

# Business Value of Effective Storage Management with Veritas Storage Exec



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### **E-Business Strategies, Inc.**

E-Business Strategies (ebs) is a technology research and ROI consulting practice. The company offers cutting-edge research, customized consulting services, white papers and innovative educational programs. E-Business Strategies' services are designed to give companies the ability to sense, adapt, and respond quickly to changes in the marketplace.

## Executive Summary

**Business Drivers:** Organizations today are facing tremendous growth in data as the workplace becomes increasingly information intensive. Consequently, the costs of storing that data grows as IT organizations cope with the data increase by adding more storage capacity.

Unfortunately, adding more storage, while solving a short-term problem, creates a long-term situation for organizations. Storage assets are often used inefficiently. Duplicate, out-dated, and non-business related files can clog resources. This can create potential problems during backup operations and can even lead to system outages. For many companies, the costs of managing that storage can be five times more expensive than the actual media itself.

A storage-management approach can help organizations optimize their storage resources and increase their storage efficiency by eliminating waste and controlling how those resources are used.

**Solution:** Veritas Storage Exec, part of the Veritas Backup Exec suite of products, provides administrators with tools that create an effective storage-management strategy. The specific capabilities of Veritas Storage Exec are:

- Reduction or elimination of excess files that are outdated, duplicate, or non-business related
- Quota management to control storage growth by limiting resource consumption by individual users, files, folders, or partitions
- Blocking of unwanted and illegal files
- Numerous detailed reports to aid in the proactive and strategic management of the corporate-storage infrastructure

**Business Value:** Veritas Storage Exec helps IT organizations generate tangible business value. Potential results include:

- Decrease the total cost of ownership of storage assets across the corporation
- Improve the utilization of storage resources by reclaiming wasted space
- Manage and control storage growth
- Enforce end-users to manage and purge their own storage, freeing IT administrators for more productive tasks
- Improve backup speeds through more efficient use of storage resources
- Reduce compliance problems and legal exposure by blocking inappropriate material from corporate-storage assets

# Effective Storage Management

Often, when the topic of corporate-server infrastructure arises, someone will assert that disk storage is cheap. That assertion is only partially true. The actual cost of the raw dollar value of storage per gigabyte is cheap, but that does not factor in the cost to redesign the storage strategy. Nor does it take into account the installation, partitioning, and securing of additional disk storage.

All too often corporations use storage inefficiently, and much of this costly resource is wasted. This inefficiency can span more than just filling the existing hard drives: it affects the length of the backup window on a daily basis, and creates possible downtime due to storage outages. It can also determine how companies store files such as music, video and pictures downloaded off the Internet.

The business challenge is clear: the amount of data stored by most companies is growing by more than 50 percent annually. It is not surprising then why the total cost of ownership of storage is escalating. For many companies, the cost to manage storage growth is approximately five times more expensive than the actual storage media itself. It is far more cost-effective to

manage the corporate-storage resources than to add storage on an ad hoc basis.

## The Solution to The Storage Dilemma

### Storage Trends

- Data is growing by over 50% annually
- Companies moving steadily along the continuum of Gigabytes -> Terabytes -> Petabytes -> Exabytes
- Total cost of storage ownership has escalated
- It is estimated that cost to manage storage outweighs the cost of storage capacity by 5 to 1
- It is more cost effective to manage storage resources efficiently than to keep adding space

Symantec has an excellent answer to the storage management quandary—balance escalating growth and lower costs. Veritas Storage Exec, which is part of the Veritas Backup Exec Suite of products, provides network and storage administrators comprehensive tools to manage their storage resources efficiently and effectively.

Storage Exec offers several ways to manage corporate-storage through quota management, elimination of duplicate files, the blocking of unwanted and or illegal files, and improved backups when used with Veritas Backup Exec. Veritas Storage Exec also offers numerous detailed reports to aid in the proactive and strategic management of the corporate-storage infrastructure.

