



Backup & Disaster Recovery

# 7 Reasons to Use a Single Backup Solution for Virtual and Physical Machines

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## *The Big Backup Question*

Q: Is a single backup and recovery solution ideal for all physical and virtual servers, or should companies buy a separate product for virtual machines?

A: 73% of companies using separate products for backup and recovery would consider switching to a single platform.

Most IT organizations operate on a combination of both physical and virtual machines (VM's). Utilizing hypervisors on VM's reduces costs, but not all company applications run on virtual machines and some environments are better suited for physical systems. With this knowledge at hand, IT professionals want to provide critical backup and disaster recovery solutions that are flexible and fit both scenarios. The ability to move data between physical servers, virtual machines, and the cloud is key to having a successful backup strategy.

While separate, tailored solutions may solve an immediate need, using a single backup solution for virtual and physical machines is the most practical and cost-effective approach.

Developers of backup and disaster recovery products for both physical and virtual environments have been even more innovative in the virtual world than "point product" vendors. With the complete IT infrastructure in mind, they fulfill the true backup needs of the entire enterprise. In fact, industry leaders have introduced many innovations in backup and recovery for virtual environments and today offer key features that are not available in virtual-only products.

When introducing multiple backup solutions, IT administrators must deal with these issues:

- Higher storage and infrastructure costs – due to the fact that separate backup solutions often require separate hardware and storage devices.
- Higher deployment and overhead expenses – multiple solutions allow fewer opportunities to optimize storage and deduplication.
- Lost productivity – it takes longer to recover servers in the event of a system outage.
- Difficulty or inability to meet compliance requirements – virtual-only products lack in support for long-term archival to tape, disk, or cloud storage.

## *1. Lower Storage, Infrastructure, and Staffing Costs*

Adopting a virtualization practice reduces unused capacity on multiple single-purpose systems. A comprehensive backup and recovery solution can back up virtual machines to physical servers and physical servers to virtual machines. This flexibility means that backup servers can be handled as a single pool of resources with less redundancy and unused capacity.

In a multiple backup environment, organizations need at least one set of systems on standby to recover virtual machines, and a second group to provide recovery from physical systems.

A complete physical and virtual backup solution eliminates this duplication of systems. The comprehensive solution can recover applications backed up from virtual machines to physical servers, as well as applications from physical servers to virtual machines. Using current company hardware and software, businesses only need one backup server to maximize productivity and minimize costs.

SEP Software Corp.'s flagship backup and disaster recovery solution, SEP sesam, allows administrators to recover applications backed up from VMware® vSphere® systems to Microsoft® Hyper-V® machines and/or Citrix XenServer and restore them to any hypervisor. This flexibility eliminates the need to have separate backup and recovery silos for these three products.

### **Better deduplication – requiring less storage and bandwidth**

SEP sesam can also reduce storage needs with fast and efficient deduplication functionality. Deduplication ensures there is no more than one copy of a file or a software program on the backup server. If deduplication is split into virtual and physical silos, databases will be stored on two backup servers.

Storage inefficiencies will be even greater if backups are replicated to offsite systems or archives. Additionally, maintaining duplicate files from both a physical and virtual system requires bandwidth, which impedes network performance. A single comprehensive backup solution deduplicates blocks of data and code across all virtual and

physical servers, thus reducing storage costs and network bandwidth.

Many virtual-only products are limited to deduplication on individual virtual machines, rendering them even less efficient.

### **Lower workload and staffing costs**

Managing an environment with multiple backup and recovery solutions increases staffing costs and can create conflict with staff competing for valuable resources in both time and money. With several overlapping solutions, staff members must purchase, install, configure, and maintain at least two different products and ensure staff is familiar with both systems.

Staffing costs can far exceed the initial savings and can increase significantly over time. Having multiple solutions can introduce unforeseen problems like troubleshooting issues, internal conflict and forecasting complexity for future needs. It is far more efficient to have one interface and one set of reporting tools than to try to manage multiple systems.

Recent surveys show that a majority of companies implementing a single backup solution for both virtual, physical and cloud environments created a more efficient work environment and, additionally, saved time when new staff was hired. Furthermore, staff training on other products became infinitely easier because all system administrators were familiar with one single, comprehensive solution.

## *2. Fast Recovery and Restore*

A backup solution is only successful if you can quickly find and restore user data. Fast and reliable recovery is even more important than cheap and easy backup. SEP sesam ensures that user data is always available, whether on physical or virtual machines. It increases application availability, which leads to higher employee productivity and user satisfaction.

### **Eliminate downtime when finding or configuring desired machines**

With the SEP sesam backup solution, users can restore any backed up data from a virtual machine to a physical server and vice versa. Users can also restore files backed up from one virtual environment to another (ex. VMware to HyperV or Citrix XenServer). This flexibility allows system administrators to immediately recover data to whatever virtual or physical machines are at hand. This eliminates the need to wait until a system with the right software configuration is available.

### **Fast data transfer from offsite backups**

SEP's Si3 deduplication allows for less data to travel over the WAN when applications and data need to be recovered from an offsite location. With some applications today involving hundreds of gigabytes or even terabytes of data, this functionality significantly accelerates recovery time.

### **Faster recovery of individual files and emails**

SEP sesam allows fast, simple recovery of individual files, emails and application objects providing a huge boost to productivity. When employees accidentally delete files or lose a storage device only a fully featured physical/virtual solution can provide faster and easier recovery of emails and other objects when compared with virtual-only products.

