How to Reduce the Costs and Risks of Branch Office Data Protection
White Paper

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Is Your Branch Office Data Really Protected?

Disk crashes. Power failures. Human error. Natural disasters. Regardless of form or fury, disasters can take their toll on any business and stop the flow of information. With each minute of lost data translating into unrecoverable revenues, downtime is being taken very seriously.

Most corporations understand the importance of deploying the right resources, processes and technology to protect key information and minimize downtime at their main headquarters. But too many of these same companies don’t have adequate resources or technology in place for protecting invaluable data in branch or remote offices. Their data protection strategies have not kept up with the reality that branch or remote offices now contain customer databases, e-mail servers, or financial information that are critical to the company’s day-to-day operation.

The traditional approach – relying on tape backup for branch office data protection – is costly and risky. In addition to the initial tape backup hardware, software, and installation costs for each branch, there are the continual costs of tape media, maintenance, and off-site transport and storage. Most companies can’t afford to have IT staff in the branch offices, so they incur additional IT support costs for the weekly technical maintenance and verification of the branch backups. Even with weekly support, central IT ends up finding out about gaps in the branch data backup after important information has already been lost.

Often, untrained non-technical staff in the branches have to be responsible for consistent, reliable backup. Given all of the things that could go wrong, this is an unrealistic responsibility. Backups fail without the branch staff even noticing. Shortcuts taken to save time unwittingly sabotage the process. Improperly labeling, rotating and removing tapes results in lost data and slow recovery. Since the branch employees have never tested the recovery process, they aren’t familiar with how to execute the recovery when a disruption occurs. So the branch is down for hours, or even days, and often requires the assistance of the central IT staff.

Could any of this be happening in your branch offices?

A Better Approach to Branch Office Data Protection

You don’t have to rely on this costly and risky approach to branch office data protection. Newer, proven software technologies make it possible to reliably and cost-effectively back up branch offices at the central data center. In the past, centrally backing up remote locations was not feasible for most businesses because the solutions available were hard to manage and required costly Wide Area Network bandwidth.

New remote backup solutions that use data replication software are dramatically easier to manage and work effectively over low-bandwidth connections and long distances. With real-time data replication, file changes on branch office servers are automatically copied and transferred to a target server at a central location – using your existing network bandwidth.
Real-Time Replication – Reliable Remote Backup Using Your Existing Network

**Incremental, asynchronous, byte-level data replication.** Monitors changes to all protected branch office files and replicates only the actual bytes that change – dramatically reducing the amount of data that has to go over the network.

**Uses standard network protocol.** Replicates over any existing IP network – LAN, WAN, VPN or NAT – leverages your existing infrastructure.

**Bandwidth limiting.** Some software data replication solutions have the ability to let you cap the bandwidth that they use – minimizing the impact on network performance.

The replication occurs automatically relieving branch office staff from their duties as a backup administrator, and giving the IT staff confidence that reliable backups are occurring in the branches – without a lot of branch support calls and headaches. And because the replication is occurring constantly, the window of data loss is dramatically smaller compared to once-a-day tape backup.

**Branch Office Data Replication in Action**

Let’s look at a company with multiple branch locations that realized that tape backup was no longer sufficient for protecting their branch offices.

MidAmerica Bank ended 2002 with thirty-four offices, profits and income per share that surpassed the preceding year, and continued growth on the horizon. MidAmerica had become the Chicago metropolitan area’s ninth largest bank in deposit share. The bank’s success was more remarkable because much of this growth had occurred when the rest of the economy was sagging.

While tape backup had been sufficient in the past, MidAmerica Bank wanted to reduce their escalating backup costs and increase the protection of teller-based data—transaction records, check ordering applications, and spreadsheets—in each branch office.

The cost of tape backup was becoming exorbitant. Each branch had to spend $7,000 - $10,000 for backup hardware and software, plus setup time. This was in addition to the ongoing costs of media, maintenance, communications, transport, and storage. Yet this costly system failed to guarantee the protection of all records because tape backup is not constant, occurring just once daily. When failures occurred, the gap between the last backup and the failure resulted in the irretrievable loss of transactions and records.

Another problem for MidAmerica was the dependence on non-technical staff for tape management. People trained to serve customers were inexpertly changing tapes. “There were always irksome questions, especially with so many branches,” said Ray Zamora, Vice President of Network Operations for MidAmerica Bank. “Did they make the tape change? Did they do it correctly? Did they install new tape or erase data?”
When relying on tape backup alone, MidAmerica Bank had to allow about an hour per branch for weekly technical maintenance and verification. With thirty-four branches, the support was roughly equal to the cost of a full time employee.

When the bank upgraded to a Dell™ EMC Storage Area Network (SAN), they re-evaluated options for protecting branch data. Armed with the banks requirements for data storage and backup speed, Dell researched options and recommended the bank implement a real-time data replication software solution, NSI® Software’s Double-Take®.

MidAmerica Bank initially implemented the Double-Take solution in thirty-four branch offices, backing up user data from remote sites to a central server in Naperville, Illinois. Each branch office used a Dell server with RAID 5 storage that replicates to a lower cost server. This server provides local failover protection for the office and also serves as the source replicating the branch data to the centralized target server, attached to the central Dell/EMC SAN in Naperville. Because the replication software replicates and transports byte-level changes only, the average amount of data backed up every day from all branches is just 70 MB. This helps the bank achieve their goal of maximizing the use of their existing bandwidth for as long as possible.

According to Ray Zamora, “Double-Take saves us about $50,000 annually by eliminating the need for backup technical maintenance and assistance. We also save with the simple set up of the Double-Take solution which is less than a tenth the cost of setting up the tape drives. And there is no recurring hardware maintenance cost and no loss of employee time in supervising the backup process.”