This solution favorably targets organizations with large data growth—law firms, accounting firms, companies that conduct Web-based transactions, mid-market companies with

### Value of Effective Storage Management

- Manage and control storage growth
- Recapture wasted disk space
- Improve utilization of storage resources
- Improve backup speeds
- Reduce compliance problems and legal exposure

staffs of 500 to 5,000, and others that need complete storage management.

### Storage Management Business Value

To illustrate the business value that enterprises can realize from Veritas Storage Exec, this paper explores a real-life example representative of many companies.

A storage assessment was conducted to illustrate the value of optimizing storage. The assessment sought to identify areas of wasted storage space that could be reclaimed. Wasted space is defined as duplicate files, stale files, and other non-business-related files. The amount of wasted space is subtracted from the current storage-usage amount. This allows the derivation of business value for Storage Exec.

Assume that a company could potentially lose US\$5,000 per hour due to a computer-system outage and that they experience such incidents for an average of 20 hours annually. If approximately 55 percent of those situations are due to disk outages—that means the company experiences disk unavailability 11 hours per year. That unavailability costs the company US\$55,000 per year in storage-related problems annually. Figure 1 reflects the

business value of implementing Veritas Storage Exec.

### Business Drivers

The main business driver for implementing effective storage resource management (SRM) goes right to the bottom line. If a company spends less money on storage or storage-related administration, then more money goes to company profits.

Another driver is better screening of “data junk” such as:

- Desktop backup files
- End user PST files
- Computer games
- Copyrighted MP3 files
- Pornography
- Graphics
- Movies & jokes

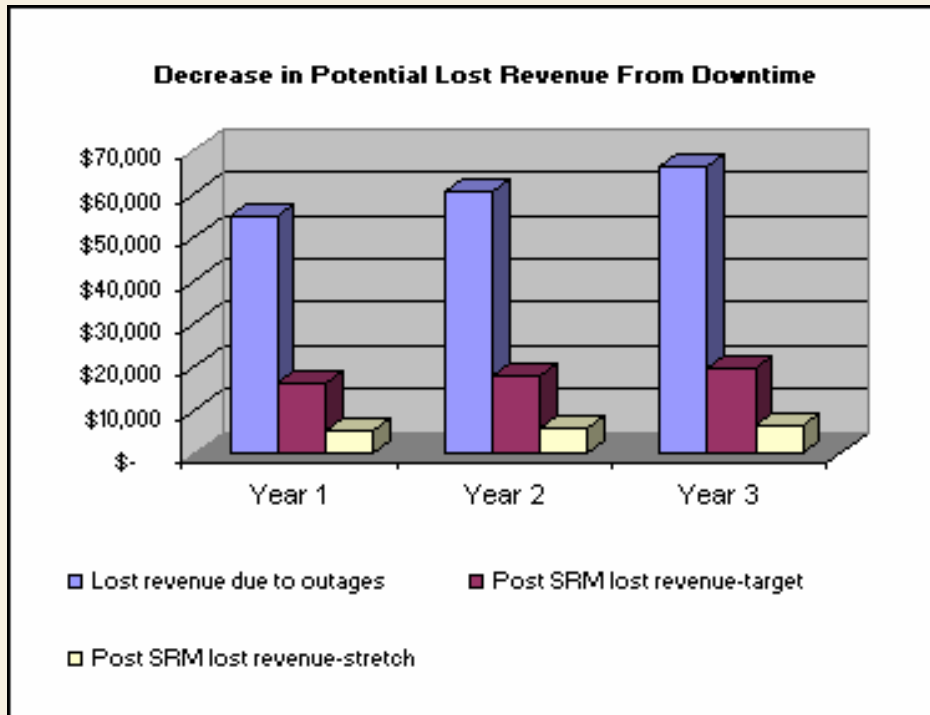


Figure 1: The Business Value of Implementing Veritas Storage Exec

- Duplicate, triplicate, & quadruplicate files
- Outdated & orphaned files
- Unlicensed software applications
- Viruses

Unwanted, illegally obtained files, such as music, video and movie files often consume valuable space on the corporate network. They can also create unnecessary legal-liability problems.

