

# Application Brief



**Implementing an Affordable, Robust  
IP-Based Solution for Long Distance  
Business Continuity and Disaster  
Recovery Applications**

## **IMPORTANT INFORMATION**

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## Overview

Protecting high-value data and delivering 24x7 business continuity has become one of the top imperatives for organizations around the world, regardless of size. Business has a mandate to their customers and stakeholders: to cost-effectively keep key data accessible and fully up-to-date without impacting critical business applications.

In this application brief, we will explore how to create a robust, end-to-end data replication solution to safeguard valuable business data that maximizes ROI to strategically support your company. With the rise of highly intelligent storage solutions, technology exists today that addresses small to midsize business (SMB) and small to midsize enterprise (SME) business continuity and disaster recovery requirements at an extremely affordable price.

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The prospect of deploying business continuity and disaster recovery applications may seem daunting for SMBs, but the discussion can be simplified – we are just moving data from point to point, and adding intelligence can reduce complexity and management of these solutions.

Your company's data center, where application data, business-critical and intellectual property reside, is seen as the primary storage location. This data probably is located in your company's headquarters and surrounding campus. To properly safeguard data against damage at the primary location, a separate storage system is set up at a secondary location that typically would be located in a facility across town or in another metropolitan area nearby.

Network-based long distance replication solutions – until now – have required substantial cash outlay to build a suitable infrastructure to protect enterprise data. These solutions have typically included the primary storage infrastructure, a secondary storage infrastructure at secondary location, dedicated dark Fibre communication line that goes from one location to another and specialized Fibre Channel to IP hardware to allow businesses to transmit data from primary to secondary site. Again, these earlier solutions have required a highly complex architecture and substantial investments and have been out of reach for SMBs and most SMEs.

That is, until now.

A new approach has been created that allows SMBs and SMEs to implement business continuity and disaster recovery applications by using a combination of iSCSI as the transport mechanism between primary and secondary locations and an embedded and highly intelligent, policy-based remote replication data services software that resides on the storage platform.

iSCSI (Internet SCSI) permits businesses to use the Internet to securely link data storage facilities, and, when combined with the policy-based intelligence onboard the storage device, brings SMBs a means to avoid the additional hardware (FC to IP gateways) that have, in the past, drove costs for data protection solutions through the roof. Using iSCSI as the transport mechanism also allows business to break the 3000 km location barrier that is inherent in previous solutions; with iSCSI-enabled storage, long distance solutions can be deployed allowing companies to easily and cost-effectively locate secondary locations around the corner, across the country or around the world.

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**Embedded  
Intelligence,  
Serial ATA  
and iSCSI**

The heart of iQstor's long distance disaster recovery and business continuity solutions is the combination of iSCSI transport and powerful RRA (Remote Replication Asynchronous) data services feature embedded on each easy to manage iQstor iQ1210 Storage System. RRA is a policy-based data service that allows administrators to establish exactly which data is to be transferred from primary to secondary locations and the time interval for protection. The parameters allow administrators to select individual LUNs or the entire disk volume to be replicated every 30 seconds. Using RRA, administrators can easily assign varying protection levels to a range of business data, allowing business-critical information to be replicated to a remote site based on job function, data owner or data application.

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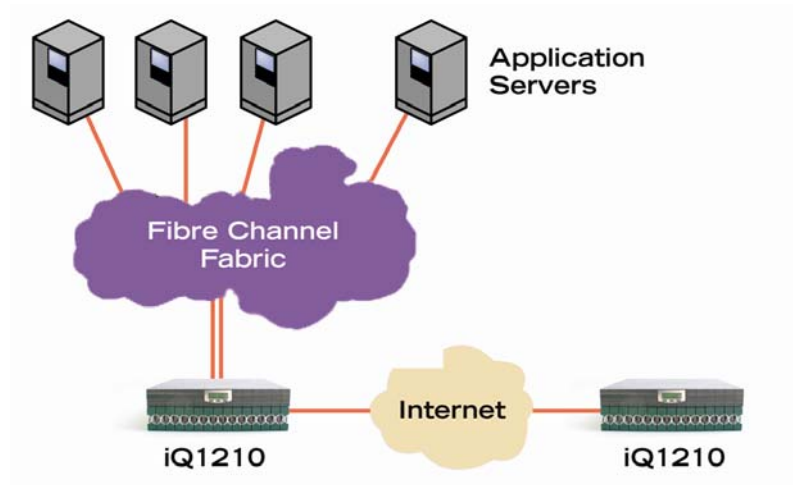
**Recover  
from  
Accidental  
Corruption  
of Data**

To restore data and recover from typical occurrences -- accidental corruption of data in day-to-day activities, or repairing damage done by disgruntled employees -- a solution enabled by two Serial ATA (SATA) iQ1210 Storage Systems and RRA provides a cost-effective answer.

In this scenario (Figure 1), a single iQ1210 with RRA activated is located in the primary location, connected via iSCSI to another iQ1210 in the secondary location. Policies are established to decide how often data needs to be replicated from primary to secondary location. In case of data corruption, IT administrators simply assign a drive number to the replicated copy of the original data at the secondary location and instantaneously redirect employees to access company data, as if it were data in the primary location.

