



IBM Tivoli Storage Manager V6.3 products deliver powerful enhancements to help manage data protection and disaster recovery scenarios

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At a glance

IBM® Tivoli® Storage Manager V6.3 and IBM Tivoli Storage Manager Extended V6.3 offer:

- New data replication capabilities: Backed up data can be replicated in its deduplicated form between two Tivoli Storage Manager servers over a standard TCP/IP connection, providing efficient online disaster recovery capabilities. Data replication is performed to a separate server instance that can serve as a hot-standby server for recovery purposes.
- Performance enhancements: Multithreaded database backups help speed up Tivoli Storage Manager maintenance activities. Journal based backups for the Linux® platform help reduce the backup window.
- Simplified management and reporting:
 - A new IBM Cognos® based reporting engine provides easier access to novice users.
 - Automated client deployment helps deliver quicker and less labor intensive software distribution.
 - New reporting and monitoring capabilities help users identify hot spots and assist with problem determination.

Tivoli Storage Manager for Virtual Environments V6.3 delivers a new GUI that can be launched from within VMware vCenter.

Tivoli Storage Manager for Mail V6.3 and Tivoli Storage Manager for Databases V6.3 offer usability, scalability, and performance improvements.

For ordering, contact Your IBM representative or an IBM Business Partner.
For more information contact the Americas Call Centers at
800-IBM-CALL (426-2255).

Reference: YE001

Overview

The Tivoli Storage Manager V6.3 products consist of:

- Tivoli Storage Manager
- Tivoli Storage Manager Extended Edition

- Tivoli Storage Manager for Enterprise Resource Planning
- Tivoli Storage Manager for Mail
- Tivoli Storage Manager for Storage Area Networks
- Tivoli Storage Manager for Space Management
- Tivoli Storage Manager HSM for Windows®
- Tivoli Storage Manager for Databases
- Tivoli Storage Manager for Virtual Environments
- Tivoli Storage Manager Suite for Unified Recovery
- IBM System Storage® Archive Manager

Today's business world presents IT administrators with new challenges on a daily basis. Application servers are operational 24 hours per day throughout the year, while the data managed by these servers continues to grow rapidly. The proliferation of server virtualization and storage virtualization technologies introduces new techniques that can be leveraged to provide data protection methodologies.

The ability to successfully manage information and data has become an imperative. By offering significant enhancements in multiple facets of data protection, the IBM Tivoli Storage Manager V6.3 products are designed to help businesses gain better control and efficiency in managing this complex environment.

Tivoli Storage Manager V6.3 introduces new data replication capabilities that address various disaster recovery scenarios. By leveraging its internal deduplication engine, Tivoli Storage Manager V6.3 can efficiently replicate data to a "hot standby" server, helping you achieve better recovery time objectives and recovery point objectives in disaster recovery scenarios.

Overall, the Tivoli Storage Manager administrative experience is enhanced with the introduction of automatic updating of backup-archive clients for non-Windows clients. (Windows client automatic update was introduced in Tivoli Storage Manager V6.2.) In addition, Tivoli Storage Manager V6.3 has built-in reporting capability that leverages the powerful IBM Cognos Business Intelligence reporting suite to provide a more simplified way of administering or creating reports.

Tivoli Storage Manager for Virtual Environments V6.3 delivers a new GUI that can be used from within VMware vCenter to help manage the backup process.

Tivoli Storage Manager V6.3 delivers performance enhancements designed to speed up backups and free up server resources.

The user interfaces for the Data Protection for Microsoft® Exchange component of Tivoli Storage Manager for Mail and for the Data Protection for Microsoft SQL component of Tivoli Storage Manager for Databases are redesigned for V6.3 and now more easy to use with the Microsoft Management Console. In addition, the user interfaces are enhanced to handle bigger and more complex production systems and can now be utilized to perform drag-and-drop restores of individual mail items for Microsoft Exchange.

Key prerequisites

Refer to the [Technical information](#) section.

Planned availability date

- October 21, 2011: Electronic
- November 18, 2011: DVD media

Description

The creation of digital content continues to grow relentlessly. The enhancements delivered in the IBM Tivoli Storage V6.3 family of products build on the success of the IBM Tivoli Storage Manager V6.2 family of products. These enhancements continue to help businesses manage data growth with data reduction and protection of virtualized environments, and to help improve storage administrator productivity.

Functions offered in IBM Tivoli Storage Manager V6.3 are also offered in IBM Tivoli Storage Manager Extended Edition V6.3. Additional functions unique to Tivoli Storage Manager Extended Edition V6.3 are:

- Network Data Management Protocol (NDMP) backup for NetApp Network Attached Storage (NAS) devices
- Advanced tape library support (including virtual tape libraries) - supports greater than 4 drives or 48 tape slots
- Disaster recovery manager and disaster recovery planning function
- Node replication (and use of the REPLICATE NODE command as a target server)

IBM Tivoli Storage Manager V6.3 and IBM Tivoli Storage Manager Extended Edition V6.3 (hereby referred to as Tivoli Storage Manager V6.3)

Tivoli Storage Manager V6.3 helps businesses manage and control their business data by delivering a single point of control and administration for storage management needs. This advanced, highly scalable product can help increase the efficiency of your IT operations and cut costs related to storage management by providing a wide range of data protection, recovery management, movement, retention, reporting, and monitoring capabilities using policy-based automation.

Tivoli Storage Manager V6.3 is a backup and recovery centralized offering that employs smart data movement and smart data store technology to help make backups and restores fast, flexible, and low-impact. It offers various types of backup and recovery strategies that range from progressive incremental backup of files to sub-file backup, volume level backup, backup sets, open file backups, and online backup of databases and applications.

Enhanced data reduction capabilities help conserve network bandwidth and data storage. Tivoli Storage Manager V6.3 helps deliver significant data reduction through progressive incremental backup, built-in source and target data deduplication capability, and client compression. For more information, refer to

<http://www-01.ibm.com/software/tivoli/products/storage-mgr-extended/>

Enhanced disaster recovery capabilities help conserve network bandwidth and data storage while meeting Service Level Agreements

Tivoli Storage Manager provides multiple techniques for addressing a multitude of disaster recovery scenarios, from helping to manage remote sites with no online connectivity by physically shipping tape cartridges to helping to leverage copy storage pools and IBM DB2's high availability disaster recovery (HADR) capability to periodically replicate data to a standby server. Tivoli Storage Manager V6.3 introduces a new disaster recovery capability that leverages its existing data reduction techniques to greater potential by efficient electronic vaulting capabilities and an effective disaster recovery strategy. Data can be deduplicated on the primary production server and sent to a local primary storage pool for quick recovery purposes. The new selective Node Replication capability allows users to set up a replication policy that can copy that data in its deduplicated form to a separate Tivoli Storage Manager server for disaster recovery purposes. That target server can serve as a hot-standby server for multiple purposes, including recovery operations. Data transfer can be performed on a per-node basis without rehydrating the data, potentially resulting in a reduced bandwidth requirement. Replicated data can be readily accessed at the remote site by the standard Tivoli Storage Manager V6.3

recovery mechanisms in case of disaster, which can result in a reduced recovery time objective (RTO) when compared with other disaster recovery mechanisms.

Easier management of data protection for virtualized environments

When using Tivoli Storage Manager V6.3 for backing up virtual machines running on VMware, the burden of running backups on a virtual machine can be eliminated by offloading backup workloads from a VMware ESX-based or ESXi-based host to a centralized vStorage backup server and taking full backups of virtual machines or a progressive-incremental file level backup. Full backups can invoke a non-disruptive snapshot at the virtual machine image level. Different backup policies will provide different recovery capabilities and allow end users to have recovery flexibility. Advanced backup and recovery capabilities are offered through Tivoli Storage Manager for Virtual Environments V6.3.

Faster backup of Linux environments

One of the fundamental principles on which Tivoli Storage Manager is based is the "progressive incremental backup". This approach has resulted in improved data reduction and helps reduce the amount of data stored in primary storage pools. However, Tivoli Storage Manager still needs to identify which files have changed since the previous backup. Prior versions of Tivoli Storage Manager supported journal based backup for IBM AIX® and Microsoft Windows platforms and were widely used to help reduce the backup window for their file servers. Tivoli Storage Manager V6.3 now introduces journal based backup for the Linux platform.