Besides these well-known business drivers, intelligent control of storage assets is often a primary reason for moving toward storage resource management (SRM).

### Intelligent Control of Storage Assets

The most compelling business driver is maintaining intelligent control over company-storage resources. The ability to manage storage proactively and strategically enables businesses to avoid the common pitfalls of poor storage-resource management. By implementing Veritas Storage Exec administrators can automate control over storage management resources, such as quota enforcement, file blocking,

elimination of duplicate files, and avoidance of unnecessary file backup, dramatically improving service levels while reducing administration (see Table 1).

For example, consider the needs of a large law firm. It stores hundreds of thousands, to millions of documents on its corporate-computer systems. These documents are the lifeblood of the firm, without which it cannot function. Absent proper storage-resource management, organizations such as this could easily, and without warning, run into trouble. Eliminating unnecessary, duplicate files is very important. Even more important is blocking unwanted or potentially illegal files from being stored on the network. Not only do these actions protect the law firm from legal ramifications, but they also conserve valuable storage-resources otherwise wasted by storing unwanted files.

### Planning—Proactive Analysis of Storage

IT departments in many companies oversee corporate storage reactively, rather than proactively. Often they only worry about storage when a problem arises. The most common storage problem is lack of available disk space. In these cases, storage or network administrators typically install additional storage, resulting in system

Business Need	Storage Strategy	Policy or Action
Manage and control storage growth	Quota Management	Create and enforce storage limits on individual users, files, folders or partitions
Maximize efficiency, improve backup speeds, mitigate legal risk	File Blocking	Set up real-time filters that block inappropriate, non-business file types from being stored on the server
Reclaim wasted space, identify problem areas, in-depth visibility into storage	Extensive Reporting	Receive detailed information into storage environment and drill-down on specific items

Table 1: Aligning Storage Strategy to Business Need

downtime, decreasing employee productivity, and adding costs in many other areas of the company beyond IT as well.

Using the law firm example, it is easy to see how the downtime created by insufficient storage resources could adversely affect the staff's ability to complete daily tasks. In that environment, tens of thousands of dollars per day could be lost. Gambling on the efficacy of the storage-resource management methodology, or lack thereof, would be a costly mistake. With Veritas Storage Exec, the occurrence of that mistake is easily avoided by leveraging the data to do analysis that is more informed.

Table 2 illustrates some key questions storage administrators can answer using Storage Exec's extensive reporting capabilities. With a clearer understanding, administrators can develop company-wide storage policies to optimize storage and intelligently plan capacity expansion.

## Challenges of Storage Management—A Case Study

Veritas Storage Exec provides a unique solution to help small, mid-size and large organizations in the public and private sector to automate storage management via real-time quotas, file blocking and extensive reporting. In this section, we illustrate the power of this solution through a real-world case study. Due to confidentiality, we will refer to the company as the Acme Company. However, the problems discussed are fairly universal and illustrative of the challenges faced by storage administrators everywhere.

### Storage-resource Management at Acme

Acme Company wanted to determine the current state of its storage-management capabilities before implementing the Veritas Storage Exec solution. Symantec consulting performed a storage-resource assessment to get the necessary visibility, and to establish a baseline.

File Characteristics Analysis	User Storage Analysis	What-if Business Impact Analysis
<ul style="list-style-type: none"> <li>•What files are most critical for business continuity?</li> <li>•What non-critical files are consuming the most space?</li> <li>•Are there specific file types that are exposing the organization legally (graphic files, media files, etc.)?</li> <li>•Are we storing inappropriate or offensive materials?</li> <li>•How much time and money is spent managing data?</li> </ul>	<ul style="list-style-type: none"> <li>•How fast are data and demands for storage growing?</li> <li>•In what areas is storage growing the fastest?</li> <li>•Which users are consistently consuming the most disk space?</li> <li>•Is this usage necessary for business?</li> <li>•What is the approximate amount of storage employees need to perform their jobs effectively?</li> </ul>	<ul style="list-style-type: none"> <li>•How much disk space could be made available if outdated, duplicate or non-business files were removed?</li> <li>•What impact will limiting end-user disk consumption have on storage growth?</li> <li>•Will backup and recovery speeds be impacted if used only for business relevant data?</li> <li>•How much administrative time and workload can be reduced by automating data management?</li> </ul>

Table 2: Storage Administrator Insight Needs

The following data set for this analysis came from one server at Acme Company. (An Acme storage administrator and Symantec collected the data.)

