

# Recover data in a virtual environment

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Although there are many factors that do not change when virtualized, there are still some considerations for IT to consider. For example, organizations that expand their virtual infrastructure need to map out plans to protect their virtual resources like a physical resource protection strategy. Due to the challenge of meeting recovery time goals (RTOs) and recovery point targets (RPOs), even with cases like backup windows and expanded storage space, organizations need to be able to quickly back up their virtual environment, while restoring not only an entire virtual machine system, but also individual files located on that virtual machine.

## Better backup and restore

With the ability of virtual machines to back up outside the server, the impact of the backup process on the server and virtual servers has been significantly reduced, allowing backups to be more frequent.

However, traditional backup solutions force users to select images or files and cannot backup the entire virtual machine without making two separate backups. By recognizing the benefits if both recovery methods can be implemented, organizations have created the need to have optimal options for recovering when problems arise.

For example, if a virtual machine is infected by a virus or accidentally damaged by a user error, recovering a file will not be significant; The entire virtual machine needs to be restored. However, if the user deletes a file and just restores the file - this is the most common recovery type - then restoring the entire virtual machine is not only unnecessary, but it also leads to downtime. Longer action.

In the meantime, there is always a need for continuous maintenance of critical applications to ensure overall RPOs and RTOs. It requires tight integration between backup and recovery processes with applications and databases that they protect, whether in a physical environment or in a virtual environment. It also requires granular recovery to improve recovery time, instant recovery options from online data images, and restore the entire system for operating systems and applications. and data in a snap.

As a result, new backup and recovery tools allow recovery in both ways while maintaining the performance advantages of both off-server and single-backup. The enabling platform for this is the technology to back up the entire virtual machine and then map, classify and back up individual files.

Especially useful for installing large virtual systems on shared storage disks, the integration of this backup technology with virtual server technology allows organizations to manage virtual snapshots organized by array,

or snapshots by software. Snapshots of virtual machines are created and then compressed into a backup proxy server for backup. This approach virtually eliminates the backup process from the server that contains virtual machines and allows to quickly perform virtual machine backups.

Furthermore, when combining that backup capability with deduplication, there are more benefits. According to some studies, conducting anti-duplication of backup data before transmission will significantly reduce the need for processors, networks and storage resources needed for the backup process when there is one. or many requirements for high volume backups. This holistic approach allows backing up virtual backups quickly, with little impact on other processes, with drastic recovery times and backup windows. This also allows viable virtual machine recovery for smaller-scale virtual deployments without SAN technology.

### **Integration and automation**



Not surprisingly, more tightly integrated backup technologies with virtual technologies bring more benefits to organizations. For example, the integration of a snapshot of a snapshot with a virtual server infrastructure can help simplify backup policy configuration. Similarly, the direct integration of the configuration wizard with the virtual infrastructure helps ensure that IT administrators will have an intuitive and easy-to-use graphical interface to configure and manage their virtual machines. With such a user interface, IT administrators can quickly grant access permissions, define other types of virtual servers and much more.

A variety of other tools also allow automatic discovery of virtual machines. This feature is considered part of a backup policy to make it easier for administrators to select one or all virtual machines that use enterprise-class virtualization technology.

### **The development of virtualization**

Virtualization not only provides redundancy for critical applications and data, it is also an effective tool that allows the IT sector to expand limited resources in complex computing environments. The application of virtualization will continue, as more and more organizations deploy virtualization not merely in testing or in development environments, but also in production environments. In fact, many businesses today have virtual servers running both production and business applications. Moreover, enterprises that implement virtualization

are realizing that this is not just a one-time return on investment project, but a regular strategy for operational efficiency.

As the application of virtualization technologies becomes increasingly widespread, businesses need to take seriously the technologies and tools for backing up and restoring these virtual machines and their data. As traditional approaches to backing up and restoring data in physical devices do not work well in the virtual infrastructure, many of those requirements remain unchanged in a virtual environment. Organizations need to continue to increase the effectiveness and efficiency of their IT operations through the use of virtual technologies, but still have to meet RTOs and RPOs.

As a result, more and more businesses are using modern backup and recovery technologies that allow smooth restoration of the image level or data file from a single backup operation. When combined with data duplication, while incorporating backup technologies with virtual technology, these tools will allow virtual backups to be quick and less impactful, significantly reducing challenges in data protection, while still providing significant improvements in reliability and recovery time.

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