Improved storage administrator productivity

Tivoli Storage Manager V6.3 further improves the usability of managing and maintaining complex environments with hundreds and even thousands of production servers being backed up. While previous releases of Tivoli Storage Manager introduced central reporting and central administration capabilities, Tivoli Storage Manager V6.3 takes this existing infrastructure and helps make the administrator's day to day tasks easier than before. Key enhancements introduced in Tivoli Storage Manager V6.3:

- Updating of backup-archive clients for non-Windows environments can be quicker and less labor intensive. From the Tivoli Storage Manager V6.3 Administration Center, you select a maintenance level to be distributed to a list of existing clients. The distribution and code updates are run automatically on the clients, based on a predefined policy and schedule. In addition, from the Administration Center you can review the client distribution status. This capability is supported for upgrade from Tivoli Storage Manager V5.5, V6.1, or V6.2 to V6.3. A wizard is used to set the basic server configuration required for automatic client deployments, including capabilities such as identification of:
 - Where the deployment packages are to be stored
 - The storage media on which to store deployment packages
 - The retention policies for the deployment packages
- Utilization of the IBM Cognos Business Intelligence reporting suite to help enable exploration and interaction with data routinely collected by Tivoli Storage Manager V6.3. The new reporting engine includes a simplified user interface to help administer and edit out-of-the box reports, creating ad-hoc reports using a simple drag-and-drop interface that is suitable for even novice users. Other benefits of the new reporting engine include automatic emailing of reports and exporting reports to additional formats, including XML and Microsoft Excel spreadsheets. Tivoli Storage Manager V6.3 delivers multiple new out-of-the-box reports, including a new Processor Value Unit (PVU) estimation report.
- Easier upgrade for backup-archive client, application programming interface (API), and message packages on the Linux platform by using rpm-U to perform an in-place upgrade. This feature does not apply to upgrades from earlier versions of the Tivoli Storage Manager client.
- The Tivoli Storage Manager V6.3 client performance monitor can gather and review performance data about backup, archive, and restore operations for a Tivoli Storage Manager client. The data is collected by the Tivoli Storage Manager

API and allows you to detect performance bottlenecks for client operations. The client performance monitor is launched from the Tivoli Storage Manager Administration Center.

- A new client configuration wizard is available to help simplify the client configuration for processing Microsoft Cluster Server (MSCS) cluster disk resources and propagate the configuration to other nodes in the cluster group.

Performance enhancements

Tivoli Storage Manager V6.3 further enhances its performance by providing new and more robust ways to perform the internal IBM DB2® database backup by utilizing multithreading capabilities. Performance monitoring and bottleneck analysis functions are offered to assist in determining network bottle necks and production server's resource utilization.

The Tivoli Storage Manager V6.3 backup-archive clients for Linux x86, Macintosh (Intel®), and Solaris SPARC are now native 64-bit applications, providing a more robust architecture that can scale higher than before. With this enhancement, all Tivoli Storage Manager V6.3 platforms now have a native 64-bit backup-archive and API client.

IBM Tivoli Storage Manager for Virtualized Environments V6.3

Tivoli Storage Manager for Virtual Environments V6.3 compliments Tivoli Storage Manager V6.3 by offering additional improvements for backup efficiencies and advanced recovery capabilities for VMware hypervisors. Using Tivoli Storage Manager for Virtual Environments V6.3, the burden of running backups on a virtual machine can be eliminated by offloading backup workloads from a VMware ESX-based or ESXi-based host to a centralized vStorage backup server and taking full and incremental backups of virtual machines. Backups invoke a non-disruptive snapshot at the virtual machine image level. Various recovery capabilities provide end users with recovery flexibility from a single-pass image-level backup.

Tivoli Storage Manager for Virtual Environments V6.3 helps simplify management of virtual environments by expanding these exciting capabilities with a new, easy-to-use graphical user interface (GUI) that can be used from within VMware vCenter to help manage the backup process. This allows backup administrators (or VMware administrators) to create a backup policy or restore a virtual machine with a few clicks from their vCenter management console. Tivoli Storage Manager for Virtual Environments V6.3 allows administrators to run their vStorage backup server on either a physical or a virtual machine that is running in either a Microsoft Windows or a Linux environment.

IBM Tivoli Storage Manager for Mail V6.3

The Tivoli Storage Manager for Mail V6.3 Data Protection for Microsoft Exchange user interface for the Microsoft Windows platform is designed to handle bigger and more complex production systems, allowing users to quickly navigate across multiple Microsoft Exchange databases. The Tivoli Storage Manager for Mail V6.3 Data Protection for Microsoft Exchange user interface {Microsoft Management Console (MMC)-based} can now be utilized to perform drag-and-drop recoveries of individual mail items for Microsoft Exchange. These mail items include:

- Inbox, deleted items, and drafts.
- Outbox, sent items, journal, and calendar.
- Contacts, notes, tasks, and user folders.
- Filters, that limit the scope of items to be restored, such as sender name, subject texts, attachment name, folder name, message delivery date and time range, message body, and all content (searches subject text, message body, and attachment names).
- Recovery into the production Microsoft Exchange server that can be done into the original mailbox, an alternate mailbox and folder, and a .PST file.

Tivoli Storage Manager for Mail V6.3 Data Protection for Domino® enhancements:

- Communication resiliency - Recovery of dropped communications between Data Protection for Domino and the Tivoli Storage Manager server are now automatically attempted. In addition, configurable options related to the retry period are available.
- Better reporting of statistics - Users can now better gauge the true benefits of data deduplication and compression.
- Improved scalability - Helps reduce memory requirements for large restores.
- Can recognize a Tivoli Storage Manager server CANCEL SESSION command that a user initiates to terminate an active session.

IBM Tivoli Storage Manager for Enterprise Resource Planning V6.3

Tivoli Storage Manager for Enterprise Resource Planning V6.3 continues to provide automated data protection, helps reduce the impact of data backups and restores on the SAP database server, and can reduce the administrator workload necessary to help meet data protection and storage management requirements. It integrates well with the database-specific utilities of IBM DB2 Enterprise Server and Oracle (RMAN), and with the SAP BR*Tools. Tivoli Storage Manager for Enterprise Resource Planning is specifically designed to help protect your vital SAP data. An administration assistant helps improve administrator productivity by helping to simplify administration, configuration, and monitoring of Tivoli Storage Manager for Enterprise Resource Planning in production environments. This powerful solution helps enable administrators to effectively, consistently, and reliably manage backup and recovery of multiple SAP systems with large volumes of data. The Tivoli Storage Manager for Enterprise Resource Planning software module allows multiple SAP database servers to share a single Tivoli Storage Manager server to automatically manage the backup data. In addition, it supports distributing the data of a single SAP database server among various Tivoli Storage Manager servers. As the intelligent interface to SAP databases, Tivoli Storage Manager for Enterprise Resource Planning V6.3 supports heterogeneous environments with large volume data backups, data recovery, redirected restore, and disaster recovery of multiple SAP database servers.

Tivoli Storage Manager for Enterprise Resource Planning V6.3 performs efficient backup of very large SAP databases (for example, databases larger than one terabyte). This is accomplished by breaking up extremely large SAP database objects into multiple smaller objects. This enables more flexibility on server-side maintenance tasks, such as backup storage pool operations, as they can now be interrupted without being required to start all over again.

Tivoli Storage Manager for Enterprise Resource Planning V6.3 now includes support for incremental backups through the Oracle RMAN facility. It supports use of Oracle RMAN to back up a snapshot of Oracle SAP databases that are created from IBM Tivoli Storage FlashCopy® Manager.

IBM Tivoli Storage Manager for Storage Area Networks V6.3

No new function is added in V6.3 of Tivoli Storage Manager for Storage Area Networks. Tivoli Storage Manager for Storage Area Networks continues to work with servers and client computers to make data transfers over a Storage Area Network (SAN). It allows SAN-connected Tivoli Storage Manager servers and Tivoli Storage Manager client computers to make maximum use of their direct network connection to storage. Key benefits of Tivoli Storage Manager for Storage Area Network:

- Helps reduce the impact of data protection on the LAN and can reduce CPU utilization on both client and server
- Delivers LAN-free backup and restore that helps remove data transfer from the LAN, providing high-performance backup and restore that helps minimize network traffic and improves application performance and transaction response times on the Tivoli Storage Manager server
- Supports a SAN-connected tape library, where multiple servers can share a tape library and tape drives on a SAN

IBM Tivoli Storage Manager for Space Management V6.3

Tivoli Storage Manager for Space Management V6.3 provides Hierarchical Storage Management (HSM), which is an important component of information lifecycle management. It helps free administrators and users from manual file system pruning tasks; and helps control the need for additional disk storage by automatically and transparently migrating files via policy to near line or offline storage. Tivoli Storage Manager for Space Management V6.3 is available for IBM AIX Enhanced Journal File System (JFS2) and General Parallel File System™ (GPFS™), and for Linux GPFS. V6.3 of Tivoli Storage Space Management includes an enhanced logging facility that can provide records of file migration and recall, Management Application Programming Interface (DMAPI) handle, and result (success or failure). In addition, the log records file system events such as threshold migration, reconfiguration, and reconciliation. Additional flexibility is provided by specifying different log files for each individual command and extending GPFS functionality to send data to multiple Tivoli Storage Manager servers from a single file system. The dsmrecall command is enhanced with the option to order a file list so that tape access is optimized during a recall, helping to reduce RTO.