## *3. Easy Migration from Physical to Virtual Servers*

SEP sesam can be used to migrate applications from physical to virtual servers. In other words, SEP sesam can back up applications and data from physical servers and restore them to any virtual machine, which eliminates the additional steps required to move the applications and data using a virtual solution.

SEP sesam's comprehensive solution:

- Automatically converts physical servers to virtual machine clones (P2V)
- Performs automated backups of physical servers to virtual machine clones (Backup to Virtual - B2V)
- Performs on-demand conversions of physical server backups to virtual machines

All of this functionality helps IT professionals solve the problem of the necessity of moving physical servers to virtual and also gives administrators unique tools for leveraging virtualization technology for disaster recovery.

#### *4. Compliance for Tape Archival*

The implementation of sophisticated and reliable tape library management systems make tape the most accepted solution for long term data store backup.

SEP sesam continues to assist companies in regulated industries meet SOX, HIPAA, and other standards offsite tape storage. Many organizations must be ready to face legal discovery requests for documents, ranging from a few gigabytes to several terabytes. Companies must also be prepared to locate and restore files that can help describe how the data has been used or accessed. All of these requirements can be quickly achieved with a comprehensive backup plan.

Any company can take advantage of the low costs, transportability and time-honored procedures to secure off-site storage. Using SEP sesam simplifies this process and eliminates problematic overhead with processes not available with point products.

Most virtual-only backup products can't provide the same support. Some do provide access, but it is rudimentary and extremely slow. They cannot provide support for large tape libraries. In this era of ever growing data quantities, time is everything. SEP sesam provides stellar and comprehensive backup to tape – both flexible, efficient and can write to any tape library recognized by the operating system.

#### *5. Fast Recovery of Individual Files and Folders*

Not having a systematic backup and recovery solution for both physical and virtual machines exposes a company to the possibility of system failures, disasters and simple user errors. With the implementation of SEP sesam's comprehensive backup solution, you can rest assured knowing your data can be quickly and easily recovered.

Many restore requests deal with single files and folders that have been lost or accidentally deleted. Most virtual point products can't read individual files within a VMware VMDK (virtual machine disk) or VHD (virtual hard disk). In this case, the system administrator is tasked with the error-prone and time-consuming process of mounting the entire VMDK or VHD and searching for the file or folder. Only afterward can the item be restored to a location accessible to the user.

For larger organizations, such requests for individual files can overwhelm the limited time provided for the backup administrators to perform their jobs. Sometimes these requests can run into days, or even weeks.

SEP sesam eliminates this painstaking process and offers a fast and easy, one-click restore for files and folders. Once a backup is complete, administrators can immediately search for data using the criteria of file or folder name, file type, file creation and/or modification date, along with other 'strings' to locate data.

## *6. Fast Recovery of Emails and Objects*

Virtual-only backup products marketed today cannot “see” individual emails in VMDK’s, which is not ideal for IT administrators. In order to achieve individual email restore, they would have to use multiple tools to back up MS Exchange® and various other applications.

The drawbacks of such a scenario are painfully obvious. It requires purchasing, licensing, implementing and managing multiple backup tools. In addition, running multiple backups on the same virtual machines creates performance issues and is prone to error, as many products cannot coexist in the same virtual environment.

A test environment is needed to prevent corruption to the real production servers being used for recovery. A similar process will be required to recover an individual SharePoint document or SQL Server database.

### **Using SEP sesam**

Recovering individual emails and application objects with a single, fully featured solution like SEP sesam is infinitely easier. SEP sesam can back up host virtual machines, guest virtual machines, applications, databases and Groupware solutions. Metadata properties of the virtual machines, files, folders, emails and application objects are also recorded.

SEP sesam then provides one-click restore for the application objects. Its powerful search algorithm allows administrators to search for emails and application objects simply and easily. Once found, the admin clicks on the name of the email or

object to restore to the end user.

SEP sesam’s technology and single-pass backups give administrators the choice of simple and quick recovery of:

- Individual emails and objects
- Individual files and folders
- Complete virtual machines
- Complete databases
- Complete physical servers, including host and guest virtual machines

No other product offers simple recovery at five levels. SEP sesam also supports Oracle Recovery Manager (RMAN). Both the speed of the Oracle backup and the ease of recovery make SEP sesam the ideal solution for Oracle database environments.

## *7. Better Deduplication Across Virtual Machines*

Having multiple backup solutions can also impact a company’s deduplication practices on physical and virtual servers. Every effort should be made to eliminate competing backup silos or creating internal points of contention, thus improving the backup topology and increased effectiveness of deduplication.

SEP sesam’s unique offering allows IT managers and system administrators to easily backup and restore objects from one hypervisor to another.

Deduplicating multiple instances of virtual machines running the same operating system can lead to an immense savings in storage and backup windows. In environments where VMs are cloned, operating system files are mirrored, allowing the deduplication functionality to save a tremendous amount of storage space.

## Conclusion

Comprehensive solutions like SEP sesam provide unified deduplication across all virtual machines, regardless of how backup jobs are configured. This can greatly reduce storage costs. Comprehensive features, integration, flexibility, and user experience, all point to the value of a single solution for backup and recovery across all server environments.

Remember: 73% of companies using separate products for backup and recovery would consider switching to a single platform. See why at [www.sepusa.com](http://www.sepusa.com)

## Key Features

- |                            |                       |
|----------------------------|-----------------------|
| Platform-Independent       | Disaster Recovery     |
| Centralized Administration | Virtualization Backup |
| Multi-Streaming Technology | Deduplication         |
| Full Cluster Support       | Fast Installation     |

### Operating Systems



### Applications



### Databases



### Virtualization

