IBM Tivoli Storage Manager FastBack V6.1 and FlashCopy Manager V2.1, and IBM GPFS Multiplatform V3.3 available for ordering in IBM System x ordering systems

At a glance

The following products are now available for ordering in System x® ordering systems:

- 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

- IBM Tivoli Storage Manager FastBack Center V6.1

- IBM Tivoli Storage Manager FastBack for Workstations V6.1

- IBM Tivoli Storage FlashCopy® Manager V2.1

- IBM General Parallel File System™ Multiplatform V3.3

For ordering, contact your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: YE001).

Overview

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, IBM Tivoli Storage Manager FastBack Center V6.1, IBM Tivoli Storage Manager FastBack for Workstations V6.1, IBM Tivoli Storage FlashCopy Manager V2.1, and IBM General Parallel File System Multiplatform V3.3 are now available for ordering in the IBM System x ordering systems.

These offerings can be configured with or without System x servers, IBM BladeCenter® blades, and IBM IntelliStation® workstations, with their respective operating systems.

For product information, refer to the Description and Reference information sections.

Eligible software products, offered and selected during the configuration process with each hardware system, are enabled for electronic download for the system unit for which the product was ordered. Optionally, software and license only configurations can be created for these products based on existing supported

hardware system units in your business environment. Offerings included in this announcement are available exclusively via electronic download.

Key prerequisites

Refer to the Hardware requirements and Software requirements sections.

Planned availability date

January 15, 2010

Description

IBM Tivoli Storage Manager FastBack V6.1

Tivoli Storage Manager FastBack V6.1 delivers enhancements to help you achieve increasingly demanding recovery point, recovery time, and business continuity objectives for Linux® servers and applications.

Tivoli Storage Manager FastBack V6.1 combines a number of leading-edge and patented technologies to deliver a data protection and recovery solution for servers and applications, whether they reside in the enterprise data center, at remote branch offices, or at small businesses. It helps eliminate the need for traditional backup windows by continuously tracking data changes at the block level, with extremely low overhead on the systems it protects. Its flexible policy engine can help you improve recovery service levels and meet stringent data protection and retention requirements.

Tivoli Storage Manager FastBack V6.1 extends platform coverage to include Linux to help you meet stringent recovery time objectives and business continuity requirements for Linux servers and applications on Linux. Tivoli Storage Manager Fastback V6.1 support for Linux enables the storage administrator to take frequent and very efficient low-impact, block-level incremental snapshots. Tivoli Storage Manager FastBack V6.1 supports the rapid recovery of full snapshot images and individual file or directories from a snapshot image. Using Tivoli Storage Manager FastBack V6.1, it is fast and easy to extract files or application objects from the stored data blocks of any stored snapshot.

With Tivoli Storage FastBack V6.1 Linux support, you can mount a snapshot virtually to a mount point, allowing validation of the backup data as well as file-level and directory-level restore. Tivoli Storage Manager FastBack V6.1 is a software-based solution and does not rely on any particular hardware to enable snapshots. It can enable LAN-based and SAN-based backup of Linux servers and applications that run on Linux servers. With SAN backup, the impact of backups can be removed from the LAN. Tivoli Storage Manager FastBack V6.1 is designed to read and write data directly from a SAN (bypassing the server that is being protected), offering a server-free and network-free backup capability.

Tivoli Storage Manager FastBack V6.1 support for the Linux environment delivers:

- Volume-level recovery from a snapshot
- The ability to quickly mount a snapshot to help restore individual files, directories, and application objects
- Out-of-the-box scripted application quiescing support for Oracle, IBM DB2®, and Lotus® Domino® running on Linux
- FastBack server data deduplication

Tivoli Storage Manager FastBack V6.1 can provide significant data reduction through a block-level, incremental backup model that dramatically helps reduce the amount

of backup data. It takes data reduction to an even higher level by introducing built-in data deduplication on the FastBack server.

Key benefits of Tivoli Storage Manager FastBack V6.1 data deduplication:

- Helps reduce FastBack server storage requirements
- Requires no dependency on specific hardware because it is an integrated component of Tivoli Storage Manager FastBack V6.1
- Helps minimize impact to backup duration through post-ingestion (out-of-band) deduplication processing on the Tivoli Storage Manager FastBack server
- Applies to almost all types of stored data
- Delivers transparent client access to deduplicated objects

Tivoli Storage Manager FastBack V6.1 integration with Tivoli Storage Manager -- unified recovery management

You may be facing a data and information tidal wave throughout your enterprise. As a result, you may need more holistic and unified data protection solutions to help ensure data recovery and business continuity, and to address compliance both across your data centers and remote offices. Tivoli Storage Manager FastBack V6.1 is enhanced to help you deal with these challenges. The Tivoli Storage Manager Administration Center integrates configuration of policies between Tivoli Storage Manager FastBack V6.1 Windows® clients and Tivoli Storage Manager.

With the Tivoli Storage Manager Administration Center user interface, businesses that use Tivoli Storage Manager FastBack V6.1 in a Tivoli Storage Manager environment can configure policies that help control retention of Windows client snapshots on a FastBack server for short-term operational recovery and manage long-term data management, retention, and retrieval of Tivoli Storage Manager FastBack V6.1 data within Tivoli Storage Manager. This policy-based, intelligent data movement is controlled from the Tivoli Storage Manager Administration Center and helps align value and needs of the data to the cost and performance characteristics of the storage media. In addition, administration of an environment that has both Tivoli Storage Manager and Tivoli Storage Manager FastBack V6.1 is simplified with an enhancement to launch the Tivoli Storage Manager FastBack V6.1 manager user interface from the Tivoli Storage Manager Administration Center.

IBM Tivoli Storage Manager FastBack for Microsoft Exchange V6.1

Tivoli Storage Manager FastBack for Microsoft Exchange V6.1 extends Microsoft Exchange protection capabilities through quick and easy restore of individual Microsoft Exchange objects such as e-mail messages and attachments, contact lists, calendars, tasks, journal entries, entire folders, and so on. It uses an intuitive Windows-style GUI that can result in reduced downtime and improved productivity.