**Figure 1**

*A typical IP-based business continuity solution to protect SMBs from data corruption enabled by iQstor's iQ1210*



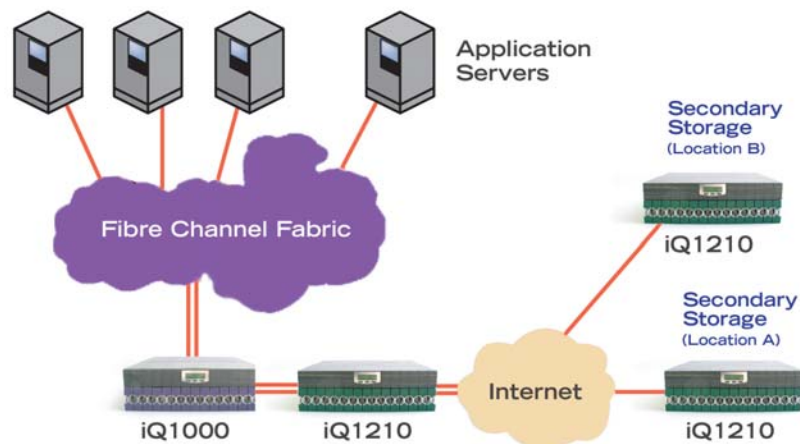
**Business Continuity Solutions to Address Large Scale Loss**

The prospect of business interruption due to natural disasters and large scale damage can be addressed using iQstor's iQ1210 and RRA to provide a solution that allows administrators to plan for a wider range of external scenarios that can wreak havoc on IT infrastructures and facilities.

Under this scenario iQ1000 and iQ1210 Storage Systems (with RRA activated) are deployed in the primary location and in multiple, long distance secondary locations. Again connecting the iQ1210 to other storage units through the Internet (Figure 2), data is moved by RRA to secondary locations that are not limited by distance, in multiple states or in multiple countries. Policies are then assigned to primary business data and information is replicated to secondary, distant locations at short intervals, in this case, every 30 seconds.

**Figure 2**

*A typical IP-based business continuity solution to protect SMBs from large scale loss enabled by multiple iQstor's iQ1210s in two locations*



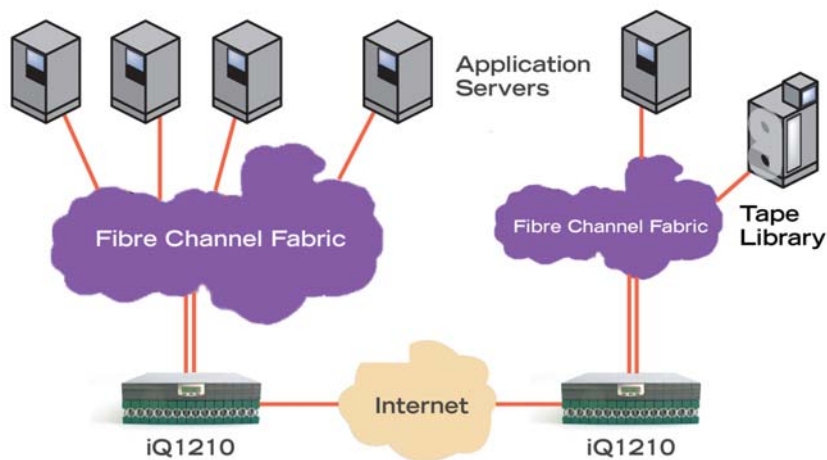
In case of primary data center destruction, administrators can easily reassign remote volumes for immediate use by company employees, without business interruption.

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### Backup to Tape at Secondary Locations

The ability to move specific blocks of data over extremely long distances can also enable cost effective tape backup solutions for SMBs. In this scenario, a company wishes to protect data with an offsite tape library.

**Figure 3**  
*In this illustration,  
data is moved  
offsite to a second  
iQ1210, then  
backed up to tape*



As with other solutions, primary data on the iQ1210 is replicated via iSCSI to reside on another iQ1210 in the secondary location. iQstor's embedded RRA is activated in the primary data center, policies are established, and information is replicated to the secondary location. A tape library is then deployed in the secondary location (Figure 3), MSS is invoked to take a snapshot and tape backups can be performed at specific intervals at distances that are far removed from the primary location.

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### About the iQ1210 Storage System

Implementing the iQstor iQ1210 solutions allows business to take cost-effective Serial ATA (SATA) storage to the next level, delivering a powerful, intelligent and affordable storage solution that serves SMB and SME business continuity and disaster recovery applications. With the iQ1210, iQstor has taken the enterprise-level functionality, features and foundation of the company's iQ1200 Storage System and added the capability to easily connect iQ1210 solutions via iSCSI through the Internet. This ability, when combined with the iQ1210's onboard intelligence, allows administrators to create highly robust, highly affordable storage implementations -- including extremely cost-effective asynchronous replication solutions that are not limited by distance or complexity -- to address disaster recovery and business continuity needs of SMBs worldwide.

Each iQ1210 supports up to fifteen SATA disk drives providing 6TB of storage capacity (with 400GB drives), and the solution allows administrators to easily activate enhanced storage services such as virtualization, snapshots, mirroring, storage provisioning, remote replication and automated capacity growth as storage management requirements evolve.

For companies seeking to implement a full featured 2Gb storage solution that provides maximum flexibility, scalability and cost-effectiveness to protect their bottom line, the iQ1210 provides dependable data protection and delivery to help keep business-critical applications running smoothly. With the iQ1210, businesses have a robust, intelligent and highly economical solution with the availability, manageability, data integrity and functionality that, until now, have only been available to enterprise users -- to cost-effectively protect data, intellectual property and business processes.

Compliments of:  **iQstor**



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# Data Protection