DISASTER RECOVERY PARTNER SOLUTIONS

DATA CENTER

HIGHLIGHTS

• Combines powerful Hitachi TrueCopy and Hitachi TrueCopy Extended Distance replication software, Hitachi Unified Storage (HUS) and Brocade 7800 and FX8-24 SAN extension network infrastructure
• Enables scalable, high-performance, host-independent data replication solutions across any distance using cost-effective IP WAN transport
• Delivers flexible Recovery Point Objectives and Recovery Time Objectives (RPO and RTO) with no impact on production applications or servers
• Maximizes replication throughput over distance to minimize recovery time, data loss, and downtime costs
• Offers best-in-class Fibre Channel and FCIP port density, bandwidth, and throughput including the industry’s only 10 Gigabit Ethernet (GbE) FCIP solution

IT organizations continue to face unprecedented data growth as more platforms, applications, and users connect to mission-critical and high-priority business information. The volume of data that must be protected often exceeds legacy infrastructure and administrative resources. In addition, regulatory compliance increases distance, persistence, and access requirements. These escalating service level and availability requirements are frequently at odds with limited budgets and IT resources.

Hitachi Data Systems and Brocade® provide scalable, high-performance, and cost-effective disaster recovery solutions that leverage best-in-class remote replication software and SAN extension networking infrastructure to overcome planned and unplanned outages.

HDS AND BROCADE SOLUTIONS FOR DISASTER RECOVERY

Hitachi Data Systems replication software, Hitachi Unified Storage and Brocade SAN extension platforms are class-leading products that easily adapt to today’s dynamic replication workloads and will scale to meet the performance and availability requirements of tomorrow’s private storage cloud environments and highly virtualized data centers.

Hitachi Unified Storage 100 family systems are the only midrange storage systems that can consolidate file, block and object data on a central platform. With best-in-class scalability, performance, and availability, HUS 100 family optimizes support for critical applications, cloud-ready infrastructure and data center consolidations, all through a single intuitive interface. Hitachi Unified Storage 100 family furnishes administrators with pervasive data protection and replication tools to reduce business risk, downtime and migration concerns. Hitachi Dynamic Provisioning provides data pool support and management for Hitachi TrueCopy® Extended Distance data copies. It includes generous capacity for copies and groups, and support for all major applications. HUS 100 family can replicate all data

Scalable, High-Performance, and Cost-Effective Remote Replication on Hitachi Unified Storage and Brocade Extension Platforms

SOLUTIONS BRIEF

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remotely and without limits. For VMware environments, its support of vStorage Awareness (VASA) provides an end-to-end disaster recovery solution. Hitachi TrueCopy software and Hitachi TrueCopy Extended Distance software provide a continuous, non-disruptive, host independent remote data replication solution for disaster recovery or data migration over any distance, providing basic failover and recovery capabilities.

Hitachi TrueCopy Extended Distance software delivers premier data integrity with minimal performance impact on the primary system. Able to operate at any distance, TrueCopy Extended Distance software supports fast restarts and recovery to ensure proper sequencing and data integrity during transmission and recovery.

With more than 20,000 extension systems deployed worldwide and over 25 years of data center experience, Brocade continues to innovate and develop the fastest, most reliable, and most cost-effective network infrastructure for remote replication.

The Brocade FX8-24 Extension Blade for the Brocade DCX Backbone family and the Brocade 7800 Extension Switch enable Hitachi TrueCopy Extended Distance replication to move more data faster and further than ever before for unmatched replication solutions for disaster recovery and business continuity (see Figure 1). They extend replication over cost-effective IP WAN transport, which would otherwise be impossible, impractical, or too expensive with standard Fibre Channel connections.

The Brocade FX8-24 Extension Blade includes twelve 8 Gigabits per second (Gbps) Fibre Channel ports and ten 1 Gbe ports and can easily be upgraded to increase bandwidth to 20 Gbps with two optional 10 Gbe ports. It is the industry’s first 10 Gbe FCIP connectivity solution, providing ten times the bandwidth of previous generation products.

