IBM Tivoli Storage FlashCopy Manager

Reduce the risk of data loss with integrated snapshot management

Today, more business applications are operational 24 hours a day, which means there is no tolerance for downtime or data loss. Traditional, daily backups can no longer meet the data protection requirements for these mission-critical systems. Organizations can’t afford to lose data created between daily backups. Restores must be accomplished in minutes, not hours.

Data volume snapshot technologies, such as IBM FlashCopy®, have become popular because they enable more frequent backups and provide near-instant restore capabilities. As snapshot usage increases, the new challenge is managing snapshots so that restores can be performed without complexity. Snapshots need to be organized to enable straightforward recovery under a range of scenarios.

Many storage systems are now equipped with volume snapshot tools; however, these hardware-based snapshot technologies provide only “crash-consistent” copies of data. Many business-critical applications, including those that rely on relational databases, need an additional snapshot process to help ensure that all parts of a data transaction are flushed from memory and committed to disk prior to the snapshot. This can also help create a usable, consistent copy of the data.

IBM Tivoli Storage FlashCopy Manager delivers high levels of protection for key applications and databases using integrated application-aware snapshot backup and restore capabilities. Tivoli Storage FlashCopy Manager is designed to easily integrate with numerous software and storage system snapshot technologies to help create a high-performance, low-impact solution for advanced data protection.
IBM Tivoli Storage FlashCopy Manager provides an administration dashboard that simplifies snapshot backups and restores.

Tivoli Storage FlashCopy Manager uses storage snapshot capabilities to provide high-speed, low-impact, application-aware backup and restore functionality. Organizations can simplify operations with automated, policy-based management of multiple snapshot backup versions, as well as wizard-based installation and configuration. As a result, this easy-to-use, quick-to-deploy storage solution can help meet even the most stringent database recovery-time requirements.

**Easy installation, configuration and deployment**

Tivoli Storage FlashCopy Manager includes easy-to-use wizards that guide the installation and configuration process. The installation process automatically checks to ensure that all the needed prerequisite software is installed and configured. What's more, Tivoli Storage FlashCopy Manager can be deployed quickly as a stand-alone solution, or easily integrated into IBM storage management infrastructures.
Advanced data protection and recovery capabilities

To help simplify snapshot backup and restore processes, Tivoli Storage FlashCopy Manager delivers advanced visualization and automation capabilities. The solution can:

- Facilitate more frequent backups, which can reduce the time spent recovering data with transaction logs, increase the flexibility of backup scheduling and simplify administration. Application availability is also significantly improved due to the load reduction on production servers.
- Help restore individual mailbox and mail items on Microsoft Exchange 2010 and Exchange 2013 servers from a snapshot backup, including messages, calendars, contacts and other mail objects.
- Support database cloning to help users perform tasks that are not directly tied to backup and recovery, such as quality assurance, education, application development and data mining.
- Enable item-level restores from virtual machine-level backups—which are required when Exchange is deployed on VMware virtual machines—using optional IBM Tivoli Storage Manager for Virtual Environments. The snapshots captured by Tivoli Storage FlashCopy Manager can be retained as backups on local disk.
- Replicate snapshots offsite to support application-consistent disaster recovery, using optional integration with Tivoli Storage Manager, Metro Mirror or Global Mirror.
- Support clustered application environments, including Microsoft Cluster Servers (MSCS), Veritas Cluster Server (VCS) on Windows and IBM High-Availability Clustering Multi Processing (IBM HACMP™) on IBM AIX®.

Integration with VMware environments

Tivoli Storage FlashCopy Manager also meets the needs for advanced data protection and recovery in VMware vSphere 5 virtualized server environments. This integration enables organizations to:

- Create volume-level snapshots from within virtual machines
- Protect entire vSphere environments from a single backup server by integrating with VMware vStorage APIs for Data Protection (VADP) and by creating volume-level snapshots of VMware ESX Datastores (with VMware Virtual Machine File Server [VMFS])
- Restore individual virtual machine images, virtual volumes owned by a virtual machine or individual files from a virtual volume of a particular virtual machine by using snapshots of VMFS datastores
- Perform both physical and virtual raw-disk mapping in VMware environments, enabling concurrent backups and restores of multiple virtual machines