With no user intervention and no additional bandwidth required between the branch offices and the central data center, real-time data replication gives MidAmerica Bank a backup and recovery solution without bottlenecks, allowing operations to continue unimpeded. The result: cost-effective quality service, up-to-the-minute data protection, and economical use of existing bandwidth.

**Branch Consolidation**

**Production Servers at Branch Locations**

- Philadelphia
- Denver
- San Jose
- Boston
- Houston

**Solution Summary**

- Local data at branches in production
- Double-Take replicates production server data to central site
- Tape backup taken from at central site
- Company gets better backup – faster
- IT costs decrease
The Power of Windows Storage Server 2003 and Double-Take

New data replication software solutions can reduce your branch office data protection TCO and risks. They can also deliver quick easy-to-execute recovery and ensure business continuity. For branch offices that use the Windows® server operating systems, Microsoft® has teamed with NSI Software to provide real-time replication in this environment. The two components of this solution are Microsoft Windows Storage Server 2003 and NSI Software’s Double-Take.

Microsoft Windows Storage Server 2003

Windows Storage Server 2003 is a dedicated file and print server that delivers high reliability, availability, and ease of management to businesses looking to reduce the complexities and costs of branch office storage and data protection.

Quickly and easily deployed in remote locations. Network attached storage (NAS) solutions based on Windows Storage Server 2003 are quick and easy to deploy, making additional storage capacity available to your branch offices within minutes of implementation. NAS devices running Windows Storage Server 2003 come preconfigured for simple Plug and Play integration into existing networks. An intuitive Web-based user interface with simple step-by-step installation instructions helps to ensure that storage is correctly installed on an existing network within minutes.

Provides fast data recovery and background shadow copy creation. With the new Volume Shadow Copy Service (VSS), Windows Storage Server 2003 has the built-in capability to provide extremely fast recovery of lost branch data—recovery times can be dramatically reduced to minutes rather than the hours or days it can take to recover from tape. Shadow copies, also known as point-in-time images or data "snapshots," can be made as frequently as an administrator deems necessary, as often as every 4 hours. Shadow copy creation, unlike tape backup, is a non-intrusive process where users do not need to stop work on open files during backup. Your branch office employees can also benefit from the Shadow Copies for Shared Folders feature, which, if activated, makes possible simple and almost instantaneous restoration of a previous version of a file or folder that was accidentally deleted or overwritten.

Simplifies remote management. Administrators will find managing network attached storage easier than ever with Windows Storage Server 2003. A Web-based user interface enables system administrators to set up NAS devices in only a few short steps. In addition, Windows Storage Server 2003 can be remotely managed from devices on the network.

NSI Software’s Double-Take

Double-Take uses data replication software technology optimized for Windows Storage Server to deliver continuous data protection and rapid disaster recovery at a price that can be affordably implemented across a large number of branch offices. Double-Take uses patented replication and failover technology that continuously captures byte-level changes as they happen and replicates those changes to one or more target servers, no matter how far away. In the event of a disaster, Double-Take lets you recover from your target servers in minutes, if not seconds.
**Replicates branch data over any distance.** Unlike costly synchronous mirroring solutions that limit your geographic options or require specialized network connections, Double-Take works over any distance using your existing IP networks. So you can be assured of reliable backup of branch data no matter how far away the target server is.

**Backs up your branches with minimal bandwidth.** By replicating only the bytes that change, Double-Take uses the absolute minimum bandwidth required to back up your branch data. Plus, powerful advanced features let you control bandwidth usage and queue data changes for replication during off-peak usage times.

**Helps you quickly restore access to branch data and applications.** When disaster strikes, Double-Take can immediately fail over to a second server. You branch locations can be up and running again in minutes, with minimal or no loss of data and productivity. Compare that to the hours or days required to rebuild a server from backup tapes.

**Delivers advanced protection at a low cost.** According to storage industry analyst Strategic Research Corporation, Double-Take can provide up to 99.99 percent system availability, or less than 50 minutes of downtime per year. That’s quite impressive, since, according to a leading industry analyst, most large online businesses average one to five hours of downtime every month, losing $8,000 or more per hour.

**Protects your branches with solid, proven technology.** Thousands of companies — including a large percentage of Fortune 500 corporations — protect their data and applications with Double-Take. Industry giants such as Microsoft®, Dell™ and Hewlett-Packard® have chosen Double-Take as the software engine driving their high availability and disaster recovery solutions.

**Conclusion**

Continuous access to key business information is a critical requirement for both corporate headquarters and branch locations. But many companies have not adjusted to this reality, and continue to rely on tape backup to protect their branch offices. The tape backup and recovery processes are complex, labor intensive and prone to errors - especially when untrained branch employees are asked to execute them. In short, tape backup for branch offices is a costly and risky data protection strategy. New solutions that use real-time data replication software to automatically backup branch office data to a central server provide a simpler, more reliable and cost-effective way to protect your branch offices.
Microsoft and NSI Software have teamed to deliver a data replication software solution that is ideal for backing up branch and remote offices. By implementing real-time replication for Windows Storage Server 2003 you can:

- Reduce your branch office data protection TCO by 15% or more per year
- Ensure consistent, reliable backup and quick recovery of critical branch information
- Keep your branch offices going in the event of a disruption.

For more information on how Microsoft Windows Storage Server 2003 and NSI Double-Take can help you reduce the costs and risks of protecting critical information in your branch offices - go to:

- NSI Software’s Double-Take home page: [http://www.nsisoftware.com](http://www.nsisoftware.com)