

IBM Storwize V7000: High availability and disaster recovery

A robust solution for local failover and remote recovery scenarios in Microsoft Exchange environments



Highlights

- Manage growing business needs without complexity and with continuous information access
 - Leverage proven storage-based replication services to ensure data availability while reducing the load on network and server resources
 - Provide seamless high availability with Metro Mirror synchronous copies
 - Ensure data protection and disaster recovery with Global Mirror asynchronous copies
 - Extend the efficiencies of storage virtualization and thin provisioning to business continuity operations
 - Simplify management and improve administrator productivity with an intuitive, easy-to-use interface
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As our planet grows smarter, our computing systems and operational processes must become innovative and smarter, too. Systems must become more automated, adaptive and robust. Maintaining availability of mission-critical business information and maximizing resource utilization also become paramount. In today's global economy, it is more important than ever to ensure that your business can remain operational through component failures or significant disasters.

The IBM® Storwize® V7000 is a virtualized storage system that can efficiently store and manage growing data volumes while keeping data secure and available. It provides outstanding performance, availability, advanced functions and highly scalable capacity in a midrange disk system. Deployed in a Microsoft Exchange environment, the Storwize V7000 can provide the flexibility and range of options necessary to meet demanding enterprise requirements for reliability, availability and data protection. It can deliver the processing throughput, storage efficiency capabilities, ease of management, enterprise-level functionality and modular scalability that today's continuous business operations require.

As a key element in a high availability and disaster recovery strategy, the Storwize V7000 midrange disk system can help maximize the value of your storage resources while delivering robust data protection. It can help meet smaller maintenance windows with its fast performance and storage-based replication services and enhance system administration with its



innovative, intuitive interface designed to reduce the complexity of managing all storage operations. The Storwize V7000 offers built-in storage virtualization, solid-state disk optimization and thin provisioning technologies to improve storage utilization and enable the system to be reconfigured to meet changing needs quickly and easily.

Protecting data with advanced replication services

The Storwize V7000 offers a rich suite of copy services to enable backup and recovery scenarios and ensure data protection.

FlashCopy

The Storwize V7000 includes an integrated, robust IBM FlashCopy® function designed to create an almost instant, point-in-time copy of active data. Up to 256 copies of each volume may be created for backup or for parallel processing activities. This type of copy, called a “snapshot,” can help improve overall storage utilization and reduce the amount of capacity required for copies.

Incremental FlashCopy operations can save time and resources. This capability improves efficiency by copying only the portions of the source or target volume that have been updated since the FlashCopy function was last used and it avoids making copies of copies.

Metro Mirror and Global Mirror

An effective data replication solution provides both local failover and remote data center recovery. With multiple copies of data available, the reliance on traditional backup and restore solutions can be reduced. The Storwize V7000 provides remote copy capabilities via Metro Mirror and Global Mirror functions that operate between the disk systems to create copies of data for local failover and remote recovery.

- Metro Mirror: Maintains a fully synchronized copy at “metropolitan” distances—up to 300 km
- Global Mirror: Operates asynchronously for maintaining a copy at greater distances—up to 8,000 km

Using these replication services, you can set up a relationship between two volumes so that updates made by an application to one volume are mirrored on the other volume. The volumes can be in the same Storwize V7000 system or on two different Storwize V7000 systems at local or remote locations. Both functions support Microsoft Exchange 2010 environments to ensure high availability and help speed disaster recovery.

IBM’s storage-based replication services deliver flexible and robust high availability and disaster recovery solutions as alternatives to the server-based replication services of Microsoft Exchange. Current users of Metro Mirror and Global Mirror functions can consolidate and streamline data replication efforts with the Storwize V7000, while removing the load from network and server resources.



The Storwize V7000 is an integrated solution with high availability and disaster recovery capabilities designed to protect vital data in a Microsoft Exchange environment.

Extending storage efficiency to high availability and disaster recovery

The Storwize V7000 can enhance storage capabilities as it supports improved high availability and disaster recovery.

Thin provisioning

Thin provisioning on the Storwize V7000 helps optimize the amount of storage capacity in the storage network. Because the thin provisioned volumes consume only the space they actually use, it can ensure that you have the storage capacity you need for high availability and disaster recovery scenarios.

When combining FlashCopy with thin provisioning, for example, you can create copies using only a fraction of the amount of storage required for a full physical copy. Utilizing thin provisioning in combination with Metro Mirror and Global Mirror will similarly result in more efficient high availability and disaster recovery operations within a smaller maintenance window.