Tivoli Storage Manager FastBack for Microsoft Exchange V6.1 continues to deliver extensive support for the Windows environment with enhancements that can enable fast and easy restore of public folders such as:

- Mail public folders
- Calendar public folders
- Contact public folders
- Tasks public folders
- Notes public folders

IBM Tivoli Storage Manager FastBack for Bare Machine Recovery V6.1

Tivoli Storage Manager FastBack for Bare Machine Recovery is enhanced in Version 6.1 to enable Windows bare machine recovery from data stored in a deduplicated Tivoli Storage Manager FastBack repository.

IBM Tivoli Storage Manager FastBack Center V6.1

Tivoli Storage Manager FastBack Center V6.1 is a single, convenient bundle of 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.

IBM Tivoli Storage Manager FastBack for Workstations V6.1

Tivoli Storage Manager FastBack for Workstations V6.1 is based on IBM Tivoli Continuous Data Protection product technology. It is a real-time, continuous data protection solution for Windows laptops and desktops with centralized management capabilities. It is designed to work well even if you are intermittently connected to a network. Tivoli Storage Manager FastBack for Workstations V6.1 can back up your most important files the moment they are saved (real-time) instead of waiting for a scheduled interval. Noncritical files can be backed up on a traditional interval.

Tivoli Storage Manager FastBack for Workstations V6.1 is designed to back up your files to the local disk of your computer and to a remote storage device that is not on your computer. The backup copies are versioned and can be restored by date. The local storage area is available to help create backup copies and restore your data even when your computer is not connected to a network. You can restore your data from the remote backup copies in the event that your computer is lost or damaged.

The following are supported by IBM Tivoli Storage Manager FastBack for Workstations V6.1:

- Network file system
- WebDAV server
- IBM Tivoli Storage Manager server

Centralized management

Key to providing a unified data protection infrastructure is the ability to centrally control and manage your data protection operations. Tivoli Storage Manager FastBack for Workstations V6.1 provides a centralized management interface that helps you manage thousands of laptops and desktops. This central management interface runs in the same integrated solutions console in which the Tivoli Storage Manager Administration Center runs, helping you to manage data protection across the data center, remote office, and mobile users in a centralized way.

This new centralized management capability allows you to:

- Discover Tivoli Storage Manager FastBack for Workstations V6.1 clients automatically
- View client information such as:
  - Deployment information (operating system version, Tivoli Storage Manager FastBack version, and so on)
  - Amount of storage that a client is using
  - Client activity
  - Current client configurations for potential editing
  - Information about a client's storage target
  - Log files
  - Alerts
- Take client actions such as:
  - Initiate an incremental backup
  - Push a client configuration
  - Lock a client configuration so it cannot be changed

– Deploy updates

– Configure e-mail alerts for administrators based on your own criteria

IBM Tivoli Storage FlashCopy Manager V2.1

In today's business world, where application servers are operational 24 hours a day, the data on these servers should be fully protected. With the rapid increase in the amount of data on these servers, their critical business needs, and the shrinking backup windows, traditional backup and restore methods may be reaching their limits in meeting these challenging requirements. Snapshot operations can help minimize the impact caused by backups and provide near-instant restore capabilities. Because a snapshot operation typically takes much less time than the time for a tape backup, the window during which the data is being backed up can be reduced. This helps facilitate more frequent backups and increase the flexibility of backup scheduling and administration because the time spent for forward recovery through transaction logs after a restore is minimized.

In addition, application data availability can be significantly improved due to the reduction of the load on the production servers. The snapshots can be retained as backups on local disk and, with optional integration with IBM Tivoli Storage Manager, sent to Tivoli Storage Manager server storage pools.

IBM Tivoli Storage FlashCopy Manager V2.1 utilizes storage snapshot capabilities to provide high-speed, low-impact application data backup and restore functionality for the application and storage environments. Automated policy-based management of multiple snapshot backup versions, together with a simple and guided installation and configuration process, provide an easy-to-use and quick-to-deploy data protection solution that can help meet the most stringent database recovery time requirements.

Tivoli Storage FlashCopy Manager V2.1 supports clustered application environments (Microsoft Cluster Server and Veritas Cluster Server) on Microsoft Windows and high availability cluster multi-processing (HACMP™ on IBM AIX®) and Microsoft Exchange 2007 continuous replication configurations (local continuous replication (LCR), cluster continuous replication (CCR), and standby continuous replication (SCR)).

Online, near-instant snapshot backup and restore of critical business application data

Microsoft Exchange protection

• Snapshot restore of Microsoft Exchange storage groups

• File copy restore of a storage group or database from a mounted snapshot image: Restore into a recovery storage group, alternate storage group, or relocated storage group

• File copy restore of transaction logs from incremental or differential backups

Microsoft Exchange individual mailbox restore from a snapshot backup

Tivoli Storage FlashCopy Manager V2.1 enables individual mailbox and mail item restores of Microsoft Exchange 2007 servers from a snapshot backup. Specifically, the following granular Microsoft Exchange restore capabilities are provided:

• Single or multiple user mailbox support

• Restore selectable based on user name and date and time specification

• Recovery of the following mailbox items:

– Inbox, deleted items, and drafts

– Outbox, sent items, journal, and calendar

– Contacts, notes, tasks, and user folders

• Limit the scope of items to be restored based on filters 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 into the original mailbox or alternate mailbox and folder
- Recovery into a .PST file

Microsoft SQL protection

- Snapshot restore of a full database backup
- File copy restore of a full database from a mounted snapshot image to an alternate database name or an alternate location

IBM DB2 protection

- Snapshot backup and restore of a full database, including and excluding log files
- Backup and restore of individual partitions for multi-partition IBM DB2
- Support of databases that are mirrored (between sites) using Logical Volume Manager (LVM) mirroring technology

Oracle protection

- Snapshot backup and restore of a full database
- Support of databases that are mirrored (between sites) using LVM mirroring technology
- Support for Oracle Automated Storage Management (ASM) configurations and failure groups

SAP protection

- Snapshot backup and restore of a full SAP database running on IBM DB2 or Oracle
- Support of databases that are mirrored (between sites) using LVM mirroring technology

Simplified deployment of snapshot capabilities

Tivoli Storage FlashCopy Manager V2.1 includes wizards to install, configure, and execute application snapshot protection. In addition, Tivoli Storage FlashCopy Manager V2.1 can check to help ensure that all of the needed prerequisite software is installed and configured.

