

# Simplifying the Backup Process: Practical Solutions for Protecting Data

## A White Paper Prepared by Insight

*Properly protecting data assets is an overwhelming task that is complicated by many backup applications, disparate media, manual procedures and overlooked content. Companies with thousands of users and branch offices distributed across the nation face the biggest challenges in protecting data.*

*Although data backup is a critical part of every IT department's responsibility, the complexity of the task is leaving critical information unprotected. If something as common as a hard drive crash takes place or something as rare as a natural disaster occurs, IT must be prepared to recover information that is essential for business continuity.*

*A combination of modern storage solutions can overcome these critical challenges. For example, a comprehensive backup assessment can help IT determine if everything is being properly archived, enterprise-wide storage applications can bring centralised control to IT and automated tape libraries can remove manual media handling requirements. This paper will examine some of the challenges IT faces when protecting data and reveal ways to simplify backup management.*

### **Data Backup Market Drivers**

According to a survey conducted by ComputerWorld, data growth, high costs and insufficient IT staff are the top three issues faced by IT managers (see figure 1). Today's IT department is constantly pressured to do with less, resulting in overworked IT administrators and data backup tasks being relegated as low-priority "grunt work." Because IT budgets are not growing as fast as they should, managing increasing backup requirements is becoming more complicated.

<sup>1</sup>Schatt, S. (July 23, 2003). *Is It Time to Deploy Voice Over Wireless LANs?*

“

*With the massive surge in business data fueled by e-mail, data warehousing and customer relationship management systems, inconsequential budget increases are bad news.*

”

“

*It should come as no surprise why IT administrators dislike handling backups. They know it needs to be done, but it is not at the top of their lists because it is so difficult to manage.*

”





# Simplifying the Backup Process: Practical Solutions for Protecting Data

A Merrill Lynch survey of CIOs at Fortune 1000 corporations affirms this by reporting that IT budget increases will be slashed almost in half-up only 3.9% in 2005, down from the 6.3% spending pace of 2004.<sup>1</sup>

With the massive surge in business data fueled by e-mail, data warehousing and customer relationship management systems, inconsequential budget increases are bad news. To illustrate the data growth phenomenon, the Yankee Group claims a typical corporation with 5,000 employees will accumulate nearly 4 terabytes of e-mail every year, requiring the services of at least one additional full-time storage administrator.<sup>2</sup>

The Sarbanes-Oxley requirement to store data for extended periods of time is also driving the need for more storage. Over the last three years, IT managers have shifted their focus from backup in 2002 to recovery in 2003 to data protection in 2004.<sup>3</sup>

With the advent of the Internet, businesses are operating 24 hours a day, requiring systems remain operational all the time and leaving less time to perform backups. As a result, more than 50% of IT organisations confess that their backup schedule leaves their data exposed to risk in some way.<sup>4</sup> At the extreme, a sustained outage can threaten the viability of an organisation.

According to analyst group Gartner, two out of every five enterprises that experience a disaster go out of business within five years.<sup>5</sup>

## Data Backup Challenges

Today's data backup has become a highly complex process that includes a wide range of applications, manual processes and often overlooked data. Consider the following issues:



*The presumption that everything that needs to be backed up is actually being backed up is typically incorrect. A number of factors can lead to important information being overlooked. Human error and departments purchasing systems and not notifying IT are two examples.*



## A Mixed Bag of Applications, Systems and Media

Most IT departments must manage multiple backup applications across many systems with numerous media types and often in several physical locations. The sheer variety of combinations can be mind-numbing.

Backup tools can range from home-grown scripts to default operating system tools to sophisticated backup applications. Systems are often delineated by UNIX and Windows, with different administrators managing each set of systems using different tools. Data can be stored on a variety of media from hard drives to LTO, DLT, SDLT, AIT and others.

<sup>1</sup>ComputerWorld. (October 18, 2004). ComputerWorld DataPoints: Storage Series.