At 93 percent, the percentage of used space on the drive was very high. This high-disk utilization put Acme into a storage danger zone. Acme must constantly monitor the utilization levels on this drive to prevent disk capacity related performance issues or unplanned server outages from servers reaching disk capacity. Storage Exec can analyze the capacity further and show that much of the used capacity is wasted.

### Wasted Space from Duplicates

To determine wasted space from duplicates, the analysis assumed that for every file, where more than one copy exists, Acme would want to keep only one copy and delete the duplicates. The total represents

the amount of space the duplicate files take up, whereas the wasted amount represents the space used by files that should be deleted. (Example: five copies of a file exist, each of which are 1 MB, total size equals 5 MB—wasted space equals 4 MB.)

### Wasted Space from Stale Files

A stale file is one that has not been accessed in a given length of time. For this scenario, the term of one year, or 365 days, was assigned. The following total represents the wasted space from stale files by assuming that every file not accessed in 365 days was stale and therefore could be deleted or archived to less expensive storage.

Drive Usage	
Capacity	80,909 GB
Used Space	75,374 GB
Free Space	5,535 GB
Percentage Used	93%
Percentage Free	7%

Table 3: Current State of Storage Management at Acme

File Type	Size (GB)
ZIP	3,193
MPG	486
MPEG	81
AVI	93
MP3	1,216
JPG	864
<b>Total Non-business Related:</b>	<b>5,935</b>

Table 4: Non-business Related Files

## Wasted Space from Non-business Related Files

Often, files unrelated to the support, operation or business goals of a company are stored on its computer systems. These files may include compressed files such as .zip files; music files such as .mp3, .au, or .wma; video and graphic files with extensions such as .mpg, .avi, .mpeg, .jpg, and .gif, just to name a few. At Acme, non-business related files are encountered and are included in the assessment. Table 4 shows a breakdown of the drive by file type.

The analysis reveals that Acme can recover 38 percent or more of the consumed disk space on this Microsoft Windows server alone. Files that are often not important for business operations or support, such as graphics, multimedia, temporary, and backup files, including .zip files, and executable files, made up the majority of wasted disk space on the assessed server. Acme can use the detailed reports included with Veritas Storage Exec to get more granular file-level details on these file groups. These results, as shown in table 5, are typical of organizations from small to large.

## Business Value of Storage Exec

The business value from Veritas Storage Exec comes from two primary sources:

- Lower Storage Total Cost of Ownership (TCO)
- Improved Staff Productivity

### Lower Storage TCO

Total cost of ownership (TCO) is an important measurement criterion in the business environment. With the proper implementation of Veritas Storage Exec, companies can use their current storage infrastructure more efficiently and therefore longer. This reduces their storage costs as they are using resources to their maximum potential with improved storage patterns, and are thus able to avoid costs commensurate with adding additional storage capacity.

By implementing sensible disk quotas per user and controlling storage on corporate-storage systems, corporate-storage patterns will improve. These improved storage methods are monitored by using

Category	Size (GB)
Used Space	75,374
Wasted Space from Duplicates	12,405
Wasted Space from Stale Files	10,443
Wasted Space from Non-business Files	5,935
<b>Total Wasted Space</b>	<b>28,785</b>
<b>Percentage Reclaimable</b>	<b>38%</b>

Table 5: Total Reclaimable Storage

the various detailed reporting functions of Veritas Storage Exec.

