thus the remote tape backup system appears local to the server and is able to sustain performance over thousands of miles.

Figure 1.

In a remote tape backup solution, only one backed-up copy is being made in the remote location. The Brocade Edge M3000 acts as a tape controller in the primary site, allowing the application servers to "think" that remote tape drives and libraries are locally attached, even when they are thousands of miles away. The impact of latency is virtually eliminated, regardless of distance, so more data can be backed up during shorter backup windows.



Automatic failover

In the event of a link failure in the primary storage network, the Brocade Edge M3000 automatically and seamlessly reroutes traffic to an alternate route, such as your production IP network. This is significant in business environments where minutes of downtime can translate into thousands or even millions of dollars in fines or lost revenue.

Dynamic load leveling

In a redundant configuration, the Brocade Edge M3000 can split the data load to increase the amount of data moving across the network. For instance, during third shift when your production network is underutilized, the Brocade Edge M3000 can route a percentage

of the data across that link and increase storage application performance. Another advantage of splitting the load is that you may be able to avoid investing in a dedicated link altogether, saving thousands of dollars every month.

Provides Configuration Flexibility to Adapt to Changing Requirements

The Brocade Edge M3000 allows customers to define, on a port-by-port basis, the personality characteristics that perfectly match their specific storage networking requirements.

Its configuration flexibility allows connectivity to 1 or 2 Gbit/sec devices, Fibre Channel protocols, IP, ATM or SONET network services, connection to a SAN fabric or directly to servers and storage, as well

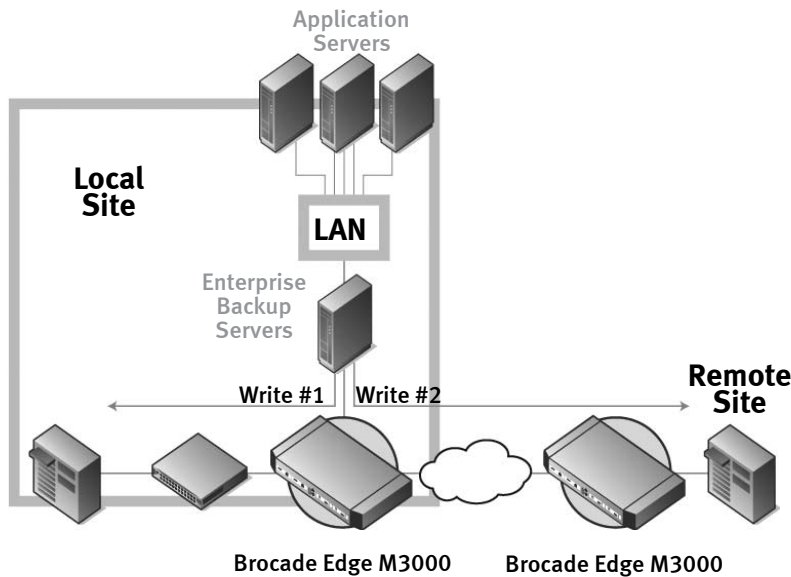


Figure 2

Remote tape vaulting

In a remote tape vaulting solution, two backups are made—one locally, and one electronically to a remote site using an enterprise backup application’s dual write capability. The backup can be done at night, when networks are typically underutilized and bandwidth is essentially “free.”