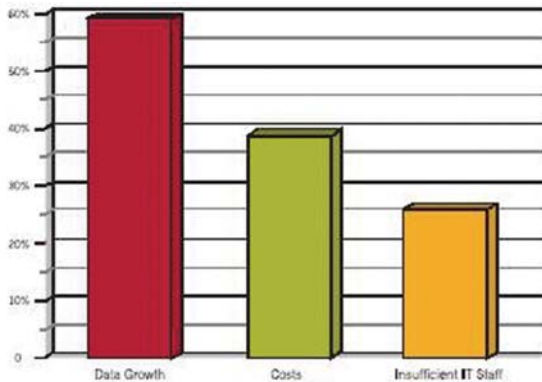
<sup>2</sup>Santosuss, M. (March 1, 2005). CIO Magazine. Optimism for IT Spending.

<sup>3</sup>Betts, M. (October 18, 2004). ComputerWorld. Editor's Note: Stretching Your Storage Dollars.

<sup>4</sup>Kenniston, S. (April 2004). Market Drivers and Technology Trends in Data Protection.

<sup>5</sup>Ibid.

<sup>6</sup>ComputerWorld. (October 18, 2004). ComputerWorld DataPoints: Storage Series.



**Figure 1:** Data growth is the most significant concern faced by IT, followed by costs and insufficient IT staff.<sup>6</sup>





# Simplifying the Backup Process: Practical Solutions for Protecting Data

Not every backup application supports every media type, further complicating matters. Add to this manual tape drives, autoloaders and tape libraries from many different manufacturers. Then consider that data resides all over the enterprise, from multiple servers to employee desktops and laptops that are geographically dispersed. The end result is a highly heterogeneous and dispersed environment that is very complex to properly maintain.

It should come as no surprise why IT administrators dislike handling backups. They know it needs to be done, but it is not at the top of their lists because it is so difficult to manage.

## Manual Processes

Excessive manual processes are one of the reasons IT dislikes managing backups. Configuring backup scripts and handling tapes are two processes that require human intervention and often lead to errors and problems.

Backup scripts, for example, entail installing software when a new server is added, loading the script on the server and selecting the correct data to backup, a process that is easily overlooked. When storing data on tape, a number of challenges occur from installing tapes to properly labeling them.

Selecting the correct tapes to put in drives before backups occur can be complicated by confusing rotation policies and uncertainty regarding who should be handling the tapes. When tape errors occur, administrators are often not aware until the next day and backups may not occur for that day. Often tapes are mislabeled or misplaced once they are removed from a tape drive, creating big challenges if data restoration is necessary.

When data must be restored, an administrator typically must determine which tape from which day contains the data for restoration and physically locate it. Restorations can range from recovering a missing file to restoring an entire operating system. Disaster situations make quickly finding the right tape a critical procedure.

## Not Everything Is Backed Up

The presumption that everything that needs to be backed up is actually being backed up is typically incorrect. A number of factors can lead to important information being overlooked. Human error and departments purchasing systems and not notifying IT are two examples. Remote offices may not be doing their share of the backup process, leaving important data open to the risk of permanent loss.

Laptop users are part of the user base that is often not backed up. Even desktops tend to contain critical information that is unnoticed. In addition, applications that are running all the time, such as databases, are often not properly backed up. When important information is overlooked and a problem occurs, its loss can be detrimental to the operation of a business.

## The Solution: Assess, Manage AND Automate

To overcome the backup challenges of managing many applications, remembering every manual process and ensuring that all critical data are being stored, IT organisations must employ a multi-prong data protection strategy. The ideal solution begins with a comprehensive backup assessment to compare what should be backed up and what is being backed up. The next step is to employ a centralised enterprise-wide backup solution that simplifies management tasks. The final step is to leverage powerful automated tape libraries that dramatically reduce tape management.



*As one of the world's largest providers of IT products and services, Insight is on the cutting edge of the trend to VoWLAN, crafting converged voice and data networks for businesses, enterprises and public sector organisations.*



<sup>1</sup>Schatt, S. (June 8, 2004). *Voice over Wireless LANs - Still Hype, Or Is It Time to Deploy?*



# Simplifying the Backup Process: Practical Solutions for Protecting Data

## *The Backup Assessment*

A critical first step toward reducing the backup chaos is to have a comprehensive backup assessment performed. A proper assessment is a multi-day on-site process that involves strategic interviews and infrastructure analysis and testing. Through interviews and diagnostics, an assessment will examine the server and application environment to determine current and future storage requirements, review storage capacities, validate that important data is currently being backed up and analyse performance. A backup assessment should examine storage application performance, retention and archiving, security and the storage infrastructure.