Let us revisit the example provided in the section above, and determine what business value was provided by reclaiming the wasted storage. Using some assumptions, some hard dollar savings are calculated:

- US\$35.00 cost per GB
- 25 percent growth rate annually

The disk savings of reclaiming 28,785.24 GB in the example is straightforward. The value created by Storage Exec in disk savings is US\$755,612 annually. Keep in mind the analysis presented in the example is for one server. Extrapolating this result to a modest number of 50 servers produces an impressive amount of US\$37,780,627. The analysis is shown in table 6.

### Improved Staff Productivity

By providing proactive storage-resource management with Veritas Storage Exec, end-user productivity is maintained and improved in three ways. The first example concerns file blocking. If users are not allowed to store unwanted files, such as music, video, and unnecessary graphics files on the

corporate network, users will cease downloading those files at the company. This conserves corporate disk resources and Internet bandwidth, and ensures that employees concentrate more on their work.

Veritas Storage Exec also increases productivity by automating the elimination of duplicate files stored on corporate disk systems. Not only does this feature help prevent the waste of storage resources, but it prevents users from modifying them or using incorrect versions of these files. Employees attempting to collaborate on documents need to ensure that the files they are using are the appropriate files.

The third area of productivity improvement is the implementation of user-disk quotas. When staff members are allocated a fixed amount of disk space and they are educated on how to use their disk space effectively, there is more self-maintenance of that resource. When responsible users know the limits of their disk allocation, they tend to store only what is needed to accomplish their job. In addition, by knowing how much disk space has been allocated to them, they can decide whether it is necessary to request a larger quota based on their role or responsibilities.

Storage Reclaimed	Business Value
Total Wasted Space	28,785 GB
Annual Growth	25%
Reduced Recovery	21,588 GB
Cost per GB	US\$35.00
Disk Savings (1 server)	US\$755,612
Disk savings (50 servers)	US\$37,780,627

Table 6: Business Value of Storage Reclamation

The proper use of disk quotas by end users helps create a bottom-up management of storage resources rather than imposing a traditional top-down methodology. This empowers the individual to have more control over their working environment—this contributes to a more satisfied staff.

*“We have to be sure that the confidential and critical data contained in the SAP system is really backed up. Symantec gives us that security—it’s as simple as that.”*

Stefan Gerner,  
Head of Technical IT,  
Helios Clinic Wuppertal

accomplish those organizational goals.

**Solution:** After rigorous testing, the Helios Clinic Wuppertal selected Veritas Storage Exec, Symantec’s storage management tool, which further complemented the Clinic’s previous implementation of Symantec Backup Exec for Windows Servers.

## Customer Case Studies

Following are excellent examples of two organizations—Helios Clinic Wuppertal and Osterreichische Post AG—that have experienced exceptional results from implementing the Veritas Storage Exec solution.

### Helios Clinic Wuppertal

**Organization Overview:** Located in the largest federal state in Germany, Helios Clinic Wuppertal is the largest hospital in Bergisch-Land. With over 1,000 beds, 26 medical departments, and 2,500 people employed in various medical, technical, and managerial positions, the Clinic’s medical-support personnel require instant access to critical patient information 24×7 365 days a year.

**Challenge:** These information systems are the lifeblood of the Clinic—the staff relies on them to deliver outstanding patient care. If the Helios Clinic’s numerous systems databases and hospital applications were compromised, all hospital processes would come to an immediate halt with an estimated loss of €50,000 per day (\$64,000 USD).

In addition, compliance requirements necessitated data storage and protection of vital patient data. The subsequent growth in storage coupled with an ever growing complexity of the Helios Clinic’s environment led to incomplete backup jobs.

In order to streamline operational efficiencies, provide business-critical data high availability, and minimize compliance risk, the Clinic’s IT group resolved to seek improved technology solutions to

**Benefits:** With the Veritas Storage Exec implementation, the Clinic has reaped 10 to 15 percent additional storage capacity on its systems. All told, the organization has reaped tremendous business value through improved backup reliability, data availability, and increased storage capacity, all of which are vital to the Clinic’s ongoing service commitment to their patients.