Tivoli Storage Manager for Space Management V6.3 clients for IBM AIX and Linux x86 are now 64 bit.

IBM Tivoli Storage Manager HSM for Windows V6.3

Tivoli Storage Manager HSM for Windows is designed to deliver space management for Microsoft Windows New Technology File System (NTFS) file systems. With a GUI, Tivoli Storage Manager HSM for Windows helps administrators define file migration policies. File migration eligibility is determined by include and exclude policy criteria such as file type (extension) and various criteria related to the age of a file (creation, modification, last access). Tivoli Storage Manager HSM for Windows helps free administrators and users from file system pruning tasks. In addition, Tivoli Storage Manager HSM for Windows is designed to assist administrators to more effectively manage Windows NTFS disk storage by automatically migrating files selected, based on administrator established policy, to less expensive storage devices while preserving Windows NTFS file accessibility.

V6.3 of Tivoli Storage Manager HSM for Windows has a new set of migration tools and commands to move stub files from one file server to another file server. This is performed without recalling the data to disk and is optimized for minimal tape accesses, allowing administrators to reconfigure HSM in order to adapt to changes, such as renaming host or cluster names or after changing drive letters without the need to recatalog files. Migration jobs are no longer based on the full UNC path but only on the drive letter, allowing users to share the same migration jobs between different nodes of a cluster.

IBM Tivoli Storage Manager for Databases V6.3

Tivoli Storage Manager for Databases V6.3 Data Protection for Microsoft SQL Server user interface for the Microsoft Windows platform is designed to handle bigger and more complex production systems, allowing users to quickly navigate and set data protection policies for a Microsoft SQL server with hundreds of databases. The Tivoli Storage Manager for Databases V6.3 Data Protection for Microsoft SQL Server user interface (MMC-based) can now be utilized to turn Microsoft SQL Server compression on and off both in the GUI and from the command line.

Tivoli Storage Manager for Databases V6.3 Data Protection for Oracle enhancements:

- Ability to synchronize Tivoli Storage Manager with backup history stored in the Oracle control file.
- Ability to specify certain Tivoli Storage Manager API options within an Oracle RMAN script via the send command rather than requiring separate options files.
- Better reporting of statistics - Users can now better gauge the benefits of data deduplication and compression.

IBM System Storage Archive Manager V6.3

IBM System Storage Archive Manager V6.3 provides data retention capabilities that help meet requirements for data retention and disposition. Its existing policy-based data management capabilities help meet these needs through an open API. IBM System Storage Archive Manager V6.3 is designed to help prevent the modification of data under its control and the deletion of that data by unauthorized agents (individual or program) prior to the expiration of the retention period. This helps ensure that neither individuals nor programs can maliciously or accidentally delete data under IBM System Storage Archive Manager control. IBM System Storage Archive Manager V6.3, based on IBM Tivoli Storage Manager V6.3, incorporates many of the same enhancements and new features described previously.

IBM Tivoli Storage Manager Suite for Unified Recovery V6.3

IBM Tivoli Storage Manager Suite for Unified Recovery V6.3 delivers a feature-rich storage management software suite that consists of:

- IBM Tivoli Storage Manager Extended Edition V6.3
- IBM Tivoli Storage Manager for Databases V6.3
- IBM Tivoli Storage Manager for Enterprise Resource Planning V6.3
- IBM Tivoli Storage Manager for Mail V6.3
- IBM Tivoli Storage Manager for Space Management V6.3
- IBM Tivoli Storage Manager for Storage Area Networks V6.3
- IBM Tivoli Storage Manager for Virtual Environments V6.3
- IBM Tivoli Storage Manager FastBack V6.1
- IBM Tivoli Storage Manager FastBack for Microsoft Exchange V6.1
- IBM Tivoli Storage Manager FastBack for Bare Machine Recovery V6.1

Tivoli Storage Manager Suite for Unified Recovery V6.3 offers simplified pricing and licensing based on a per terabyte charge metric for data stored within Tivoli Storage Manager primary storage pools and Tivoli Storage Manager FastBack repositories.

For information about the products in this suite, refer to information shown above for each individual product. For information about the Tivoli Storage Manager FastBack products in this suite and more detail about Tivoli Storage Manager Suite for Unified Recovery, refer to the announcement letters listed in the [Reference information](#) section.

Product comparison

For a comparison of Tivoli Storage Manager, Tivoli Storage Manager Extended Edition, and Tivoli Storage Manager Suite for Unified Recovery, refer to

<http://www-01.ibm.com/software/tivoli/products/storage-mgr/productline/compare.html>

For a complete list of the new functionalities, refer to the administrator guide applicable for the individual Tivoli Storage Manager product.

Accessibility by people with disabilities

A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

http://www.ibm.com/able/product_accessibility/index.html

Reference information

Support for IBM Tivoli Storage Manager is extended to the z/OS® platform. For more information, refer to Software Announcement [211-374](#), dated October 11, 2011.

For more information about Tivoli Storage Manager Suite for Unified Recovery, refer to Software Announcement [211-201](#), dated May 31, 2011.

For more information about Tivoli Storage Manager FastBack V6.1, Tivoli Storage Manager Fastback® for Microsoft Exchange V6.1, and Tivoli Storage Manager FastBack for Bare Machine Recovery V6.1, refer to Software Announcement [209-364](#), dated December 15, 2009.

Program number

Program number	VRM	Program name
5608-E01	6.3	IBM Tivoli Storage Manager
5608-E02	6.3	IBM Tivoli Storage Manager Extended Edition
5608-E03	6.3	IBM System Storage Archive Manager
5608-E04	6.3	IBM Tivoli Storage Manager for Databases
5608-E05	6.3	IBM Tivoli Storage Manager for Enterprise Resource Planning
5608-E06	6.3	IBM Tivoli Storage Manager for Mail
5608-E07	6.3	IBM Tivoli Storage Manager for Storage Area Networks
5608-E12	6.3	IBM Tivoli Storage Manager for Space Management
5608-E13	6.3	IBM Tivoli Storage Manager HSM for windows
5725-A44	6.3	IBM Tivoli Storage Manager for Virtual Environments
5724-Z12	6.3	IBM Tivoli Storage Manager Suite for Unified Recovery

Education support

Comprehensive education for IBM Tivoli products is offered through Worldwide Tivoli Education Delivery Services. A wide range of training options are available, including classes led by instructors, learning on demand, on-site training, and blended learning solutions.

For additional information, visit

<http://www-306.ibm.com/software/tivoli/education/>

Offering Information

Product information is available via the Offering Information website

<http://www.ibm.com/common/ssi>

Also, visit the Passport Advantage® website

<http://www.ibm.com/software/passportadvantage>

Publications

The publications listed below will be available in English and can be downloaded from the following website on the general availability unless otherwise stated.

Translated copies in selected languages will be available for download within 60 days of the general availability date unless otherwise stated. Refer to Note 1.

<http://publib.boulder.ibm.com/infocenter/tsminfo/v6r3/index.jsp>

Title	Order number
IBM Tivoli Storage Manager for AIX Installation Guide, V6.3	GC23-9781
IBM Tivoli Storage Manager Server for AIX Administrator's Guide, V6.3	SC23-9769
IBM Tivoli Storage Manager for AIX Administrator's Reference, V6.3	SC23-9775
IBM Tivoli Storage Manager for SAN for AIX Storage Agent User's Guide, V6.3	SC23-9797
IBM Tivoli Storage Manager for HP-UX Installation Guide, V6.3	GC23-9782
IBM Tivoli Storage Manager for HP-UX Server Administrator's Guide, V6.3	SC23-9770
IBM Tivoli Storage Manager Server for HP-UX Administrator's Reference, V6.3	SC23-9776
IBM Tivoli Storage Manager for SAN for HP-UX Storage Agent User's Guide, V6.3	SC23-9798
IBM Tivoli Storage Manager for Oracle Solaris Installation Guide, V6.3	GC23-9784
IBM Tivoli Storage Manager Server for Oracle Solaris Administrator's Guide, V6.3	SC23-9772
IBM Tivoli Storage Manager Server for Oracle Solaris Administrator's Reference, V6.3	SC23-9778
IBM Tivoli Storage Manager for SAN for Oracle Solaris Storage Agent User's Guide, V6.3	SC23-9800
IBM Tivoli Storage Manager for Linux Installation Guide, V6.3	GC23-9783
IBM Tivoli Storage Manager Server for Linux Administrator's Guide, V6.3	SC23-9771
IBM Tivoli Storage Manager Server for Linux Administrator's Reference, V6.3	SC23-9777
IBM Tivoli Storage Manager for SAN for Linux Storage Agent User's Guide, V6.3	SC23-9799
IBM Tivoli Storage Manager for windows Installation Guide, V6.3	GC23-9785
IBM Tivoli Storage Manager Server for windows Administrator's Guide, V6.3	SC23-9773
IBM Tivoli Storage Manager Server for windows Administrator's Reference, V6.3	SC23-9779
IBM Tivoli Storage Manager for SAN for windows Storage Agent User's Guide, V6.3	SC23-9553
IBM Tivoli Storage Manager Server Messages and Error Codes, V6.3	SC27-2877
IBM Tivoli Storage Manager Client Messages and Application Programming Interface Return Codes, V6.3	SC27-2878
IBM Tivoli Storage Manager Performance and Tuning Guide, V6.3	GC23-9788
IBM Tivoli Storage Manager Problem Determination Guide, V6.3	GC23-9789
IBM Tivoli Storage Manager Using the Application Program Interface Guide, V6.3	SC23-9793
IBM Tivoli Storage Manager Upgrade and Migration Guide for V5 Servers, V6.3	GC27-4017
IBM Tivoli Storage Manager for UNIX® and Linux: Backup-Archive Clients Installation and User's Guide, V6.3	SC23-9791
IBM Tivoli Storage Manager for windows: Backup-Archive Clients Installation and User's Guide, V6.3	SC23-9792
IBM Tivoli Storage Manager for Space Management for	SC23-9794