Virtualization

Built-in virtualization capabilities of the Storwize V7000 can speed and simplify the creation of a virtualized storage environment. Once virtualization is in place, Storwize V7000 replication services can provide enhanced data protection functions for any connected disk system—and for Microsoft Exchange data—through a single interface and in a consistent manner, even if those disk systems are from multiple vendors. The Storwize V7000 provides a single point of control for all

internally and externally virtualized storage resources, helping support improved application and data availability, simplified management and greater resource utilization.

Solid state disk optimization with Easy Tier

Using IBM System Storage® Easy Tier™ technology included with the Storwize V7000, you can confidently and economically make effective use of solid state disks (SSDs) by continuously monitoring disk performance and dynamically moving frequently accessed data from hard disk drives to high performing SSDs. Microsoft Exchange environments can optimize SSD deployment and realize improved application throughput via the high-performance characteristics of SSDs without requiring costly analysis or manual administration.

Reducing complexity with an intuitive, easy-to-use interface

The sophisticated graphical user interface included with the StorwizeV7000 provides a simple and easy way to deploy storage quickly and efficiently—and to manage storage after the Storwize V7000 is in place. Replication services for high availability and disaster recovery operations including FlashCopy, Metro Mirror and Global Mirror are all executed and managed through the disk system GUI, which provides a comprehensive view of storage operations. In a consolidated and virtualized environment, the StorwizeV7000 GUI simplifies data management by enabling organizations to manage all virtualized storage systems through a single console regardless of vendor.

For any environment, the intuitive, web-based Storwize V7000 GUI hides the complexity of advanced functions to improve IT productivity and speed operations.

Comprehensive IBM solutions provide integrated data protection

IBM offers additional storage management applications that work seamlessly with the Storwize V7000 and offer additional data protection options.

IBM Tivoli® Storage FlashCopy Manager exploits the Storwize V7000 snapshot capabilities to provide high-speed, low-impact, integrated backup and restore functionality for critical applications. Automated policy-based management of multiple snapshot backup versions provides an easy-to-use and quick-to-deploy data protection solution to help meet the most stringent database recovery time requirements. Tivoli Storage FlashCopy Manager can help deliver the highest levels of protection for mission-critical environments including Microsoft Exchange, Microsoft SQL Server, IBM DB2®, SAP and Oracle applications via integrated application-aware snapshot backup and restore capabilities. Custom application support also offers the ability to extend Tivoli Storage FlashCopy Manager to any application on IBM AIX®, Linux and Solaris operating systems. The solution can even restore an individual Microsoft Exchange mailbox from a backup copy, helping users become productive quickly after a data loss with less administrator effort.

Other Tivoli storage management solutions can play a complementary and significant role in managing and protecting your Microsoft-based data. IBM Tivoli Storage Manager is a client/server program that enables centralized, automated data protection and storage management for organizations with multivendor IT environments. Policy-managed backup, archive and space management services are available for file servers, workstations, applications and application servers. IBM Tivoli Storage Manager FastBack® provides a comprehensive, cost-effective, data protection and near-instant disaster recovery solution for small and mid-sized organizations using block-level, disk-to-disk backup. The integration of Tivoli Storage Manager and Tivoli Storage Manager FastBack provides a cost-effective solution for short-term data recovery and long-term data retention requirements.

Leveraging proven solutions from leading ISVs

IBM is committed to continuous improvement and seamless application integration to optimize your business results and minimize time to value. Our commitment is visible through ongoing work and enduring partnerships with independent software vendors (ISVs) like Microsoft as well as VMware,

SAP, Symantec and Oracle. Combining Storwize V7000 with leading ISV applications can provide increased flexibility and deliver a more robust information infrastructure for your business. Solutions have been qualified for Storwize V7000 for select applications which focus on key solution areas including backup/restore, disaster recovery, clustering, server virtualization, and database and performance optimization. IBM is also committed to certifications with key ISVs aligned with various industries including healthcare, financial services, telecommunications and the public sector.

For more information

To learn more about Storwize V7000, please contact your IBM sales representative or IBM Business Partner, or visit: ibm.com/storage/storwizev7000

For more information on high-quality solutions with our partner ISVs, including access to solution briefs and white papers, please visit: ibm.com/systems/storage/solutions/isv

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