

# Storage FAQs

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## ■ What current storage challenges do organizations and the IT industry face?

Today's organizations face a myriad of challenges when trying to implement effective storage.

- In the current global marketplace, more and more data must be accessible 24/7/365, which is rapidly shrinking time windows for accessing information.
- As data volumes increase, in-house storage systems become more complex and unmanageable, creating greater security risks and points of failure.
- Not only is the volume of data that organizations must manage growing rapidly, older applications are extremely data intensive which adds to cluttered and overextended server workloads.
- Labor-intensive backup systems are often managed by under-qualified employees. This leads to a substantial risk of human error, which is estimated to account for up to 32% of application downtime.
- Tape-based backup systems operate in a linear fashion, which requires larger write and restore time versus randomly accessible disk backup systems.

## ■ What are the advantages of automated data storage from SoftLayer®?

Automated data storage removes the human element of backup and recovery processes, mitigating the risk of accidental failure or security breaches of mission-critical and private information (automated backup uses advanced encryption algorithms throughout the data travel and transport process over both Public and Private Networks). Automation also smoothes work flow and decreases the need for manual recovery steps. Restores can be executed with simple point-and-click steps through the Customer Portal. Unattended backups can be automated, scheduled, and executed with closed or open files and databases based on administrator-specified retention schedules.

## ■ What types of storage solutions are generally available today?

Many storage and backup technologies have emerged, each with different strengths and weaknesses. These include:

- DAS (Direct Attached Storage)
- SAN (Storage Area Network)
- NAS (Network Attached Storage)
- iSCSI
- RAID (Redundant Array of Independent Disks)
- Disk-to-Disk
- Tape

## ■ What storage solutions does SoftLayer offer?

SoftLayer provides a comprehensive range of enterprise-class storage options, helping organizations of all sizes increase the accessibility, reliability, and cost-effectiveness of their storage and backup strategies. These include:

- EVault™ Backup
- iSCSI SAN
- FTP/NAS
- DAS
- RAID

## ■ What is StorageLayer®?

StorageLayer is SoftLayer's innovative, redundant centralized storage array. It integrates multiple enterprise-class storage technologies—including EVault Backup, iSCSI storage, and FTP/NAS—into a unified solution that leverages SoftLayer's peerless automation expertise, geographical diversity, and industry-leading Private Network. StorageLayer is seamless across all of SoftLayer's data centers nationwide and delivers advanced remote replication capabilities, ideal for comprehensive business continuity and disaster recovery plans. Altogether, StorageLayer gives organizations of all sizes an exceptional storage choice with enormous efficiency, accessibility, and reliability benefits.

## ■ What are the advantages of SoftLayer's storage solutions?

SoftLayer's enterprise-class storage solutions leverage the power of SoftLayer's unique vision and resources such as:

- Fully automated solutions
- An industry-leading Customer Portal and Open API
- A revolutionary Private Network with unlimited bandwidth allotment
- Fault-tolerant data centers with advanced encryption
- Constantly updated and improved infrastructure
- Highly competitive pricing

These provide organizations of all sizes uncommon benefits including:

- Exceptionally fast and secure data transfer
- On-demand scalability of servers and services
- Initiation of backup services without changing current infrastructure
- Exceptional data privacy and loss prevention
- Data resource and IT management consolidation

## ■ What is EVault Backup?

EVault Backup is a software solution for automated disk-to-disk backup. EVault delivers all the benefits of automated data storage with the advantages of simplified management, remote backup, and exceptional disk utilization rates.

EVault provides easy-to-use Windows and Web-based graphical user interfaces that let administrators set backups to follow an hourly, daily, weekly, or customized schedule, and to target full systems, specific directories, or even individual files for backup. EVault can use additional software to target and backup very specific data in Exchange, SQLServer, Sharepoint, MSClusters, and Oracle servers.

EVault allows data to be securely transferred through a secure Internet connection to multiple geographic locations. In the event of a service interruption or data loss at one location, EVault can initiate backups and restores from separate unaffected locations.

EVault also enables data to be stored in a way that creates a smaller data footprint, leading to higher disk utilization rates. When backing up an entire volume is not required, EVault can compress new or altered blocks of data using advanced compression techniques implemented on a per packet basis. This higher utilization can reduce overall IT infrastructure costs, which can allow data to be stored over a longer period.