### Osterreichische Post AG

**Organization Overview:** Osterreichische Post AG is the Austrian nation’s leading mail-service provider. A subsidiary of Post and Telekom Austria, Osterreichische Post manages over 4.4 billion postal and parcel deliveries every year. Currently, the company has almost 27,000 employees and operates 1,600 post-office branches nationwide.

**Challenge:** With Osterreichische Post’s traditional mail and parcel delivery services under siege by the Internet, it grew increasingly important for the Organization’s IT infrastructure to operate as efficiently as possible, and to maximize operational efficiency. While every effort was made to consolidate processes and applications through the Post’s twin-site SAN, storage growth and its escalating cost became key concerns for the Post’s IT management.

**Solution:** Due to its integrated storage management with the Post’s Windows Active directory, the Post chose Veritas Storage Exec. The Veritas Storage Exec solution provides a robust feature set allowing the Post to discover the location of wasted disk space, block specified file types, schedule key reports, and identify problem storage-usage

Table 7: Business Value Summary

patterns—as well as to structure and define macro organizational storage-usage policies.

In time, Veritas Storage Exec will allow Österreichische Post AG to implement flexible departmental quotas with tiered storage-utilization thresholds. Storage Exec’s real-time notification capability will also notify departments automatically as it approaches storage-allocation limitations.

**Benefits:** Through the implementation of Veritas Storage Exec, the Post has reaped significant benefits, most notably tremendous cost savings. Through enhanced staff productivity, increased storage-management efficiency, and a rigorous internal-accounting system, IT management at the Post assert Veritas Storage Exec has paid for itself many times over. All told, the Organization estimates it has reaped a savings of approximately €10,000 per month (\$12,800 USD).

*“When we undertook planning with each of the departments, Veritas Storage Exec identified that their storage charges could rise to €10,000 per month. That made them decide pretty quickly which files they should or should not archive to DVD.”*

Christian Cachee,  
Head of IT Operations,  
Österreichische Post AG

## Summary

Every company needs a comprehensive strategy to protect, recover, manage and safeguard the lifeline of their businesses—data. The implementation of an effective Storage Resource Management methodology, enabled by tools like Veritas Storage Exec, greatly reduces the risk and improves the TCO of the corporate-storage

resources companies already own.

The proof-points outlined in this white paper were drawn from two implementations of Veritas Storage Exec. The analysis shows the savings each company received by using the tools they now have at hand. These cost savings were impressive and spanned not only the actual cost of additional storage, but also the time and effort of what it would have cost to install, configure, and administer the new storage. By combining the use of file blocking, disk quotas, and the elimination of duplicate files, they were able to use their current investment in storage more fully. Veritas Storage Exec provided a comprehensive solution to their unique storage problems.

Business Value Provided by Veritas Storage Exec
<ul style="list-style-type: none"> <li>• Help reclaim wasted disk space</li> <li>• Gain in-depth visibility into storage</li> <li>• Discover key problem areas</li> <li>• Submit files directly to Symantec Backup Exec</li> <li>• Plan future storage growth with increased accuracy</li> </ul>

Table 7: Business Value Summary

The extensive reporting capabilities of Veritas Storage Exec enable storage administrators to monitor what is occurring on their computer systems applicable to storage. These reports can be automated and sent by e-mail to the administrators. This allows for a far more proactive stance with regard to avoiding storage-resource problems. Equipped with a better visibility into the storage infrastructure, administrators can make better storage-protection, recovery and management decisions.

In summary, the acquisition and appropriate use of Veritas Storage Exec will greatly benefit most companies that regard storage resources as a critical part of conducting business. What would the cost be to the company if there were a serious interruption in the use of the data assets by the staff? In many cases, the productivity and financial losses to the company would far outweigh the cost of implementing Veritas Storage Exec.

Table 7: Business Value Summary



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