### **A backup assessment provides the following benefits:**

- Helps IT realise what is needed to achieve storage objectives
- Helps IT develop a plan to meet future backup needs
- Ensures IT is prepared for a compliance audit
- Acts as an external reference to see how IT is handling backup in relation to the rest of the industry

When seeking a provider to perform a backup assessment, be sure to look for a company that is vendor agnostic and will not recommend only certain company's products, but rather recommend the best solution for your specific needs. In addition, look for an assessment that is comprehensive and addresses disaster recovery.

## *Enterprise-wide Backup Solutions*

To better manage the entire backup process, a centralised enterprise-wide backup solution is critical.

Enterprise backup delivers high-performance data protection that scales to protect multiple operating systems including UNIX, Windows, Linux and NetWare environments. Offering complete protection from desktop to data center, enterprise backup solutions offer a single management interface to consolidate all backup and recovery operations, while providing simplified management, alerting, reporting and troubleshooting.

In addition, these solutions help IT leverage tape and disk storage and include snapshot-based data protection, off-site media management and automated disaster recovery. Enterprise backup applications provide the following benefits:

- Allows IT to manage multiple locations from a centralised management interface
- Simplifies the tracking of files to speed recovery
- Ensures compliance by keeping archives of important information
- Helps IT create failover alternatives in the case of a media failure
- Integrates with disk arrays to perform automated snapshot backups
- Consolidates backup reports

When looking for an enterprise backup solution, seek one that performs image backups so an entire system can be easily restored as needed. The solution should organise and prioritise backup information in an easy-to understand manner to speed recovery of important data in the case of a disaster. The ideal solution should also include an information lifecycle management strategy that helps IT manage data based on its age and when it was last accessed. It is also important that the solution include agents that support major enterprise productivity applications. Secure data encryption is another important consideration. The ideal solution should support your investment in major storage products, such as tape libraries.

## *Automated Tape Libraries*

To drastically reduce the need to manually process media, automated tape libraries combine large repositories of tape cartridges with multiple high-performance tape drives. Modern tape libraries offer high performance, availability, reliability, mixed media and on-demand storage capacity.

Automated libraries provide an outstanding solution for cost-effectively handling a wide range of backup, archive and disaster recovery data storage needs. Many systems include between two and six high-performance tape drives with the ability to store nearly 30 native terabytes on dozens of tape



# Simplifying the Backup Process: Practical Solutions for Protecting Data

cartridges. Automated tape libraries provide the following benefits:

- Automates the tape handling process and storage
- Supports information lifecycle management
- Enables extreme scalability
- Supports remote library management
- Includes automatic path failover to provide greater self-healing capabilities
- Reduces errors and costs associated with manual operations
- Supports cross-platform connectivity for networked storage environments

When seeking an automated tape library, be sure the library will meet the enterprise's performance and storage capabilities as data continues to grow. The solution should work across multiple operating systems and integrate with enterprise backup applications. An important feature worth considering is the ability to logically partition the library.

## *The Insight Advantage*

From small businesses to large corporations and government offices, large amounts of data are generated every day. Storing, protecting and easily retrieving this ever-growing data is a top concern for many businesses. Insight's Store IT solutions can help your business through the maze of storage choices and provide technology solutions that keep data accessible for the short-term as well as protected for years to come.

Insight understands your storage requirements are as unique as your business. Insight offers a premier portfolio of storage solutions that are cost-effective and scalable. Insight's team of skilled technical experts and certified engineers will work with you to tailor solutions that meet your business and technical needs.

“

*With the advent of the Internet, businesses are operating 24 hours a day, requiring systems remain operational all the time and leaving less time to perform backups. As a result, more than 50% of IT organisations confess that their backup schedule leaves their data exposed to risk in some way.*

”