The Brocade 7800 is a rack-based solution that combines class-leading performance, “pay-as-you-grow” scalability, and flexible deployment options to meet a wide range of performance, availability, and cost objectives. Aggregate bandwidth of up to 128 Gbps for Fibre Channel and up to 6 Gbps for FCIP provide superior performance and throughput.

Figure 1.
Hitachi TrueCopy Extended Distance replication over WAN links with Brocade 7800 or Brocade FX8-24 Extension Blade for the Brocade DCX Backbone family.
TECHNOLOGY BREAKTHROUGHS
The volume and value of replication data sent over WAN links continues to grow. With legacy technology, an FCIP tunnel is limited to the bandwidth and reliability from a single GbE port. FCIP Trunking, a new optional feature on the Brocade FX8-24 and Brocade 7800, introduces a significant advance in SAN extension and FCIP technology—one which breaks down scalability and availability barriers.

FCIP Trunking enables high-bandwidth FCIP tunnels spanning multiple GbE ports that are load balanced and resilient to link failure. FCIP tunnels can be created with up to 6 Gbps bandwidth using 1 GbE ports on the Brocade 7800 and up to 20 Gbps bandwidth with 10 GbE ports (Brocade FX8-24 only). Replication traffic in an FCIP trunk is balanced across all of the ports to overcome physical link failures with lossless path failover and guaranteed in-order data delivery. A rich set of performance and WAN bandwidth optimization features are available with FOS 7.x and above, including:

- Adaptive Rate Limiting, which dynamically adjusts bandwidth between minimum and maximum rate limits to optimize bandwidth utilization and sharing
- FCIP Quality of Service (QoS) to provide high-, medium-, and low-priority handling of traffic in an FCIP tunnel as well as configurable option to set priority
- Advanced compression with multiple modes to optimize compression ratios to address a range of throughput requirements
- FCIP Fast Write to accelerate SCSI write processing and maximize performance of asynchronous replication applications across high-latency WAN connections
- Storage-optimized TCP to optimize TCP window size and flow control for low-loss IP networks
- 10 GbE lossless failover allows a tunnel to failover to the secondary 10 GbE port on the Brocade FX8-24 blades ensuring non-stop operations
- Multi-Gigabit circuit enhancements allows more than 1 Gbps to be configured on a single FCIP Circuit. Up to 6 circuits per tunnel on Brocade 7800 and up to ten circuits per tunnel on Brocade FX8-24
- XISL Support on Brocade FX8-24 enables multiple logical fabrics to share a single base fabric while providing fabric-level isolation in a virtual fabrics environment. Specifically, it will enable logical connectivity over FCIP between otherwise disconnected segments of a fabric.
- The Inband Management feature allows a user to define one or more IP addresses on the non-management GE ports and provide a management path from the Wide Area Network. Users can then use these IP addresses to access SNMP events, establish telnet sessions, etc.

Hitachi and Brocade together enable best-in-class remote replication solutions to mitigate the risks and costs of data loss and downtime for the non-stop enterprise. These unique capabilities enable a high-performance and highly reliable disaster recovery infrastructure proven in the world’s most demanding data centers.

LEARN MORE
Brocade partners with companies of all sizes to deliver innovative solutions that help organizations maximize the value of their most critical information. To learn more, visit www.brocade.com/alignment.

ABOUT HITACHI DATA SYSTEMS
Hitachi Data Systems Corporation provides solutions that enable heterogeneous storage to be dynamically provisioned according to business needs and centrally managed via industry leading Hitachi storage virtualization software. Its customers include nearly 60 percent of the top 100 companies on the Fortune 500®. For more information, visit the company’s website at http://www.hds.com.

ABOUT BROCADE
From enterprise data centers to the service provider core, Brocade develops extraordinary networking solutions that connect the world’s most important information. Delivered directly and through global partners, these solutions help today’s data-intensive organizations operate more efficiently and maximize the business value of their data. Learn more at www.brocade.com.