Integration with IBM System Storage™ hardware snapshot technology

Tivoli Storage FlashCopy Manager V2.1 utilizes the incremental FlashCopy backup capabilities of IBM System Storage DS8000™ and IBM SAN Volume Controller (SVC) and exploits near-instant restore with space efficient (SE) target volumes on the SAN Volume Controller (Version 5.1). When used with IBM XIV Storage System, Tivoli Storage FlashCopy Manager V2.1 utilizes XIV Storage System's highly efficient, auto-provisioned snapshots. In addition, Tivoli Storage FlashCopy Manager V2.1 integrates with IBM System Storage DS3000, DS4000™, and DS5000 via the Microsoft Volume Shadow Copy Services (VSS) interface.

Optional Tivoli Storage Manager integration

The optional integration with Tivoli Storage Manager allows Tivoli Storage FlashCopy Manager V2.1 users to take advantage of the robust data protection and data reduction capabilities of Tivoli Storage Manager, such as:

- Enhanced data protection scalability with a relational database, based on IBM DB2 technology, designed to store many more objects and help manage more data
- Near real-time monitoring and operational reporting capabilities
- Built-in data deduplication that helps eliminate redundant data, enabling significantly more backup data to be stored on disk

- Centralized backup and archive of the data stored on the networked computers throughout an organization
- Automated, progressive incremental backup-restore and archive-retrieve of the data
- Automated, policy-based disaster preparation, planning, and recovery

Changes to Tivoli Storage Manager and IBM Tivoli Storage Manager Extended Edition pricing

When Tivoli Storage Manager or Tivoli Storage Manager Extended Edition are used in conjunction with Tivoli Storage FlashCopy Manager, changes apply to the licensing requirements for Tivoli Storage Manager and Tivoli Storage Manager Extended Edition. For information on these changes, refer to the Pricing examples subsection of the IBM Tivoli Enhanced Value-Based Pricing section.

Refer to the Tivoli Storage FlashCopy Manager License Information document for applicable terms.

IBM General Parallel File System (GPFS) Multiplatform V3.3

GPFS™ Multiplatform V3.3 provides file system services to parallel and serial applications. It gives parallel applications simultaneous access to the same or different files from any node that has the GPFS file system mounted, while managing a high level of control over all file system operations. GPFS is particularly appropriate in an environment where the aggregate peak need for data bandwidth exceeds the capability of a distributed file system server.

GPFS Multiplatform V3.3 enhancements

GPFS introduces a new pricing, licensing, and entitlement structure for Version 3.3 and Version 3.2.

- GPFS has two types of licenses, a server license and a client license. For each node in a GPFS cluster (see *Permitted use of GPFS Server and GPFS Client* below), the customer obtains the appropriate number of server or client licenses that correspond to the way GPFS is used on that node.
- During GPFS cluster configuration, the customer will be prompted to identify whether a particular node is a GPFS Server or a GPFS Client. If a GPFS Client is chosen, function that requires a GPFS Server license will be disabled on this node. Because the node that acts as the GPFS cluster configuration server requires a GPFS Server designation, at least one node in the GPFS cluster will require one or more GPFS Server licenses.
- A node is defined as an individual operating system image that may appear on a single computer within a cluster, on a system within a cluster, or on a partition.
- Permitted use of GPFS Server and GPFS Client:
  - You may use the GPFS Server in order to perform the following GPFS functions:
    -- Mounting GPFS file systems and accessing data from operating system block devices and NSD servers
    -- Performing GPFS management functions such as cluster configuration manager, quorum node, manager node, and Network Shared Disk (NSD) server
    -- Sharing data through any application, service protocol, or method, such as Network File System (NFS), Common Internet File System (CIFS), File Transfer Protocol (FTP), or Hypertext Transfer Protocol (HTTP)
  - You may use GPFS Client in order to perform the following functions:
    -- Mounting GPFS file systems and accessing data from operating system block devices and NSD servers
    -- Exchanging data between nodes that locally mount the same GPFS file system
  - See the Ordering information section for an ordering example.

Note: Refer to the GPFS FAQs available from the following Web site for more information, including example configurations and license definitions regarding the new GPFS Server and GPFS Client model.

http://publib.boulder.ibm.com/infocenter/clresctr/vxrx/index.jsp? topic=/com

GPFS for Windows Multiplatform now supports the Windows Server 2008 operating system running on 64-bit architectures (AMD x64, Intel® 64). GPFS on Windows participates in a new or existing GPFS cluster (Version 3.2.1.5, or later) in conjunction with AIX and Linux (32- or 64-bit) operating systems. GPFS does not support homogeneous Windows clusters. GPFS V3.3 support is limited to Windows Server 2008.

Administration improvements include:

- The scope of password-less remote shell command execution is now reduced. GPFS can now be configured so that password-less remote shell execution is not required between all nodes. Prior to GPFS V3.3, GPFS had to be configured so that all nodes can run commands on other nodes via a remote shell without being prompted for a password. GPFS V3.3 can be configured so that only the terminal session where a GPFS administrative command is being executed has to be able to execute remote shell commands on other nodes without being prompted for a password. All other nodes in the cluster do not have to have the ability to run password-less commands everywhere else.
- GPFS for Linux improves the build process for the GPFS portability layer by:
  - Eliminating the dependency on the imake utility through the use of the kernel Kbuild infrastructure
  - Optionally generating an RPM package containing the GPFS portability layer binaries to facilitate the installation process
- Users are now allowed to define custom commands to be executed after certain GPFS events. The administrator can use the mmaddcallback command to register a user exit script, the mmdelcallback command to delete a user exit script, and the mmlscallback command to list all the callback scripts currently registered in the GPFS configuration.