UNIX and Linux User's Guide, V6.3

IBM Tivoli Storage Manager HSM for Windows User's Guide, V6.3	SC23-9795
IBM Tivoli Storage Manager for Mail: Data Protection for Lotus® Domino UNIX and Linux Installation and User's Guide, V6.3	SC27-4021
IBM Tivoli Storage Manager for Mail: Data Protection for Lotus Domino for Window's Installation and User's Guide, V6.3	SC27-4022
IBM Tivoli Storage Manager for Mail: Data Protection for Microsoft Exchange Server Installation and User's Guide, V6.3	GC27-4009
IBM Tivoli Storage Manager for Mail: Data Protection for Microsoft Exchange Server Messages, V6.3	GC27-4011
IBM Tivoli Storage Manager for Mail: Data Protection for Lotus Domino Messages, V6.3	SC27-4015
IBM Tivoli Storage Manager for Enterprise Resource Planning: Data Protection for SAP Installation and User's Guide for Oracle, V6.3	SC33-6340
IBM Tivoli Storage Manager for Enterprise Resource Planning: Data Protection for SAP Installation and User's Guide for DB2, V6.3	SC33-6341
IBM Tivoli Storage Manager for Enterprise Resource Planning: Data Protection for SAP Messages, V6.3	SC27-4016
IBM Tivoli Storage Manager for Databases: Data Protection for Oracle for UNIX and Linux Installation and User's Guide, V6.3	SC27-4019
IBM Tivoli Storage Manager for Databases: Data Protection for Oracle for UNIX and Linux Messages, V6.3	SC27-4014
IBM Tivoli Storage Manager for Databases: Data Protection for Oracle for Windows Installation and User's Guide, V6.3	SC27-4020
IBM Tivoli Storage Manager for Databases: Data Protection for Microsoft SQL Server Installation and User's Guide, V6.3	GC27-4010
IBM Tivoli Storage Manager for Databases: Data Protection for Microsoft SQL Server Messages, V6.3	GC27-4012
IBM Tivoli Storage Manager for Virtual Environments: Data Protection for VMware Installation and User's Guide, V6.3	SC27-2898

Note 1: The following publications will be available by the dates shown below:

IBM Tivoli Storage Manager Performance and Tuning Guide, V6.3

Language	Available by
English	November 21, 2011
Translated copies	January 20, 2012

IBM Tivoli Storage Manager Problem Determination Guide, V6.3

Language	Available by
English	December 21, 2011
Translated copies	February 21, 2012

The Publications Center

<http://www.ibm.com/shop/publications/order>

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. Payment options for orders are via credit card (in the U.S.) or customer number for 20 countries. A large number of publications

are available online in various file formats, and they can all be downloaded by all countries, free of charge, where IBM does business.

Technical information

Specified operating environment

Hardware and software requirements

Tivoli Storage Manager supported devices

Refer to the following websites for the list of devices that are supported by Tivoli Storage Manager (5608-E01), Tivoli Storage Manager Extended Edition (5608-E02), and IBM System Storage Archive Manager (5608-E03). Libraries that have more than 4 drives or more than 48 tape slots require a license for Tivoli Storage Manager Extended Edition.

For Tivoli Storage Manager supported devices for AIX, HP-UX, Solaris, and Windows, visit

http://www.ibm.com/software/sysmgmt/products/support/IBM_TSM_Supported_Devices_for_AIXHPSUNWIN.html

For Tivoli Storage Manager supported devices for Linux, visit

http://www.ibm.com/software/sysmgmt/products/support/IBM_TSM_Supported_Devices_for_Linux.html

Hardware and software requirements for the Tivoli Storage Manager V6.3 products are available at the website listed with each product below.

IBM Tivoli Storage Manager V6.3 (refer to Note 1)

<http://www.ibm.com/support/docview.wss?uid=swg21243309>

IBM Tivoli Storage Manager Extended Edition V6.3 (refer to Note 1)

<http://www.ibm.com/support/docview.wss?uid=swg21243309>

IBM System Storage Archive Manager V6.3 (refer to Note 1)

<http://www.ibm.com/support/docview.wss?uid=swg21243309>

IBM Tivoli Storage Manager for Enterprise Resource Planning V6.3

<http://www.ibm.com/support/docview.wss?uid=swg21219410>

IBM Tivoli Storage Manager for Mail V6.3

<http://www.ibm.com/support/docview.wss?uid=swg21219345>

IBM Tivoli Storage Manager for Storage Area Networks V6.3

<http://www.ibm.com/support/docview.wss?uid=swg21321214>

IBM Tivoli Storage Manager for Space Management V6.3

<http://www.ibm.com/support/docview.wss?uid=swg21321200>

IBM Tivoli Storage Manager for HSM for Windows V6.3

<http://www.ibm.com/support/docview.wss?uid=swg21319299>

IBM Tivoli Storage Manager for Databases V6.3

<http://www.ibm.com/support/docview.wss?uid=swg21218747>

<http://www.ibm.com/support/docview.wss?uid=swg21505139>

For technical requirements for Tivoli Storage Manager Suite for Unified Recovery V6.3, refer to the individual product websites listed above.

Note 1: Tivoli Storage Manager V6.3, Tivoli Storage Manager Extended Edition V6.3, and IBM System Storage Archive Manager V6.3 have the same hardware, software, and supported device requirements.

The program's specifications and specified operating environment information may be found in documentation accompanying the program, if available, such as a readme file, or other information published by IBM, such as an announcement letter. Documentation and other program content may be supplied only in the English language.

Companion products

Tivoli Storage Manager customers may consider purchasing IBM Tivoli Storage Manager FastBack for Workstations. Tivoli Storage Manager FastBack for Workstations is a real-time, continuous data protection solution specifically designed for laptops and desktops. Tivoli Storage Manager can be used with Tivoli Storage Manager FastBack for Workstations to provide off-machine protection when a user is connected, so real-time backups still occur. Tivoli Storage Manager provides off-site copies of backup data for vaulting, auditable disaster recovery plan, and tape and media management.

Customers who have a SAN environment may consider purchasing IBM Tivoli Storage Productivity Center in addition to Tivoli Storage Manager. The customer can benefit from the ability to more fully manage their storage environment, including backup and recovery, management of disk performance, management of the physical network of the SAN, logical connections between the devices, and capacity management of file systems and databases. Additionally, IBM Tivoli Storage Productivity Center for Data complements Tivoli Storage Manager. The customer who leverages these products can benefit from the ability to extend policies and file reports to directly initiate a Tivoli Storage Manager's backup or archive when certain threshold conditions are met, or in the case of file reports, if conditions deem it necessary.

Performance considerations

The Tivoli Storage Manager product's performance will vary depending upon your particular configuration, the client and server options, and customization.

Planning information

Direct customer support

Installation and technical support is provided by Global Services. For more information call 800-IBM-4YOU (426-4968).

For technical support or assistance, contact your IBM representative or visit

<http://www.ibm.com/support>

Packaging

Tivoli Storage Manager V6.3 products are distributed with:

- International Program License Agreement (Z125-3301)
- License Information document
- DVD media
- Publications (refer to the [Publications](#) section)

This program, when downloaded from a website, contains the applicable IBM license agreement and License Information document, if appropriate, and will be presented for acceptance at the time of installation of the program. For future reference, the license and License Information document will be stored in a directory such as LICENSE.TXT.

