BROCADE
A Broadcom Company

FIBRE CHANNEL

Built to Protect. Ready to Recover.

Discover how Brocade® Fibre Channel protects the data you care about and provides the unseen strength that keeps business operations running seamlessly.

In today's IT landscape, protecting critical data is vital. The ongoing wave of new threats and vulnerabilities demands the highest levels of security to safeguard an organization's most valuable assets. But security alone isn't enough; that data must always be available, always be recoverable, and never be compromised.

Cyberattacks, system failures, and natural disasters can happen at any time. Therefore, the need for a reliable, secure infrastructure that can safeguard data, maintain operations, and ensure fast recovery has never been greater.

Brocade® Fibre Channel delivers exactly that: a dedicated, highly secure, and deterministic storage network designed to meet the most demanding recovery point objective (RPO) and recovery time objective (RTO) requirements.

It enables organizations to build robust, effective business continuity and disaster recovery strategies that minimize disruption and protect both data and operations.

FIBRE CHANNEL SECURITY
Protecting Your Critical Assets Around the Clock

Brocade Fibre Channel was designed with security in mind to reduce risk compared to IP-based alternatives, providing isolation, access control, and data integrity enforcement for mission-critical storage environments. Brocade Fibre Channel SANs work continuously in the background to implement multiple layers of protection that work together to safeguard your most valuable data assets.

Unlike IP storage solutions that create shared environments vulnerable to cascading security failures, Fibre Channel's isolated fabric design ensures that compromised servers cannot expose or infiltrate connected storage devices.

When your business cannot risk unauthorized access, data loss, or regulatory transgresssions, Brocade Fibre Channel is the right choice.

- **Fabric isolation and controlled access**
  Physically and logically prevents compromised servers from accessing the broader storage environment, reducing exposure to lateral threats and malware.
- **Hardware-based zoning**
  Creates secure, one-to-one connections between servers and allocated storage resources through granular access control, ensuring only authorized hosts can access assigned storage targets.
- **Silicon-based root of trust**
  Automatically validates hardware and software integrity through Secure Boot capabilities.
- **Hardened Fabric OS**
  Ensures Brocade switch installs only a validated, genuine Fabric OS version with Brocade Trusted FOS Certificates and prevents tampering with the removal of root access.
- **Advanced authentication and encryption**
  Provide token-based authentication, quantum-resistant encryption, and comprehensive security configuration management to protect against evolving threats.
- **End-to-end data integrity**
  Maintains data accuracy and prevents corruption through frame-level CRC checks that verify information throughout the entire transmission path, helping to prevent undetected corruption or spoofing.
- **Secure replication**
  Supports encrypted data transmission over WAN links for remote backup and disaster recovery without performance degradation through Fibre Channel Extension technology.

This architectural advantage makes Brocade Fibre Channel the preferred choice for protecting mission-critical data, especially for organizations handling sensitive information or operating in regulated industries with strict security requirements.

FIBRE CHANNEL BUSINESS CONTINUITY AND RAPID RECOVERY

Preventing Outages and Disruptions to Valuable Information

Brocade Fibre Channel ensures uninterrupted operations even during peak loads, hardware failures, and network disruptions, by delivering a reliable, deterministic, lossless storage network.

Brocade Fibre Channel provides the foundation for business continuity strategies that minimize downtime and data loss. It is purpose built to ensure secure, high-performance, high-volume data replication between geographically dispersed sites to meet aggressive RPO and RTO goals.

When you need to minimize recovery time and prevent data loss during disruptions, Brocade Fibre Channel is the right choice.

Recovery Point Objective (RPO)

- **Supports synchronous replication**
  Ensures zero data loss by requiring acknowledgment from both local and remote storage targets before confirming write completion.
- **Flexible asynchronous options**
  Ideal for less-critical data or long-distance replication where minimal data loss is acceptable.
- **High-throughput, low-latency transport**
  Maintains timely replication of critical data even under high demand or across wide area networks.

Recovery Time Objective (RTO)

- **Fast failover with path and fabric redundancy**
  Minimizes downtime through built-in multipathing and non-blocking architecture.
- **Predictable performance under load**
  Ensures rapid system recovery and consistent application behavior during and after disruption.
- **Metro and multi-site support**
  Enables high-availability architectures like stretched clusters and active-active data centers.

Secure, Reliable Replication over Distance, for Always-on Operations

Brocade Fibre Channel works continuously and autonomously to ensure lossless, in-order deliver of data, so do you can meet demanding SLAs even across great distances.

- **Lossless, predictable performance**
  Guarantees zero frame loss and consistent throughput under heavy load.
- **Redundant paths and self-healing fabric**
  Maintain continuous connectivity through automatic failover and path rerouting.
- **Low-latency architecture**
  Minimizes I/O delays to sustain application responsiveness.
- **SLA-driven availability**
  Supports stringent RPO and RTO targets to meet enterprise service-level agreements.
- **Compression and WAN-optimized TCP acceleration**
  Achieves efficient long-distance performance.
- **In-flight encryption**
  Meets compliance and governance requirements.

The combination of redundant fabric design, automatic failover capabilities, and proactive issue resolution enables 99.9999% availability, ensuring minimal downtime and uninterrupted network performance.

FIBRE CHANNEL
Invisible Assurance for Mission Critical Operations

Brocade Fibre Channel provides the unseen strength that keeps business operations running seamlessly, combining enterprise-grade security with unparalleled business continuity capabilities.

Enabling the achievement of aggressive RPO and RTO objectives, and offering comprehensive security protection and autonomous operational characteristics, Fibre Channel represents the best option for enterprise storage networking:

- **Reduces vulnerabilities** from malware and hijacking attacks by hardening FOS and strengthening hardware.
- **Safeguards mission-critical operations** by validating the integrity and security of Gen 7 hardware and software.
- **Reduces vulnerabilities** to cyberattacks and password management burden on IT with token-based authentication.
- **Automates operations** to ensure consistent security configuration settings across the fabric.
- **Secures storage traffic** through controlled-access and isolation, staying resistant to attacks from quantum computers with strong encryption.

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All of this combines to enable Brocade Fibre Channel to deliver the reliability, performance, and protection needed for mission-critical operations, and turn your network storage infrastructure into a strategic pillar or your business resilience and operational excellence.

Learn More

For a deeper dive on what next-generation storage fabrics are, how they are commonly implemented, and what advantages they offer compared to less modern, less robust, and less secure technologies; download this Wiley eBook ***Networking Next-Gen Storage for Dummies***.

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