Performance and scaling improvements include:

- The limit on the number of snapshots per file system has been raised from 32 to 256.
- Performance enhancements have been made to the mmrestripefs, mmfsck, and mmcheckquota commands, and directory locking for concurrent file creates and deletes from multiple nodes.
- GPFS V3.3 adds support for the Linux AIO APIs io_submit and io_getevents (pread and pwrite only) for workloads that open files using the O_DIRECT flag when the file system is created on local disks.

Policy improvements include several enhancements to the GPFS mmapplypolicy command and the associated GPFS SQL-based policy language:

- A new command option (-g) is provided to enable a fully parallelized (multi-node and multi-threaded) directory traversal and faster metadata scan with policy rule set evaluation.
- When invoked with the new (-g) option, mmapplypolicy can tolerate and recover from faults in individual nodes.
- New command options and policy language extensions allow finer control and customization of the generation of the file lists and the execution of the user scripts associated with the EXTERNAL POOL and EXTERNAL LIST features of the policy language. File lists can be generated by the mmapplypolicy command, generated or manipulated by user programs, and input to the mmapplypolicy command for execution.
- The policy language now provides for access to Posix and Windows file attributes and to extended attributes.

- The THRESHOLD file selection criteria can be interpreted with respect to GPFS quotas for EXTERNAL POOLs or EXTERNAL LISTs.

Existing calls for the Inode Scan Interface are enhanced and new calls are available.

GPFS V3.3 provides additional scalable filesystem backup facilities through the enhanced mmbackup command. Enhancements include:

- Improved performance by use of the policy engine
- The processing of unlinked filesets
- Parallel backup to TSM servers
- Backup of snapshots as filesystem data versus being under the .snapshots/ directory
- Backup of a live system

Improvements have been made in the GPFS trace subsystem on Linux. The trace subsystem can be configured to run in an overwrite mode for reduced trace overhead and to perform raw trace data compression for extended trace coverage.

Improvements have been made in detecting and diagnosing network problems. GPFS can now automatically detect lost GPFS network messages.

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

Section 508 of the U.S. Rehabilitation Act

The products in this announcement are capable, when used in accordance with associated IBM documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it.

A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) can be requested at

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

Reference information

For information on additional Tivoli products added to the System x ordering system, refer to Software Announcement 209-212, dated July 14, 2009.

Program number

```
Program
number   VR   Program name

5641-A01  6.1  IBM Tivoli Storage Manager FastBack
5641-A02  6.1  IBM Tivoli Storage Manager FastBack for Microsoft
                  Exchange
5641-A03  6.1  IBM Tivoli Storage Manager FastBack for Bare
                  Machine Recovery
5641-A04  6.1  IBM Tivoli Storage Manager FastBack Center
5641-A05  6.1  IBM Tivoli Storage Manager FastBack for
                  Workstations
5641-A06  2.1  IBM Tivoli Storage FlashCopy Manager
5641-A07  3.3  IBM General Parallel File System (GPFS) Multiplatform
```

Product identification number

5641-A01
5641-A02
5641-A03
5641-A04
5641-A05
5641-A06
5641-A07

Order handling

To allow for ease of order submission, the offerings in this announcement can be configured in conjunction with eligible System x hardware, software, and license-only configurations that can be created for this product based on existing supported System x hardware system units in a given business environment.

Orders placed for the eligible offerings in this announcement will be routed and fulfilled through Passport Advantage® Express. Invoicing for the initial license orders will occur through the System x order management systems. Subscription and Support renewals will be managed through Passport Advantage.

Passport Advantage allows you to have a common anniversary date for Software Subscription and Support renewals. The anniversary date, established at the order ship date for the initial product acquisition, will remain unchanged while your Passport Advantage Agreement remains in effect. New software purchases initially include 12 full months of Subscription and Support coverage. Subscription and Support in the second year (the first year of renewal) can be prorated to be coterminous with your common anniversary date but managed and invoiced through Passport Advantage. Thereafter, all Software Subscription and Support will renew at the common anniversary date and include 12 full months of Subscription and Support.

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 Web site

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

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld® ID and password are required (use IBM ID).

https://www.ibm.com/partnerworld/mem/sla.jsp?num=210-034

Publications

IBM Tivoli Storage Manager FastBack

The following publications are shipped on a separate CD-ROM with the basic machine-readable material:

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Title

IBM Tivoli Storage Manager FastBack V6.1 Quick Start (SCD7-3948)
IBM Tivoli Storage Manager FastBack for Bare Machine Recovery V6.1
 Quick Start Guide (SCD7-3949)
IBM Tivoli Storage Manager FastBack for Workstations V6.1 Quick
 Start Guide (CF28LML)
```

The following publication is included on the product basic machine-readable material:

```
Title

IBM Tivoli Storage Manager FastBack for Microsoft Exchange V6.1
 Quick Start Guide
```

The publications listed below will be available in English and can be downloaded from the following Web site on the general availability date. Translated copies in selected languages will be available for download within 60 days of the general availability date. Translated copies in selected languages will be available for download within 60 days of the general availability date.

http://publib.boulder.ibm.com/infocenter/tsmfbinf/v6/index.jsp