Security, auditability, and control

Tivoli Storage Manager V6.3 products use the security and auditability features of the operating system software. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Software Services

IBM Software Services has the breadth, depth, and reach to manage your services needs. You can leverage the deep technical skills of our lab-based, software services team and the business consulting, project management, and infrastructure expertise of our IBM Global Services team. Also, we extend our IBM Software Services reach through IBM Business Partners to provide an extensive portfolio of capabilities. Together, we provide the global reach, intellectual capital, industry insight, and technology leadership to support a wide range of critical business needs.

To learn more about IBM Software Services or to contact a Software Services sales specialist, visit

<http://www.ibm.com/software/sw-services/>

Licensing metric definitions and pricing examples

Licensing metric definitions

Client Device

Client Device is a unit of measure by which the program can be licensed. A Client Device is a single user computing device or special purpose sensor or telemetry device that requests the execution of or receives for execution a set of commands, procedures, or applications from or provides data to another computer system that is typically referred to as a server or is otherwise managed by the server. Multiple Client Devices may share access to a common server. A Client Device may have some processing capability or be programmable to allow a user to do work. Examples include, but are not limited to actuators, appliances, automated teller machines, automatic meter readers, cash registers, disk drives, desktop computers, kiosks, notebook computers, personal digital assistant, point-of-sale terminals, sensors, smart meters, tape drives, and technical workstations. Licensee must obtain entitlements for every Client Device which runs, provides data to, uses services provided by, or otherwise accesses the Program and for every other computer or server on which the program is installed.

Processor Value Unit (PVU)

PVU is a unit of measure by which the program can be licensed. The number of PVU entitlements required is based on the processor technology (defined within the PVU Table by processor value, brand, type, and model number at

http://www.ibm.com/software/lotus/passportadvantage/pvu_licensing_for_customers.html

and the number of processors made available to the program. IBM continues to define a processor, for the purpose of PVU-based licensing, to be each processor core on a chip. A dual-core processor chip, for example, has two processor cores.

Licensee can deploy the program using either full capacity licensing or virtualization capacity (sub-capacity) licensing according to the Passport Advantage Sub-Capacity Licensing Terms (refer to the webpage below). If using full capacity licensing, licensee must obtain PVU entitlements sufficient to cover all activated processor cores* in the physical hardware environment made available to or managed by the program, except for those servers from which the program has been permanently removed. If using virtualization capacity licensing, licensee must obtain entitlements sufficient to cover all activated processor cores made available to or managed by the program, as defined according to the Virtualization Capacity License Counting Rules at

http://www.ibm.com/software/lotus/passportadvantage/Counting_Software_licenses_using_specific_virtualization_technologies.html

* An activated processor core is a processor core that is available for use in a physical or virtual server, regardless of whether the capacity of the processor core can be or is limited through virtualization technologies, operating system commands, BIOS settings, or similar restrictions.

Instead of the entitlements required for the program directly, licensee must obtain PVU entitlements for this program sufficient to cover the processor cores for the systems on which the resources managed or processed by the program reside.

Terabyte

Terabyte is a unit of measure by which the program can be licensed. A terabyte is 2 to the 40th power bytes. Licensee must obtain an entitlement for each terabyte of storage available to the program.

IBM System Storage Archive Manager Terabyte capacity

IBM System Storage Archive Manager Terabyte capacity includes primary disk storage pool size combined with the amount of utilized primary removable media storage used by the IBM System Storage Archive Manager server.

Capacity does not include:

- Copy storage pools for the space-managed data that reside on disk.
- Copy storage pools for the space-managed data that reside on removable media.
- Space used on the IBM Tivoli Storage Manager server for any purpose other than the primary storage of space-managed data.
- Disk on the host being space managed.

A virtual tape library (VTL) is considered a removable media device, so capacity is based on utilization.

The minimum amount of capacity that can be purchased is 1 terabyte.

Partial capacity will be rounded up to the next whole number of terabytes.

Additional capacity must be added in increments of 1 terabyte.

Tiered Terabytes (1-12), (13-32), (33-64), (65-100), (101-250), (251+)

Terabyte (1-12), terabyte (13-32), terabyte (33-64), terabyte (65-100), terabyte (101-250), and terabyte (251+) is a unit of measure by which the program can be licensed. Proofs of Entitlement (PoEs) are based on the number of terabytes available to the program. A terabyte is 2 to the 40th power bytes. Licensee must obtain sufficient entitlements required for licensee's environment. The entitlements are specific to the program and may not be exchanged, interchanged, or aggregated with entitlements of another program.

Instead of the entitlements required for the program directly, Licensee must obtain terabyte entitlements for the program sufficient to cover the storage managed by the program.

IBM Tivoli Storage Manager Suite for Unified Recovery Terabyte capacity

Tiered terabytes (1-100), (101-250), (251-500), (501-750), (751-1,250), (1,251-2,000), (2001+)

Terabyte (1-100), terabyte (101-250), terabyte (251-500), terabyte (501-750), terabyte (751-1,250), terabyte (1,251-2,000), terabyte (2,001+) is a unit of measure by which the program can be licensed. PoEs are based on the number of terabytes available to the program. A terabyte is 2 to the 40th power bytes. Licensee must obtain sufficient entitlements required for licensee's environment. The entitlements are specific to the program and may not be exchanged, interchanged, or aggregated with entitlements of another program.

Instead of the entitlements required for the program directly, licensee must obtain terabyte entitlements for the program sufficient to cover the storage managed by the program.

For Tivoli Storage Manager Suite for Unified Recovery, Licensee must obtain sufficient entitlements required for all data stored in the designated Tivoli Storage Manager primary storage pool volumes and for all data stored in the designated Tivoli Storage Manager FastBack repository volumes.

Pricing examples

Pricing examples for Tivoli Storage Manager

The following examples are provided to illustrate the customer's licensing requirements.

References to processor-based licensing **do not** represent the actual number of entitlements required. Entitlement requirements are Value Unit-based. Processors referenced in these examples represent the designated measurement on which the required number of Value Unit entitlements will be calculated. The number of Value Units required per processor will depend on the processor type.

Notes:

- A PoE for IBM Tivoli Storage Manager Extended Edition is required to use any of the following function: node replication (and the use of REPLICATE NODE command as a target server), disaster recovery manager, Network Data Management Protocol (NDMP), support of tape libraries (including virtual tape libraries) with more than 4 drives or more than 48 slots.
- An IBM Tivoli Storage Manager Extended Edition server can only be used to manage IBM Tivoli Storage Manager Extended Edition components or clients.
- A Tivoli Storage Manager Extended Edition server can act as a target server for disaster recovery purposes for Tivoli Storage Manager servers.
- The use of node replication (REPLICATE NODE command) requires the same end-user entitlements for both the server that sends the data (source server) and the server that receives the data (target server).
- If a NetApp Network Attached Storage (NAS) device is backed up using Common Internet File System (CIFS) or Network File System (NFS), entitlement for either IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition is required for that NAS device.
- An IBM Tivoli Storage Manager for Storage Area Networks entitlement is required for each IBM Tivoli Storage Manager server that is sharing a library where an IBM Tivoli Storage Manager acts as the library manager. An entitlement is required for each library client and library manager. An IBM Tivoli Storage Manager for Storage Area Networks license entitlement is required for each system that performs LAN-free operations.

- When using Processor Value Unit based licensing, license entitlements for IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition are required for all managed servers including the managing server. Licensing entitlement is Processor Value Unit based and both full capacity and sub-capacity licensing is offered.
- Client Device entitlements for IBM Tivoli Storage Manager and IBM Tivoli Storage Manager Extended Edition are interchangeable.

Scenario 1: The customer wants to do basic archiving and retrieval for all of the LAN-connected servers in its network. The customer environment consists of the following:

- 20 Client devices (laptops)
- 10 4-way servers
- Five 8-way mail servers
- Five 16-way database servers
- One 32-way server
- One 8-way managing server

The customer must obtain the following entitlements for IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition:

Systems managed	Quantity in customer environment	Total client device entitlements required
Client devices	20	20
Total client device entitlements		20

Systems managed	Quantity in customer environment	Processor entitlements required
4-way	10	40
8-way	5	40
16-way	5	60
32-way	1	32
8-way (managing server)	1	8
Total processor entitlements		200

The customer must obtain the following additional entitlements for IBM Tivoli Storage Manager for Databases:

Systems managed	Quantity in customer environment	Processor entitlements required
16-way	5	80
Total processor entitlements		80

Note: This example is valid for any database application supported by IBM Tivoli Storage Manager for Databases. IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition is required for each system with a database managed by IBM Tivoli Storage Manager for Databases.