Integration with Microsoft environments

Tivoli Storage FlashCopy Manager includes advanced data protection and recovery features for Microsoft environments, enabling IT staff to:

- Restore individual mailbox and mail items on Exchange 2010 and Exchange 2013 servers from a snapshot backup, including messages, calendars, contacts and other mail objects
- Protect Microsoft applications on any other storage systems that support Microsoft Volume Shadow Copy Services (VSS) through the VSS provider interface
- Use Microsoft SQL Server data compression when sending data to Tivoli Storage Manager to reduce storage and network bandwidth requirements
- Restore backups of SQL and Exchange databases to flat files
- Help ensure high availability by integrating with Microsoft Cluster Servers (MSCS), Exchange 2010 and Exchange 2013 database availability groups, and SQL Server 2012 AlwaysOn Availability Groups
Integration with storage system snapshot technology

Tivoli Storage FlashCopy Manager supports storage environments that include:

- Any storage system that provides VSS, whether from a VSS system provider or a VSS hardware provider (Windows only)
- Any storage system that works with the device adapter application programming interfaces (APIs) for Linux and UNIX, including EMC Symmetrix (VMAX and DMX) storage systems via the Rocket Device Adapter Pack for IBM Tivoli Storage FlashCopy Manager
- Any storage system volumes that are managed by IBM System Storage® SAN Volume Controller (SVC) or external storage virtualization in IBM Storwize® family storage systems
- NetApp and IBM System Storage N series storage area network (SAN)-attached filers supporting AIX, HP-UX, Linux, and Solaris platforms; and VMware environments for both Network File System (NFS)- and SAN-attached filers
- IBM Storwize family storage systems, IBM System Storage DS8000® series systems and IBM XIV® Storage Systems

With the IBM Tivoli Storage FlashCopy Manager plug-in, VMware administrators can easily manage snapshot backups from within the VMware vCenter interface.
Optional integration with Metro Mirror and Global Mirror

Tivoli Storage FlashCopy Manager enables remote-site snapshot management through optional integration with Metro Mirror and Global Mirror. This way, organizations can move snapshots off-site for enhanced data protection, enabling IT staff to:

- Offload workloads from production storage devices
- Consolidate multiple backups of single- or multiple-source sites to the disaster-recovery site
- Use snapshot backups for restores at the disaster-recovery site
- Back up snapshots to Tivoli Storage Manager using resources at the disaster-recovery site

The Metro Mirror and Global Mirror interface is supported by Tivoli Storage FlashCopy Manager on AIX, HP-UX, Linux and Solaris. Tivoli Storage FlashCopy Manager also works with Metro Mirror and Global Mirror implementations on SVC, Storwize family storage systems and XIV Storage Systems.

Optional integration with Tivoli Storage Manager

By integrating Tivoli Storage FlashCopy Manager with Tivoli Storage Manager, organizations can take advantage of robust Tivoli Storage Manager data protection and efficiency capabilities, including:

- An advanced catalog that can track billions of objects and simplify restore operations
- Data deduplication that can significantly reduce snapshot storage space requirements
- Automated, policy-based disaster preparation, planning and recovery
- Built-in, multi-site replication
- Snapshots that can be used with Tivoli Storage Manager for Virtual Environments to provide item-level restores from virtual machine-level backups. This is necessary when Exchange is deployed on VMware virtual machines.

Why IBM?

The performance and availability of your critical applications can either enhance or hamper your business. IBM can help you easily handle the data management and storage challenges that might otherwise disrupt your applications. Comprehensive snapshot management is just one example of how IBM can help protect your data for the long term.

Innovative technology, open standards, excellent performance, and a broad portfolio of proven storage offerings—all backed by IBM with its recognized leadership—are just a few of the reasons why you should consider IBM.
For more information
To learn more about IBM Tivoli Storage FlashCopy Manager, please contact your IBM representative or IBM Business Partner, or visit:
ibm.com/software/tivoli/products/storage-flashcopy-mgr

For up-to-date information on system requirements and supported applications and platforms, please visit:
ibm.com/support/docview.wss?uid=swg21427692

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