```
Title                                    Order number

IBM Tivoli Storage Manager FastBack V6.1       SC23-8562
 Installation and User's Guide
IBM Tivoli Storage Manager FastBack for Microsoft  SC27-2307
 Exchange V6.1 Installation and User's Guide
IBM Tivoli Storage Manager FastBack for Bare Machine  SC27-2308
 Recovery V6.1 User's GuideBack for Microsoft
IBM Tivoli Storage Manager FastBack for Workstations  SC27-2808
 V6.1 Installation and User's Guide for Clients
IBM Tivoli Storage Manager FastBack for Workstations  SC27-2809
 V6.1 Installation and User's Guide for Central
 Administration Console
```

In addition, the above publications can be downloaded from the IBM Publications Center after the general availability date at Web site

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.

IBM Tivoli Storage FlashCopy Manager

The following hardcopy publication is shipped with the basic machine-readable material:

```
Title                                    Order number

IBM Tivoli Storage FlashCopy Manager V2.1 Quick    GI11-8976
```

```
Start Guide
```

The publications listed below will be available in English and can be downloaded from the following Web site on the general availability date. Translated copies in selected languages will be available for download within 60 days of the general availability date.

http://publib.boulder.ibm.com/infocenter/tsminfo/v6/index.jsp

```
Title                                          Order number

IBM Tivoli Storage FlashCopy Manager V2.1 Quick      GI11-8976
 Start Guide
IBM Tivoli Storage FlashCopy Manager V2.1 for AIX    SC27-2503
 Installation and User's Guide
IBM Tivoli Storage FlashCopy Manager V2.1 for        SC27-2504
 Windows Installation and User's Guide
IBM Tivoli Storage FlashCopy Manager V2.1 Messages   SC27-2505
```

The IBM Publications Center

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

IBM General Parallel File System Multiplatform

No publications are shipped with this program; however, the following publications are available from the Web:

IBM General Parallel File System Multiplatform:

- Concepts, Planning and Installation Guide (GA76-0413)
- Administration and Programming Reference (SA23-2221)
- Problem Determination Guide (GA76-0415)
- Data Management API Guide (GA76-0414)
- Advanced Administration Guide (SC23-5182)

You can view the manuals by selecting the GPFS Library link from the IBM Cluster Information Center at

http://publib.boulder.ibm.com/infocenter/clresctr/vxrx/index.jsp

The IBM Publications Center

http://www.elink.ibmlink.ibm.com/publications/servlet/pbi.wss

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 50 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.

Technical information

Specified operating environment

Hardware requirements

Tivoli Storage Manager FastBack V6.1

Minimal hardware requirements for the backup server and the disaster recovery server:

- Machine: 4 GHz Dual Intel Pentium® or compatible
- Memory: 3 GB RAM, 2 GB virtual memory

- Available hard disk: 200 MB for FastBack server, 200 MB for the Documents and Settings folder

Minimal hardware requirements for the backup client:

- Machine: 1 GHz Intel Pentium or compatible
- Memory: 1 GB RAM, 3 GB virtual memory
- Available hard disk: 300 MB in the Documents and Settings folder

Tivoli Storage Manager FastBack for Microsoft Exchange V6.1

- Machine: 1.5 GHz Dual Intel Pentium or compatible; recommended 2 GHz Dual Intel Pentium or compatible
- Memory: 1 GB RAM, 2 GB virtual memory: recommended 2 GB RAM, 2 GB virtual memory
- Available hard disk: 200 MB

Tivoli Storage Manager FastBack for Bare Machine Recovery V6.1

The system being restored must meet your hardware and software requirements. You should check the latest device list to ensure that your device is supported.

Tivoli Storage Manager FastBack for Workstations V6.1 base product (desktop and laptops only)

An Intel Pentium III processor with:

- 500 MHz CPU, or higher
- 384 MB RAM, or higher
- 100 MB free disk space (plus user-configured amount of additional space for local file repository)
- 48 MB download, 69 MB installation footprint

Tivoli Storage Manager FastBack for Workstations V6.1 central administration console (servers only)

An Intel Pentium III processor with:

- 500 MHz CPU, or higher
- 3 GB RAM, or higher
- 1 GB free disk space

IBM Tivoli Storage FlashCopy Manager V2.1

Hardware and software requirements are available at

http://www.ibm.com/support/docview.wss?&uid=swg21395564

IBM General Parallel File System Multiplatform V3.3

For GPFS for Linux Multiplatform

- Any of the following IBM X-Architecture® servers:
    - IBM System x enterprise servers
    - Cluster 1350™
    - BladeCenter blade servers
    - System x modular servers

For supported connectivity, formally qualified disk subsystems, and use of GPFS on compatible non-IBM hardware, refer to the GPFS FAQs available at

http://publib.boulder.ibm.com/infocenter/clresctr/vxrx/index.jsp? topic=/com.i

For GPFS for Windows Multiplatform

- Up to 64 Windows 64-bit clients of either AMD x64 or Intel 64 architectures
- An existing GPFS cluster that includes AIX or Linux nodes

Software requirements

Tivoli Storage Manager FastBack V6.1

Backup server and disaster recovery server

For Microsoft Windows, one of the following (32-bit, X86 architecture only):

- Windows 2003 Standard Server, Service Pack (SP) 1, or later
- Windows 2003 Enterprise Server, SP1, or later
- Windows 2008 Enterprise Server, SP1

Notes:

- The Boot and Windows operating system partitions must be formatted in the NT file system (NTFS).
- Windows 2003 and Windows 2008 are supported on x86 architecture only.

Backup client

For Windows, one of the following (32-bit x86 and 64-bit x64 and IA64 architectures only):

- Windows 2000 Professional, SP3, or later
- Windows 2000 Standard Server, SP3, or later
- Windows 2000 Advanced Server, SP3, or later
- Windows XP Professional, SP1, or later
- Windows 2003 Standard Server, SP1, or later
- Windows 2003 Enterprise Server, SP1, or later

Notes:

- The Boot and Windows operating system partitions must be formatted in the NTFS.
- Windows 2003 is supported on the following processors:
  - x86
  - 64 - AMD and EM64T
  - IA64 - Itanium®

For Linux, one of the following (32-bit x86 or 64-bit x64 architectures only):

- Red Hat Enterprise Linux 5 Server for x86 32 bit and x64 64 bit, based on Linux 2.6.18 kernel
- Red Hat Enterprise Linux 5 Server Advanced Platform
- SUSE Linux Enterprise Server 10, SP2, for x86 32 bit and x64 64 bit, based on Linux 2.6.16 kernel

The following Linux disk and volume management solutions are supported:

- Master boot record (MBR)
- Logical Volume Manager (LVM)

The FastBack Linux client supports volumes with one partition, physically located on one disk, and with no special software-based volume management characteristics, such as Mirroring, RAID 5, and so on.

Tivoli Storage Manager FastBack for Microsoft Exchange V6.1

One of the following:

- IBM Tivoli Storage Manager FastBack
- IBM Tivoli Storage Manager for Mail

For Microsoft Exchange, one of the following:

- Microsoft Exchange 2003, SP2, or later
- Microsoft Exchange 2007, SP1, or later[1]

For Windows, one of the following:

- Windows 2003 Standard Server, SP1, or later (x86 or x64)
- Windows 2003 Enterprise Server, SP1, or later (x86 or x64)
- Windows 2008 Standard Server (x64)
- Windows 2008 Enterprise Server (x64)

Additional software requirements

- Microsoft .NET Framework 3.0, or later

[1] Microsoft Exchange 2007 requires the Microsoft Exchange Server MAPI Client and Collaboration Data Objects 1.2.1 download from Microsoft.

Tivoli Storage Manager FastBack for Bare Machine Recovery V6.1

- IBM Tivoli Storage Manager FastBack

Tivoli Storage Manager FastBack for Workstations V6.1 (desktops and laptops only)

The minimum hardware configuration for Windows workstations must be compatible with that stated by Microsoft for the respective operating systems.

The following Windows operating systems are supported:

- Windows XP Professional, SP1, SP3 (x86 32 bit)
- Windows XP Professional with Federal Desktop Core Configuration (FDCC) settings, SP1, SP3 (x86 32 bit)
- Windows Vista Ultimate, Business (x86 32 bit)
- Windows Vista Ultimate (x86 64 bit, 64 bit support), Windows code signing
- Windows Vista Basic (x86 32 bit)
- Windows Vista Home Premium (x86 32 bit)
- Windows Vista Enterprise, including SP1 (x86 32 bit)
- Windows Vista Enterprise with FDCC settings, SP1 (x86 32 bit)
- Windows 7 Home Premium (x86 64 bit)
- Windows 7 Starter (x86 32 bit)

Supported browsers

The Tivoli Storage Manager FastBack for Workstations V6.1 GUI supports the following browsers. This browser support applies to the central administration console, desktops, and laptops.