The customer must obtain the following additional entitlements for IBM Tivoli Storage Manager for Mail:

Systems managed	Quantity in	Processor
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	customer environment	entitlements required
8-way	5	40
Total processor entitlements		40

Note: This example is valid for any mail application supported by IBM Tivoli Storage Manager for Mail. IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition is required for each system with a mail server managed by IBM Tivoli Storage Manager for Mail.

Scenario 2: Assume the customer in Scenario 1 has a SAN and wants to do LAN-free backup using IBM Tivoli Storage Manager for Storage Area Networks. The customer must obtain the following entitlements for IBM Tivoli Storage Manager for Storage Area Networks in addition to the entitlements required in Scenario 1:

Systems managed	Quantity in customer environment	Processor entitlements required
4-way	10	40
8-way	5	40
16-way	5	80
32-way	1	32
8-way (managing server)		
Total processor entitlements		200

Notes:

- In this scenario, the managing server is also acting as the library manager and the customer wants to do LAN-free operations on all servers in their environment.
- IBM Tivoli Storage Manager for Storage Area Networks can be used with IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition. Entitlement for IBM Tivoli Storage Manager for Storage Area Networks is in addition to IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition.
- IBM Tivoli Storage Manager for Storage Area Networks includes a component called Tivoli SANergy®. The use of this component is limited to LAN-free backup and restore to disk.

Scenario 3: VMware environment with VMware Consolidated Backup (VCB) or VMware vStorage API

The customer environment consists of the following:

- ESX server 1 with four virtual servers, three running as file servers, and the fourth running as a SQL server.
- ESX server 2 with four virtual servers, three running as file servers, and the fourth running as a Microsoft Exchange server.
- Both ESX servers are backed up using the vStorage API or VCB from a proxy server.
- Each virtual machine is assigned one processor core.
- The customer is backing up only the file servers.

Notes:

- The IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition full capacity entitlement requires that all physical system cores on the VMware ESX servers, being backed up by the proxy server, are to be entitled.

- The IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition sub-capacity entitlement requires that the virtual cores, assigned to virtual machines on the VMware ESX servers being backed up by the proxy server, are to be entitled.
- The VCB (or VMware vStorage API) proxy server does not require entitlement for Tivoli Storage Manager, Tivoli Storage Manager Extended Edition, or Tivoli Storage Manager for Virtual Environments.

Full capacity requirement

Quantity of processor core entitlements required	ESX 1 (4 way)	ESX 2 (4 way)	Proxy server (4 way)	Total
TSM or TSM Extended Edition	4	4	0	8

Sub-capacity requirement

Quantity of processor core entitlements required	ESX 1 (4 way)	ESX 2 (4 way)	Proxy server (4 way)	Total
TSM or TSM Extended Edition	3	3	0	6

Note: Only the virtual machines running as file servers require entitlement. Since these are the only machines being backed up, the customer does not back up the fourth virtual machine.

Scenario 4: VMware environment with IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition backup agent installed inside a virtual machine and the customer is backing up Oracle and Microsoft Exchange

The customer environment consists of the following:

- ESX server 1 with four virtual servers, three running as file servers, and the fourth running as an Oracle server.
- ESX server 2 with four virtual servers, three running as file servers, and the fourth running as a Microsoft Exchange server.
- Each virtual machine is assigned one processor core.

Notes:

- The full capacity IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition entitlement requirement is based on physical system cores and not virtual cores.
- The sub-capacity IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition entitlement requirement is based on virtual cores.

Full capacity requirements

Quantity of processor core entitlements required	ESX 1 (4 way)	ESX 2 (4 way)	Total
TSM or TSM Extended Edition	4	4	8
TSM for Databases	4	0	4
TSM for Mail	0	4	4

Note: If VMware VMotion is running across all ESX servers, enabling migration of virtual machines between the two ESX servers, then the ESX cluster is treated as the server at full capacity, which requires all cores on all ESX servers to be entitled. If VMotion is running in the above scenario, then IBM Tivoli Storage Manager Extended Edition, IBM Tivoli Storage Manager for Databases, and IBM Tivoli Storage Manager for Mail will each require eight cores to be entitled.

Sub-capacity requirements

Quantity of processor core entitlements required	ESX 1 (4 way)	ESX 2 (4 way)	Total
TSM or TSM Extended Edition	4	4	8
TSM for Databases	1	0	1
TSM for Mail	0	1	1

Note: If VMware VMotion is running across all ESX servers, enabling migration of virtual machines between the two ESX servers, entitlement requirements would not change from the above required entitlements.

Scenario 5: VMware environment with IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition backup agent running inside a virtual machine

The customer environment consists of the following:

- ESX server 1 with four virtual servers, three running as file servers, and the fourth running as an Oracle server.

Notes:

- The full capacity IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition entitlement requirement is based on physical system cores and not virtual cores.
- The sub-capacity IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition entitlement requirement is based on virtual cores.

Full capacity requirements

Quantity of processor core entitlements required	ESX 1 (4 way)	Total
TSM or TSM Extended Edition	4	4
TSM for Databases	4	4

Sub-capacity requirements

Quantity of processor core entitlements required	ESX 1 (4 way)	Total
TSM or TSM Extended Edition	4	4
TSM for Databases	1	1

Pricing examples for IBM System Storage Archive Manager

Scenario 1

A customer has an IBM System Storage Archive Manager server with a 5 Terabyte (TB) primary disk storage pool and a removable media storage pool that will store 4 TB of data within the next 12 months. The data in the primary storage pools will be copied for off-site protection to a copy pool. The customer has designated 10 TB of removable media for a copy storage pool.

The customer needs to purchase 9 TB of IBM System Storage Archive Manager.

Primary disk Storage Pool	Removable media storage pool	Capacity	Required entitlements
5 TB	4 TB	9 TB	9 TB of IBM System Storage Archive Manager for Windows

Scenario 2 (additional capacity)

A customer had purchased 9 TBs of IBM System Storage Archive Manager. 12 months after that initial purchase, the customer is managing 9 TB of data. Over the next 12 months the customer estimates they will need to manage an additional 2.4 TB worth of data.

The customer should purchase an additional 3 TB of IBM System Storage Archive Manager.

Primary disk Storage Pool	Removable media storage pool	Capacity	Required entitlements
5 TB	6.4 TB	11.4 TB	12 TB of IBM System Storage Archive Manager for Windows

Pricing examples for Tivoli Storage Manager HSM for Windows

Entitlement for Tivoli Storage Manager HSM for Windows is based on the TB capacity being space managed (migrated). Capacity is defined as the primary HSM disk storage pool size combined with the amount of utilized HSM removable media storage pool. Storage pools are configured on the IBM Tivoli Storage Manager server. The minimum amount of capacity that can be purchased is 1 TB. Partial capacity will be rounded up to the next whole number of TB. Additional capacity must be added in multiples of 1 TB. Capacity does not include:

- Copy storage pools for the space-managed data that reside on disk
- Copy storage pools for the space-managed data that reside on removable media

Scenario 1

A customer wants to space manage 4.25 TB of files from six Microsoft Windows file servers. This means 4.25 TB of files will be migrated from their current location to the Tivoli Storage Manager server's primary HSM storage pools. The migrated files will be replaced with references to the original file. The data in the primary HSM storage pools will be copied for off-site protection to a copy pool. The customer has designated 0.25 TB of disk for an HSM disk storage pool, 4 TB for a HSM removable media storage pool, and 6 TB of removable media for a copy storage pool.

The customer needs to purchase 5 TB of Tivoli Storage Manager HSM for Windows.

HSM disk storage pool	HSM removable media storage pool	Capacity	Required entitlements
0.25 TB	4 TB	4.25 TB	5 TB of Tivoli Storage Manager HSM for Windows

Scenario 2 (additional capacity):

A customer had purchased 5 TB of Tivoli Storage Manager HSM for Windows. Over the last 12 months, the customer consumed the 5 TB of HSM capacity they purchased initially in addition to an additional 1 TB. Over the next 12 months they expect the amount of space managed data will grow to 9 TB total. They will continue

to keep the 0.25 TB for the HSM disk storage pool and thus store the remaining 8.75 TB in the removable media storage pool.

The customer should purchase an additional 4 TB of Tivoli Storage Manager HSM for Windows.

HSM disk storage pool	HSM removable media storage pool	Capacity	Required entitlements
0.25 TB	8.75 TB	9 TB	9 TB of Tivoli Storage Manager HSM for windows

Pricing examples for Tivoli Storage Manager for Virtual Environments

Protecting VMware environments using Tivoli Storage Manager for Virtual Environments

The customer environment consists of the following:

- vSphere (host) 1 with 12 virtual machines (guests).
- vSphere (host) 2 with 19 virtual machines (guests).
- All of the guests on both vSphere servers (hosts) are protected using Tivoli Storage Manager for Virtual Environments V6.2.

