

# BROCADE FC4-16IP DIRECTOR BLADE



## STORAGE AREA NETWORK

## Extending the Value of the SAN throughout the Data Center

### HIGHLIGHTS

- Enables iSCSI (Ethernet) servers to access storage in Brocade Fibre Channel SANs in a highly integrated, cost-effective manner for storage consolidation
- Provides high scalability, enabling up to thousands of iSCSI servers to connect to a single Brocade 48000 Director
- Improves the ROI of the SAN by enabling wider access to storage, optimizing resource utilization, and minimizing capital expenses
- Simplifies server administration and storage allocation while leveraging centralized storage to improve data security and control
- Extends new capabilities such as centralized backup or tape vaulting to existing servers in Direct Attached Storage (DAS) environments
- Enhances availability by leveraging enterprise-class SAN director services
- Increases productivity by utilizing familiar SAN management tools consistent with the overall SAN infrastructure

Today's IT organizations face numerous financial and operational challenges, such as the growing need to better protect data—not only for mission-critical applications, but also for second-tier servers such as e-mail servers. In addition, increased business demands now require faster provisioning of storage in a more service-oriented, granular fashion. The centralization of data has also become increasingly important for these organizations as they deploy new initiatives to comply with industry regulations.

Organizations can address all of these challenges by allowing lower-cost iSCSI servers to access valuable, high-performance Fibre Channel SAN resources. The Brocade® FC4-16IP blade for the Brocade 48000 Director is a cost-effective solution that

enables this type of connectivity. The Brocade FC4-16IP provides a wide range of performance, scalability, availability, and investment protection benefits to help increase storage administrator productivity and application performance while continuing to reduce capital and operational costs.



# BROCADE

## **A HIGHLY INTEGRATED STORAGE SOLUTION**

Fibre Channel SANs have traditionally been best suited for high-end servers and storage devices running high-performance applications in the data center. However, most enterprise organizations have a large contingent of lower-cost servers that are not connected to a consolidated SAN infrastructure, primarily because of cost constraints.

Although these servers typically run applications that are not data- or performance-intensive—such as DHCP servers, file servers, Web servers, e-mail servers, and development servers—there is still a business justification to consolidate their storage in order to better manage data and leverage established processes such as enterprise SAN backup and restore. In fact, the advantages of consolidation become even more noticeable as the number of servers and the amount of storage grows. For instance, SANs can significantly simplify storage management, improve resource utilization, and help increase availability.

With iSCSI gateway technology, such as that provided by the Brocade FC4-16IP, lower-cost servers can now access Fibre Channel SANs in a reliable, cost-effective manner. The blade features eight Gigabit Ethernet ports for iSCSI connectivity as well as eight full-speed 1, 2, and 4 Gbit/sec Fibre Channel ports. The Fibre Channel ports provide the same industry-leading performance features available in all Brocade switches.

## **INTEGRATED ISCSI SERVICES FOR THE BROCADE 48000**

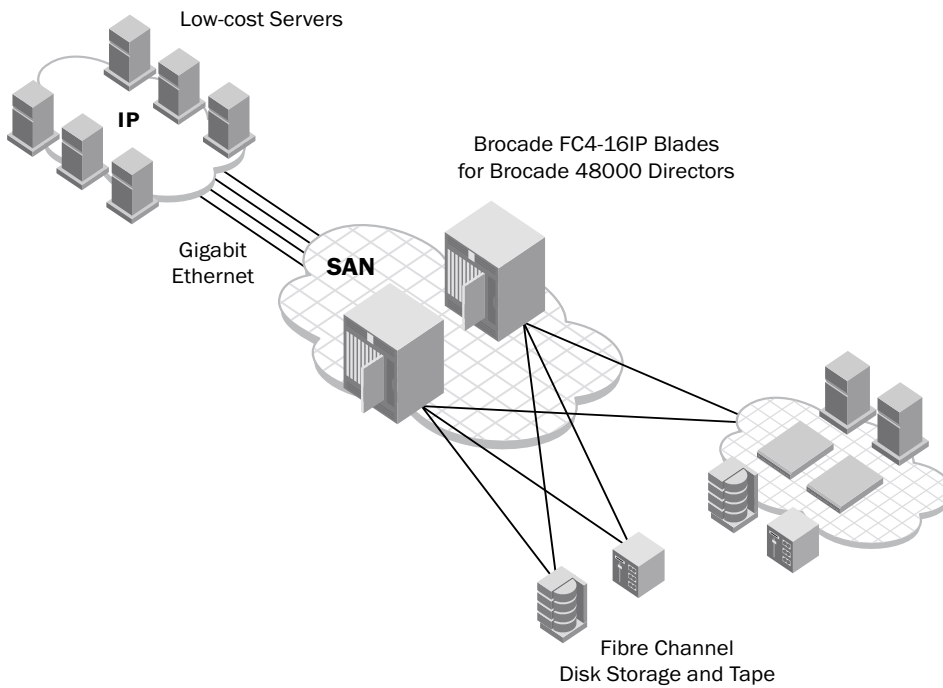
Designed to seamlessly integrate into Brocade SAN infrastructures, the Brocade FC4-16IP iSCSI blade is based on the same Brocade next-generation 4 Gbit/sec Fibre Channel ASIC technology and Fabric OS® used across the entire Brocade family. Combined with state-of-the-art Ethernet network processors, this implementation enables a highly effective way to integrate iSCSI-based devices with Brocade SAN environments.

## **COST-EFFICIENT, CENTRALIZED, AND SCALABLE STORAGE**

The Brocade FC4-16IP enables organizations to integrate lower-cost Ethernet-connected servers into Brocade Fibre Channel SANs by using the iSCSI protocol. SAN access provides more granular scalability when additional storage is required, and low-cost Ethernet attachment avoids the cost of additional Host Bus Adapters (HBAs) and Fibre Channel switch ports for server connectivity. With support for up to four Brocade FC4-16IP blades in a single Brocade 48000 Director, this enterprise-class iSCSI solution can scale up to support the connectivity of thousands of iSCSI servers.

## **FAMILIAR SAN TOOLS AND MANAGEMENT CONVENTIONS**

The Brocade FC4-16IP utilizes Brocade Advanced Fabric Services, including key features such as Inter-Switch Link (ISL) Trunking and Extended Fabrics on the Fibre Channel ports. To simplify administration, organizations can utilize the familiar Fabric OS and SAN management tools they already use: a command line interface, Brocade Web Tools, and Brocade Fabric Manager.



**Figure 1.**

The Brocade FC4-16IP provides high performance, availability, and scalability to extend SAN benefits throughout the enterprise.

### **A FAST ROI**

A SAN infrastructure includes not only the investment in the physical hardware, but also the expertise and training across the data center staff. The Brocade FC4-16IP is fully compatible with existing Brocade SAN implementations, leveraging the investment in both hardware and organizational knowledge. It integrates non-disruptively into Brocade 48000 Directors, providing lower-cost iSCSI servers with the same high-availability features already found on that industry-leading enterprise platform. As a result, organizations are better positioned to meet their rapidly evolving SAN and storage requirements for years to come.

### **MAXIMIZING SAN INVESTMENTS**

Brocade and its partners offer complete 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 technology investments. For more information, contact an authorized Brocade sales partner or visit [www.brocade.com](http://www.brocade.com).