- Microsoft Internet Explorer V7 or V8
- Mozilla Firefox V3.5.3 or V3.6

Tivoli Storage Manager FastBack for Workstations V6.1 central administration console (servers only)

The minimum hardware configuration for Windows servers must be compatible with that stated by Microsoft for the respective operating system.

- Windows Server 2003 Standard Edition, SP1 (x86 32 bit and 64 bit)
- Windows Server 2003 Enterprise Edition, SP1 (x86 32 bit and 64 bit)
- Windows Server 2008 Standard Edition, SP1 (x86 32 bit and 64 bit)
- Windows Server 2008 Enterprise Edition, SP1 (x86 32 bit and 64 bit)

IBM Tivoli Storage FlashCopy Manager V2.1

Hardware and software requirements are available at

  http://www.ibm.com/support/docview.wss?&uid=swg21395564

IBM General Parallel File System Multiplatform V3.3

For GPFS for Linux Multiplatform:

- GPFS Service update 3.3.0-1 (APAR IZ45231)
- One of the following Linux distributions:
  - Red Hat Enterprise Linux (RHEL) 4 or RHEL 5
  - SUSE Linux Enterprise Server (SLES) 9 Service Pack 3, SLES 10, or SLES 11
- For service information, visit

    http://www14.software.ibm.com/webapp/set2/sas/f/cluster/home.html
- For updated supported kernel levels, consult the FAQs available from the GPFS Library Link from the IBM Cluster Information Center at

    http://publib.boulder.ibm.com/infocenter/clresctr/vxrx/ index.jsp?topic=/com.i

For GPFS for Windows Multiplatform

- Required software from Microsoft includes:
  - Windows Server 2008 (with SP2)
  - Utilities and Software Development Kit (SDK) for SUA
  - Access this software at

      http://www.msdn.microsoft.com
- Required software from InteropSystems includes:
  - SUA Community version of OpenSSH to support administrative functions
  - Access this software at

      http://www.interopsystems.com/community/

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.

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

The following products could be purchased with the System x product offerings:

- IBM System x servers
- IBM BladeCenter servers
- IBM BladeCenter Chassis
- IBM TotalStorage® DS4000 Series
- IBM System x options

System x and BladeCenter server compatibility listings are updated on the Web. For detailed information relative to IBM and non-IBM vendor devices, adapters, software, and network operating systems, visit

http://www.ibm.com/pc/us/compat

Planning information

Software Subscription and Support (also referred to as Software Maintenance) is included with licenses purchased through Passport Advantage and Passport Advantage Express. Product upgrades and technical support are provided by the Software Subscription and Support (Software Maintenance) offering as described in the Agreements. Product upgrades provide the latest versions and releases to entitled software, and technical support provides voice and electronic access to IBM support organizations, worldwide.

IBM includes one year of Software Subscription and Support (also referred to as Software Maintenance) with each program license acquired. The initial period of Software Subscription and Support (Software Maintenance) can be extended by the purchase of a renewal option, if available.

Packaging

For software products in this announcement, physical media and hardcopy documentation is not included in the deliverable package. The software code is delivered only via electronic download.

After receipt of an order, the Business Partner or end customer will be required to register and accept Passport Advantage or Passport Advantage Express terms and conditions. Upon registration, the end customer will be provided with a Web site for the electronic download. The product includes the license and one year of Software Subscription and Support.

Your Proof of Entitlement for this program is a copy of a paid sales receipt, purchase order, invoice, or other sales record from IBM or its authorized reseller from whom you acquired the program, provided that it states the license charge unit (the characteristics of intended use of the program; for example, number of processors, number of users) and quantity acquired. This program, when downloaded from a Web site, contains the applicable IBM license agreement and License Information, if appropriate, and will be presented for acceptance at the time of installation of the program. For future reference, the license and License Information will be stored in a directory such as LICENSE.TXT.

Security, auditability, and control

The Tivoli Storage Manager FastBack V6.1 products use the security and auditability features of the operating system software.

Tivoli Storage FlashCopy Manager V2.1 uses the security and auditability features of the operating system software.

GPFS for Linux Multiplatform V3.3 uses the security and auditability features of the Linux operating system. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate

controls in application systems and communication facilities. 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/

IBM Tivoli Enhanced Value-Based Pricing

IBM Tivoli software products are priced using IBM Tivoli's Enhanced Value-Based Pricing. The Enhanced Value-Based Pricing system is based upon the IBM Tivoli Environment-Managed Licensing Model, which uses a managed-environment approach -- whereby price is determined by what is managed rather than the number and type of product components installed.

For example, all servers monitored with IBM Tivoli's monitoring product (IBM Tivoli Monitoring) require entitlements sufficient for those servers. Other Tivoli products may manage clients, client devices, agents, network nodes, users, or other items, and are licensed and priced accordingly.

Unlike typical systems management licensing models that require entitlements of specific software components to specific systems, the IBM Tivoli Environment-Managed Licensing Model provides the customer flexibility to deploy its IBM Tivoli software products within its environment in a manner that can address and respond to the customer's evolving architecture. That is, as the architecture of a customer's environment changes, the customer's implementation of IBM Tivoli software can be altered, as needed, without affecting the customer's license requirements (as long as the customer does not exceed its entitlements to the software).

Under Enhanced Value-Based Pricing, licensing and pricing of server-oriented applications are determined based upon the server's use in the customer's environment. Typically, such applications are licensed and priced in a manner that corresponds to each installed and activated processor of the server managed by the IBM Tivoli application to help correlate price to value while offering a simple solution.

Where a server is physically partitioned, this approach is modified. This partitioning technique is the approach used with systems that have either multiple cards or multiple frames, each of which can be configured independently. For servers capable of physical partitioning (for example, IBM System p® Scalable POWERparallel Systems® servers, Sun Ultra servers, and HP Superdome servers), an entitlement is required for each processor in the physical partition being managed by the Tivoli application. For example, assume that a server has 24 processors installed in aggregate. If this server is not partitioned, entitlements are required for all 24 processors. If, however, it is physically partitioned into three partitions, each containing eight processors, and Tivoli products were managing only one of the three partitions, then entitlements would be required for the eight processors on the physical partition managed by the IBM Tivoli application.

For servers with virtual or logical partitions, entitlements are required for all installed and activated processors on the server. For each IBM Tivoli application managing

a clustered environment, licensing is based on the cumulative number of installed and activated processors on each server in the cluster. Where the cluster includes physically partitioned servers, the considerations described above concerning physically partitioned servers apply as well.

Enhanced Value-Based Pricing recognizes the convergence of RISC and UNIX®, and Microsoft Windows and Intel technologies, in order to simplify your licensing requirements, and to provide a smoother, more scalable model. Pricing and licensing does not differentiate between non-System z server platforms or operating systems. For some products, this platform neutrality extends to System z® and other host servers as well.

IBM Tivoli Enhanced Value-Based Pricing terminology definitions