Notes:

- Either IBM Tivoli Storage Manager or IBM Tivoli Storage Manager Extended Edition are prerequisite products for Tivoli Storage Manager for Virtual Environments and require entitlement on all physical system cores on the vSphere hosts. This entitlement applies only to the vSphere hosts protected by Tivoli Storage Manager for Virtual Environments.
- Tivoli Storage Manager for Virtual Environments is physically installed on a centralized vStorage backup server, which is a secondary or proxy machine that is used to perform the backup using the vStorage application programming interface (API). This secondary or proxy machine can be either a physical machine or a virtual machine. A single vStorage backup server can be used to protect one or more virtual machines that reside on one or more vSphere servers. The customer can use one or more vStorage backup servers.
- Entitlements for Tivoli Storage Manager for Virtual Environments, Tivoli Storage Manager, and Tivoli Storage Manager Extended Edition are not required on the vStorage backup server. Tivoli Storage Manager for Virtual Environment, Tivoli Storage Manager, and Tivoli Storage Manager Extended Edition entitlements are only required for the managed environment, which is the processor cores on the vSphere hosts running the virtual machines being protected.
- Tivoli Storage Manager for Virtual Environments can also be licensed under sub-capacity software licensing terms, if required. Processor Value Unit (PVU) sub-capacity licensing lets you license an eligible software product for less than the full capacity (or total number of processors) of your server or group of servers. It provides the licensing granularity needed to leverage various multicore chip and virtualization technologies. The sub-capacity software licensing terms are documented in the International Passport Advantage Agreement (IPAA) Attachment for Sub-capacity Licensing Terms (Sub-capacity Licensing Attachment).

Full capacity requirement

Scenario 1 - use a single vStorage backup server to protect both vSphere hosts

Quantity of processor core entitlements required	vSphere host 1 (4 way)	vSphere host 2 (8 way)	vStorage backup server (2 way)	Total
Tivoli Storage Manager or Tivoli Storage Manager Extended Edition	4	8	0	12
Tivoli Storage Manager for Virtual Environments	4	8	0	12

Scenario 2 - use two (2 way) vStorage backup servers to protect only the larger vSphere host

Quantity of processor core entitlements required	vSphere host 1 (4 way)	vSphere host 2 (8 way)	vStorage backup server 1 (2 way)	vStorage backup server 2 (2 way)	Total
Tivoli Storage Manager or Tivoli Storage Manager Extended Edition	0	8	0	0	8
Tivoli Storage Manager for Virtual Environments	0	8	0	0	8

Pricing example for Tivoli Storage Manager Suite for Unified Recovery

Tivoli Storage Manager Suite for Unified recovery uses a tiered TB pricing model. The model consists of seven tiers that are to be used cumulatively. All tiers must be used in order (begin with the first tier and move on to the second tier, and so on) to arrive at the desired total amount of TB.

Based on the actual TB tiers, the following example is an illustration, using variables for prices, that shows how to calculate the prices:

Tier TB range (actual)	\$K/TB
1-100	x
101-250	y
251-500	z
501-750	a
751-1,250	b
1,251-2,000	c
2,001+	d

Total TB ordered	How it is charged
50 TB	(x * 50 TB)
150 TB	(x * 100 TB) + (y * 50 TB)
500 TB	(x * 100 TB) + (y * 150 TB) + (z * 250 TB)
1,200 TB	(x * 100 TB) + (y * 150 TB) + (z * 250 TB) + (a * 250 TB) + (b * 450 TB)
1,800 TB	(x * 100 TB) + (y * 150 TB) + (z * 250 TB) + (a * 250 TB) + (b * 500 TB) + (c * 550 TB)
2,500 TB	(x * 100 TB) + (y * 150 TB) + (z * 250 TB) + (a * 250 TB) + (b * 500 TB) + (c * 750 TB) + (d * 500 TB)

Ordering information

This product is only available via Passport Advantage. It is not available as shrinkwrap.

Product group: Tivoli Storage Management

Product category: Tivoli Storage Manager

Product Identifier Descriptions	PID number
IBM Tivoli Storage Manager	5608-E01
IBM Tivoli Storage Manager Extended Edition	5608-E02
IBM System Storage Archive Manager	5608-E03
IBM Tivoli Storage Manager for Databases	5608-E04
IBM Tivoli Storage Manager for Enterprise Resource Planning	5608-E05
IBM Tivoli Storage Manager for Mail	5608-E06
IBM Tivoli Storage Manager for Storage Area Networks	5608-E07
IBM Tivoli Storage Manager for Space Management	5608-E12
IBM Tivoli Storage Manager HSM for Windows	5608-E13
IBM Tivoli Storage Manager for Virtual Environments	5725-A44
IBM Tivoli Storage Manager Suite for Unified Recovery	5724-Z12

Passport Advantage customer: Media pack entitlement details

Customers with active maintenance or subscription for the products listed are entitled to receive the corresponding media pack.

Media pack description and entitled Maintenance offerings description	Part number
IBM TSM V6.3 MP ML	BJ0ZEML
IBM TSM EE V6.3 MP ML	BJ0ZFML
IBM SSAM V6.3 MP ML	BJ0ZGML
IBM TSM ERP V6.3 MP ML	BJ0ZHML
IBM TSM MAIL V6.3 MP ML	BJ0ZIML
IBM TSM SAN V6.3 MP ML	BJ0ZJML
IBM TSM SM V6.3 MP ML	BJ0ZKML
IBM TSM HSM V6.3 MP ML	BJ0ZLML
IBM TSM DB V6.3 MP ML	BJ0ZDML
IBM TSM VE V6.3 MP ML	BJ0ZMML
IBM TSM SUR V6.3 MP ML	BJ0ZVML

Current licensees

Current licensees, with support in effect, will receive instructions on how to order this update.

New licensees

Orders for new licenses will be accepted now.

Shipment will begin on the planned availability date.

Basic license

Ordering information for Passport Advantage

Passport Advantage allows you to have a common anniversary date for Software Subscription and Support (SW S&S) renewals, which can simplify management and budgeting for eligible new versions and releases (and related technical support) for your covered products. The anniversary date, established at the start of your Passport Advantage Agreement, will remain unchanged while your Passport Advantage Agreement remains in effect. New software purchases will initially

include twelve full months of Software Subscription and Support (also referred to as Software Maintenance). Software Subscription and Support in the second year (the first year of renewal) can be prorated to be coterminous with your common anniversary date. Thereafter, all Software Subscription and Support (Software Maintenance) will renew at the common anniversary date for twelve full months of Software Subscription and Support (Software Maintenance).

Refer to the IBM International Passport Advantage Agreement and to the *IBM Software Support Handbook* for specific terms relating to, and a more complete description of, technical support provided through Software Subscription and Support (Software Maintenance).

The quantity to be specified for the Passport Advantage part numbers in the following tables is per 10 Processor Value Units, per client device, and per terabyte. To order for Passport Advantage, specify the desired part number and quantity.

Description	Part number
IBM Tivoli Storage Manager	
10 Processor Value Units:	
License and SW S&S 12 Months (Refer to Note 1)	D56FULL
Annual SW S&S Renewal	E029KLL
SW S&S Reinstatement 12 Months	D56FWLL
Lnx on z - License and SW S&S 12 Months	D56Q5LL
Lnx on z - Annual SW S&S Renewal	E02B7LL
Lnx on z - SW S&S Reinstatement 12 Months	D56Q6LL
Tradeup from Tivoli Storage Manager Express	
License and SW S&S 12 Months	D59V5LL
Client devices:	
License and SW S&S 12 Months	D5158LL
Annual SW S&S Renewal	E00AJLL
SW S&S Reinstatement 12 Months	D515ALL
IBM Tivoli Storage Manager Extended Edition	
10 Processor Value Units:	
License and SW S&S 12 Months (Refer to Note 1)	D56FELL
Annual SW S&S Renewal	E029ELL
SW S&S Reinstatement 12 Months	D56FFLL
Lnx on z - License and SW S&S 12 Months	D56FJLL
Lnx on z - Annual SW S&S Renewal	E029GLL
Lnx on z - SW S&S Reinstatement 12 Months	D56FKLL
Tradeup from Tivoli Storage Manager	
License and SW S&S 12 Months	D56FILL
Tradeup from Tivoli Storage Manager Express	
License and SW S&S 12 Months	D59V6LL
Client devices:	
License and SW S&S 12 Months	D51MKLL
Annual SW S&S Renewal	E00IALL
SW S&S Reinstatement 12 Months	D51MMLL
Note 1: Client licenses are interchangeable between IBM Tivoli Storage Manager and IBM Tivoli Storage Manager Extended Edition.	
IBM Tivoli Storage Manager for Storage Area Networks	
10 Processor Value Units:	
License and SW S&S 12 Months	D56FPLL
Annual SW S&S Renewal	E029ILL
SW S&S Reinstatement 12 Months	D56FQLL
Client devices:	
License and SW S&S 12 Months	D51MYLL
Annual SW S&S Renewal	E00IELL
SW S&S Reinstatement 12 Months	D51N0LL
IBM Tivoli Storage Manager for Space Management	
10 Processor Value Units:	
License and SW S&S 12 Months	D56FLLL
Annual SW S&S Renewal	E029HLL
SW S&S Reinstatement 12 Months	D56FMLL