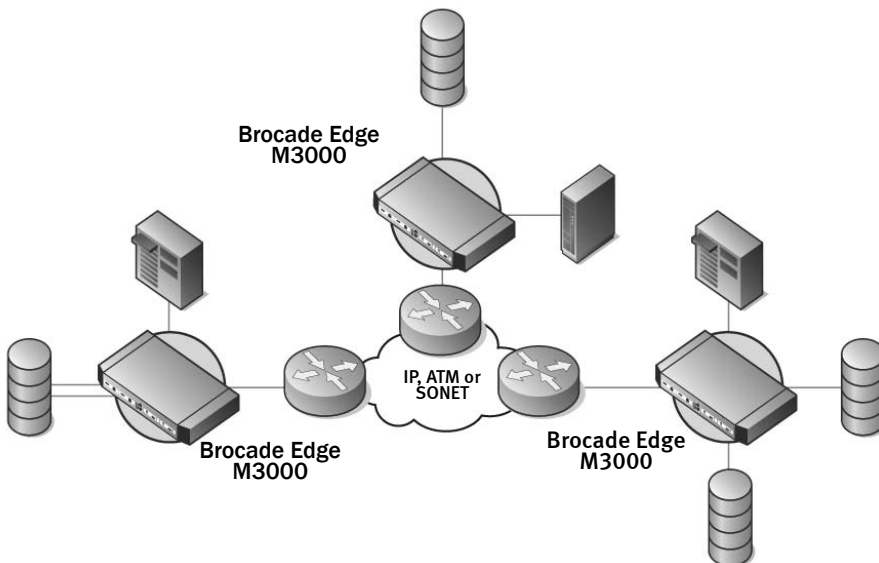


Figure 3

Multi-Point SAN Routing

For distributed operations that need to share information on a regular basis, the Brocade Edge M3000 supports multi-point routing, enabling data to be replicated to multiple geographically separated sites concurrently, ensuring information consistency.

as point-to-point or multi-destination SAN routing configurations. The flexibility of the Brocade Edge M3000 enables a storage networking infrastructure that can easily adapt to changing connectivity requirements, providing investment protection today while preparing for the future.

Standards and Interoperability

The Brocade Edge M3000 is designed to conform to existing and emerging industry standards, such as FC and FC-2 for maximum interoperability with existing equipment resources.

The Brocade Edge M3000 is certified for storage networking solutions by all of the major storage vendors, including IBM, EMC, Dell, Hitachi Data Systems, StorageTek and HP, as well as infrastructure providers.

System and Network Management

The Brocade Edge M3000 software management tools include an easy-to-use graphical configuration tool that provides a point and click interface for designing and configuring Brocade Edge M3000 storage networks, and a web-based SNMP element manager that lets network managers monitor and control Brocade routing nodes from any PC with an Internet connection.

Support Services

Brocade products are supported by our 24x7x365 help desk. In addition, remote dial-in support, on-site hardware support and depot

spares are available on some models. You can choose to engage Brocade experts for Change Management Services to provide expert guidance for network configuration changes.

In addition, Brocade provides a Network Management Service to monitor and proactively respond to and resolve events related to your Brocade network (including hardware, WAN and LAN circuits, and the channel). Access to daily reports and trend analysis information is available via a secure web portal for better-informed network decisions. If you choose to have Brocade provision your bandwidth, we'll monitor, respond to, and troubleshoot telecom-related issues as well.

SOLUTIONS

The Brocade Edge M3000 is a key component in the remote connectivity of applications such as disk mirroring, remote tape backup/restore and data migration. The ability to extend both tape and disk gives you cost-effective options for BC/DR and storage infrastructure plans.

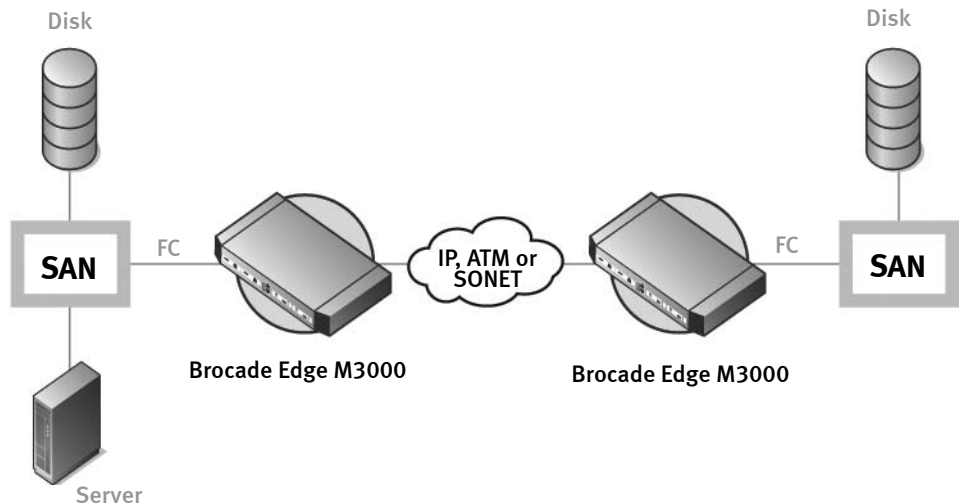
MAXIMIZING SAN INVESTMENTS

Brocade and its partners offer complete SAN solutions to meet a wide range of technology and business requirements. These solutions include education and training, support, service, and professional services to help optimize SAN investments. For more information, contact an authorized Brocade sales partner or visit www.brocade.com.

Figure 4

Local or remote disk mirroring

For business-critical applications, remote disk mirroring is required to ensure business continuity. The Brocade Edge M3000 can extend mirroring applications over hundreds or even thousands of miles using IP, ATM or SONET.



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