Authorized user

An *authorized user* is one and only one individual (named or unnamed) within or outside your enterprise. A Proof of Entitlement (PoE) must be obtained for each individual user accessing the program in any manner. A program licensed under an authorized user PoE may be installed on a single computer or server, and accessed by multiple users, provided that a PoE has been obtained for each individual user accessing the program either directly or indirectly (via a multiplexing program, device, or application server) through any means on behalf of the user.

Note that authorized users have unique specific identity and IDs cannot be shared. An ID can establish one or more connections and count as a single authorized user. Specific information to security products:

Client device or client

A *client device* is a computing device that requests the execution of a set of commands, procedures, or applications from another computer system that is typically referred to as a *server*. Multiple client devices may share access to a common server. A client device generally has some processing capability or is programmable to allow a user to do work. Examples include, but are not limited to, notebook computers, desktop computers, desk side computers, technical workstations, appliances, automated teller machines, point-of-sale terminals, tills and cash registers, and kiosks.

Enterprise

An *enterprise* is a person or single entity and those subsidiaries with more than 50% ownership.

External user

An *external user* is an authorized user who is not part of the enterprise.

Managed processor (charging under full capacity in the managed environment)

Managed processor charges are based on the active processors on the machines in the computing environment affiliated with the program rather than on the server where the program is run. The managed processors that require PoEs are defined in the License Information's program-unique terms.

Notes:

- IBM defines a *physical processor* in a computer as a functional unit that interprets and executes instructions. A physical processor consists of at least an instruction control unit and one or more arithmetic and logic units.
- Multicore technology allows two or more processors (commonly called *cores*) to be active on a single silicon chip. With multicore technology, IBM considers each core to be a physical processor. For example, in a dual-core chip, there are two physical processors residing on the single silicon chip.

- The program may not run on some or all of the processors for which PoEs are required by the program's valuation method.
- In the System z IFL environment, each IFL engine is considered a single physical processor.
- Threading, a technique which makes a single processor seem to perform as two or more, does not affect the count of physical processors.
- Where blade technology is employed, each blade is considered a separate server and charging is based upon the total number of processors on the blades with which the program is affiliated.
- Not all processors require the same number of Value Unit entitlements. To determine the number of Value Unit entitlements required, refer to the processor Value Unit conversion table on the Passport Advantage Web site

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

Server

A *server* is a computer system that executes requested procedures, commands, or applications to one or more user or client devices over a network. A PoE must be obtained for each server on which the program or a component of the program is run or for each server managed by the program. Where blade technology is employed, each blade is considered a separate server.

Partitions

A server's resources (CPU, memory, I/O, interconnects, and buses) may be divided according to the needs of the applications running on the server. This partitioning can be implemented with physical boundaries (*physical partitions*) or logical boundaries (*logical partitions*).

Physical partitions are defined by a collection of processors dedicated to a workload and can be used with systems that have either multiple cards or multiple frames, each of which can be configured independently. In this method, the partitions are divided along hardware boundaries and processors, and the I/O boards, memory, and interconnects are not shared.

Logical partitions are defined by software rather than hardware and allocate a pool of processing resources to a collection of workloads. These partitions, while separated by software boundaries, share hardware components and run in one or more physical partitions.

Standby or backup systems

For programs running or resident on backup machines, IBM defines three types of situations: cold, warm, and hot. In cold and warm situations, a separate entitlement for the copy on the backup machine is normally not required and typically no additional charge applies. In a hot backup situation, the customer needs to acquire other license or entitlements sufficient for that server. All programs running in backup mode must be solely under the customer's control, even if running at another enterprise's location.

As a practice, the following are definitions and allowable actions concerning the copy of the program used for backup purposes.

Cold: A copy of the program may reside, for backup purposes, on a machine as long as the program is not started. There is no additional charge for this copy.

Warm: A copy of the program may reside for backup purposes on a machine and is started, but is idling, and is not doing any work of any kind. There is no additional charge for this copy.

Hot: A copy of the program may reside for backup purposes on a machine, is started, and is doing work. The customer must acquire a license or entitlements for this copy and there will generally be an additional charge.

Doing work includes, for example, production, development, program maintenance, and testing. It also could include other activities such as mirroring of transactions, updating of files, synchronization of programs, data, or other resources (for example, active linking with another machine, program, database, or other resource, and so on), or any activity or configurations that would allow an active hot switch or other synchronized switch over between programs, databases, or other resources to occur.

In the case of a program or system configuration that is designed to support a high availability environment by using various techniques (for example, duplexing, mirroring of files, or transactions, maintaining a heartbeat, active linking with another machine, program, database, or other resource), the program is considered to be doing work in the hot situation and a license or entitlement must be purchased.

Value Units

A Value Unit is a pricing charge metric for program license entitlements, which is based upon the quantity of a specific designated measurement used for a given program. Each program has a designated measurement. The most commonly used designated measurements are processor cores and MSUs. However, for select programs, there are other designated measurements such as servers, users, client devices, and messages. The number of Value Unit entitlements required for your specific implementation of the given program must be obtained from a conversion table associated with the program. You must obtain a PoE for the appropriate number of Value Unit entitlements for your implementation. The Value Unit entitlements of a given program cannot be exchanged, interchanged, or aggregated with Value Unit entitlements of another program. Whenever the designated measurement is a processor core, not all processors require the same number of Value Unit entitlements. To determine the number of Value Unit entitlements required, refer to the processor value unit conversion table on the Passport Advantage Web site

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

Product and licensing Web Sites

A complete list of IBM Tivoli products is available at

http://www.ibm.com/software/tivoli

IBM Tivoli product licensing documents are available at

http://www.ibm.com/software/tivoli/products/licensing.html

Charge metric

Program name	PID number	Charge metric
IBM Tivoli Storage Manager FastBack (electronic)	5641-A01	Per 10 Processor Value Units
IBM Tivoli Storage Manager FastBack for Microsoft Exchange (electronic)	5641-A02	Per 10 Processor Value Units
IBM Tivoli Storage Manager FastBack for Bare Machine Recovery (electronic)	5641-A03	Per 10 Processor Value Units
IBM Tivoli Storage Manager FastBack Center (electronic)	5641-A04	Per Server
IBM Tivoli Storage Manager FastBack for workstations (electronic)	5641-A05	Per 25 Client Devices