IBM Tivoli Storage Manager for Mail
 10 Processor Value Units:
 License and SW S&S 12 Months D56Q3LL
 Annual SW S&S Renewal E02B6LL
 SW S&S Reinstatement 12 Months D56Q4LL
 Lnx on z - License and SW S&S 12 Months D56Q1LL
 Lnx on z - Annual SW S&S Renewal E02B5LL
 Lnx on z - SW S&S Reinstatement 12 Months D56Q2LL
 Tradeup from Tivoli Storage Manager Express® MS
 Exchange License and SW S&S 12 Months D59V4LL

IBM Tivoli Storage Manager HSM for windows
 Per terabytes:
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 Annual SW S&S Renewal E01ZBLL
 SW S&S Reinstatement 12 Months D55H6LL

IBM Tivoli Storage Manager for Enterprise Resource
 Planning
 10 Processor Value Units:
 License and SW S&S 12 Months D56F7LL
 Annual SW S&S Renewal E029CLL
 SW S&S Reinstatement 12 Months D56FBLL

IBM Tivoli Storage Manager for Virtual Environments
 10 Processor Value Units:
 License and SW S&S 12 Months D0I2SLL
 Annual SW S&S Renewal E0BI0LL
 SW S&S Reinstatement 12 Months D0I2TLL

IBM Tivoli Storage Manager for Databases
 10 Processor Value Units:
 License and SW S&S 12 Months D56D9LL
 Annual SW S&S Renewal E028WLL
 SW S&S Reinstatement 12 Months D56DALL
 Tradeup from Tivoli Storage Manager Express MS SQL
 License and Software Maintenance 12 Months D59V3LL

IBM System Storage Archive Manager

Per Terabyte (1-12)
 License and SW S&S 12 Months D61H2LL
 Per Terabyte (1-12)
 Annual SW S&S Renewal E040YLL
 Per Terabyte (1-12)
 SW S&S Reinstatement 12 Months D61H3LL

Per Terabyte (13-32)
 License and SW S&S 12 Months D61G7LL
 Per Terabyte (13-32)
 Annual SW S&S Renewal E040ILL
 Per Terabyte (13-32)
 SW S&S Reinstatement 12 Months D61G8LL

Per Terabyte (33-64)
 License and SW S&S 12 Months D61GHLL
 Per Terabyte (33-64)
 Annual SW S&S Renewal E040NLL
 Per Terabyte (33-64)
 SW S&S Reinstatement 12 Months D61GILL

Per Terabyte (65-100)
 License and SW S&S 12 Months D61GJLL
 Per Terabyte (65-100)
 Annual SW S&S Renewal E040PLL
 Per Terabyte (65-100)
 SW S&S Reinstatement 12 Months D61GKLL

Per Terabyte (101-250)
 License and SW S&S 12 Months D61GLLL
 Per Terabyte (101-250)
 Annual SW S&S Renewal E040QLL
 Per Terabyte (101-250)
 SW S&S Reinstatement 12 Months D61GMLL

Per Terabyte (251+)	
License and SW S&S 12 Months	D61GNLL
Per Terabyte (251+)	
Annual SW S&S Renewal	E040RLL
Per Terabyte (251+)	
SW S&S Reinstatement 12 Months	D61GPLL

IBM Tivoli Storage Manager Suite for Unified Recovery

Per Terabyte (1-100)	
License and SW S&S 12 Months	D0BM1LL
Per Terabyte (1-100)	
Annual SW S&S Renewal	E084XLL
Per Terabyte (1-100)	
SW S&S Reinstatement 12 Months	D0BM2LL

Per Terabyte (101-250)	
License and SW S&S 12 Months	D0BM9LL
Per Terabyte (101-250)	
Annual SW S&S Renewal	E0851LL
Per Terabyte (101-250)	
SW S&S Reinstatement 12 Months	D0BMALL

Per Terabyte (251-500)	
License and SW S&S 12 Months	D0BMBLL
Per Terabyte (251-500)	
Annual SW S&S Renewal	E0852LL
Per Terabyte (251-500)	
SW S&S Reinstatement 12 Months	D0BMCLL

Per Terabyte (501-750)	
License and SW S&S 12 Months	D0BMJLL
Per Terabyte (501-750)	
Annual SW S&S Renewal	E0856LL
Per Terabyte (501-750)	
SW S&S Reinstatement 12 Months	D0BMLLL

Per Terabyte (751-1,250)	
License and SW S&S 12 Months	D0BMKLL
Per Terabyte (751-1,250)	
Annual SW S&S Renewal	E0857LL
Per Terabyte (751-1,250)	
SW S&S Reinstatement 12 Months	D0BMMLL

Per Terabyte (1,251-2,000)	
License and SW S&S 12 Months	D0BMULL
Per Terabyte (1,251-2,000)	
Annual SW S&S Renewal	E085BLL
Per Terabyte (1,251-2,000)	
SW S&S Reinstatement 12 Months	D0BMWLL

Per Terabyte (2,001+)	
License and SW S&S 12 Months	D0BMVLL
Per Terabyte (2,001+)	
Annual SW S&S Renewal	E085CLL
Per Terabyte (2,001+)	
SW S&S Reinstatement 12 Months	D0BMXLL

To order a media pack for Passport Advantage, specify the part number in the desired quantity from the following table:

Description	Part number
IBM Tivoli Storage Manager V6.3 DVD Media Pack - Multilingual	BJ0ZEML
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IBM Tivoli Storage Manager for Storage Area Networks V6.3 DVD Media Pack - Multilingual	BJ0ZJML

IBM Tivoli Storage Manager for Space Management V6.3 DVD Media Pack - Multilingual (Refer to Note 2)	BJ0ZKML
IBM Tivoli Storage Manager for Enterprise Resource Planning V6.3 DVD Media Pack - Multilingual	BJ0ZHML
IBM Tivoli Storage Manager for Mail V6.3 DVD Media Pack - Multilingual	BJ0ZIML
IBM Tivoli Storage Manager HSM for Windows V6.3 DVD Media Pack - Multilingual (Refer to Note 2)	BJ0ZLML
IBM Tivoli Storage Manager for Virtual Environments V6.3 DVD Media Pack - Multilingual	BJ0ZMML
IBM Tivoli Storage Manager for Databases V6.3 DVD Media Pack - Multilingual	BJ0ZDML
IBM System Storage Archive Manager V6.3 DVD Media Pack - Multilingual	BJ0ZGML
IBM Tivoli Storage Manager Suite for Unified Recovery V6.3 DVD Media Pack - Multilingual	BJ0ZVML

The products listed in the above tables are also available via web download from Passport Advantage.

Note 2: These DVDs are also included in the Tivoli Storage Manager and Tivoli Storage Manager Extended Edition packages.

Withdrawal of Passport Advantage part numbers

The following Passport Advantage media pack part numbers will be withdrawn on January 13, 2012:

Description	Part number
IBM Tivoli Storage Manager V5.5 Media Pack - Multilingual	BJ0LEML
IBM Tivoli Storage Manager Extended Edition V5.5 Media Pack - Multilingual	BJ0LFML
IBM Tivoli Storage Manager for Storage Area Networks V5.5 Media Pack - Multilingual	BJ0LGML
IBM Tivoli Storage Manager for Space Management V5.5 Media Pack - Multilingual	BJ0LHML
IBM System Storage Archive Manager V5.5 Media Pack - Multilingual	BJ0LJML
IBM Tivoli Storage Manager for Enterprise Resource Planning V5.5 Media Pack - Multilingual	BJ0LPML

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- IBM Tivoli Storage Manager for Storage Area Networks: L-BEBY-8KGTQ6
- IBM Tivoli Storage Manager for Enterprise Resource Planning: L-BEBY-8KGTTE
- IBM Tivoli Storage Manager for Space Management: L-BEBY-8KGTXR
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- IBM Tivoli Storage Manager HSM for Windows: L-BEBY-8KBQ38
- IBM Tivoli Storage Manager for Databases: L-BEBY-8KGU6N
- IBM Tivoli Storage Manager for Virtual Environments: L-FAMR-8KND6M
- IBM Tivoli Storage Manager Suite for Unified Recovery: L-CKAZ-8JWV37

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Corrections

(Corrected on November 18, 2011)

Updated information in the Ordering information section.