## ■ What is FTP/NAS storage?

FTP/NAS storage is an industry-standard storage methodology, where data is stored on disk-based Network Attached Storage (NAS) and then served over an IP network using the standard File Transfer Protocol (FTP). This provides fast, reliable, and cost-effective storage for maximum data retention and storage, and serves as an intermediate option between older file servers—which are often too small to handle today's business needs—and Storage Area Networks (SAN)—which can be too large and expensive for small to medium businesses. Disks can be added as needed, making FTP/NAS storage highly scalable and an increasingly viable option for organizations of all sizes.

## ■ What is iSCSI storage?

Internet SCSI (iSCSI) storage utilizes the iSCSI protocol for remotely connecting servers to a Storage Area Network (SAN). SAN itself consolidates disparate storage devices into a central location where they can be more easily managed, organized, and monitored within the data center. The iSCSI protocol enables servers to connect via Ethernet to the SAN, which appears as though it is attached locally. This makes iSCSI storage a low-cost alternative to traditional fiber-channel storage solutions, which require an expensive fiber channel network to be built to access the SAN.

iSCSI is easily provisioned, highly scalable (it can be expanded on demand without human intervention), outperforms internal disks, and optimizes the costs of maintaining a network and managing its flow of information. Currently iSCSI storage is growing most in SMBs that have not previously used any type of storage network before, as well as in businesses interested in modernizing outdated and cumbersome data storage systems. Additionally, as Ethernet and high-speed bandwidth is becoming more and more common, iSCSI is becoming an exceptional option for larger enterprises as well.

## ■ What are the advantages of SoftLayer's iSCSI storage?

While practically any IP network can support iSCSI storage, SoftLayer's multi-gigabit Private Network delivers uncommon performance and security advantages. Data is transmitted over our secure and private iSCSI network to target servers where it is stored safely and is readily available when restores or other data access is needed. In addition, SoftLayer's iSCSI solution connects to StorageLayer, our industry-leading storage array, providing scalability for growing and changing needs. As an organization's data storage usage increases, they do not need to worry about running low on capacity or running out of space.

## ■ What is RAID?

Redundant Array of Independent Disks (RAID) is a technology where data is divided and replicated among two or more hard disks, and the array of disks can be worked with as though it is a single drive. This provides higher performance and data volume sizes, as well as greater protection against a possible drive failure. All SoftLayer RAID controllers are installed with a battery backup-power unit and with write caching enabled.

## ■ What is replication?

Storage replication creates an identical copy of a volume of data and stores it on a separate storage disk or at a separate site, helping prevent data loss due to site failure or other disasters. Replication can be scheduled or executed manually, and after the first replica of an original volume is created, future replicas can be incremental, containing only the portions of the original that have been modified since the last update. SoftLayer maintains the unique position of operating three geographically diverse data centers at which information can be replicated to provide the ultimate in data security and redundancy.

Geographic replication stores copies of data at multiple locations to provide a disaster recovery solution should there be a failure at one particular location. Geographic replication can be used to optimize online operations or as a data backup solution.

## ■ What is a snapshot?

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A snapshot is a copy of a set of data as it exists at a particular point in time. Using snapshots prevents downtime by extracting a read-only copy of data without interrupting applications. Snapshots can be scheduled as often as needed depending upon how frequently data backup is required.

## ■ Why should I use SoftLayer's storage rather than build my own infrastructure?

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In-house storage and backup management can create labor-intensive, unreliable, and impractical infrastructures within a business' IT environment, especially as most organizations cannot independently afford the most effective storage solutions and are forced to deploy obsolete, less efficient storage methodologies such as tape-based backup. Outsourcing your storage needs to SoftLayer can eliminate many of these inefficiencies and provide the opportunity to store mission-critical information off site in a redundant, fault-tolerant data center, dramatically minimizing the risk of data loss.

## ■ Does SoftLayer offer disaster recovery capabilities?

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SoftLayer offers the capabilities to establish a disaster recovery plan, such as geographic replication, snapshots, and EVault backup. However SoftLayer does not provide a managed disaster recovery solution.

## ■ How do I determine what type of storage I need?

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Several factors affect the decision of what type of storage to use, including:

- File types
- Applications supported
- Availability needed
- Performance
- Cost