```
IBM Tivoli Storage FlashCopy      5641-A06      Per Terabyte 1-12
 Manager (electronic)                           Per Terabyte 13-32
                                                Per Terabyte 33-64
                                                Per Terabyte 65-100
                                                Per Terabyte 101-250
                                                Per Terabyte 251+
                                                Per 250 Terabyte 251+


IBM General Parallel File         5641-A07      Server and
 System (GPFS) Multiplatform                    Client Per 10
 (electronic)                                   Processor
                                                Value Units
```

Tivoli Storage Manager FastBack pricing examples (per Processor Value Unit and per Server based)

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. For more information, refer to the Value Unit definition in the IBM Tivoli Enhanced Value-Based Pricing terminology definitions. To determine the number of Value Unit entitlements required per processor, refer to the Processor Value Unit conversion table on the Passport Advantage Web site

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

Pricing examples

Pricing examples for IBM Tivoli Storage Manager FastBack (per Processor Value Unit and per Server based)

Notes:

- Licensing for IBM Tivoli Storage Manager FastBack is per processor core on protected servers.
- A *protected server* is a server that backs up to or sends data to a Tivoli Storage Manager FastBack server. Protected servers also include any Tivoli Storage Manager FastBack server sending its data to another Tivoli Storage Manager FastBack server.
- Licensing for Tivoli Storage Manager FastBack Center is per protected server. Tivoli Storage Manager FastBack Center can only be used on a server that contains eight or fewer processor cores. If you have a server with more than eight cores, you must acquire one or more of the following: Tivoli Storage Manager FastBack, Tivoli Storage Manager FastBack for Microsoft Exchange, or Tivoli Storage Manager FastBack for Bare Machine Recovery.
- Licensing for Tivoli Storage Manager Fastback for Workstations is per 25 client devices.
- Any Tivoli Storage Manager FastBack server that is backed up by Tivoli Storage Manager (or Tivoli Storage Manager Extended Edition) will require separate entitlements for Tivoli Storage Manager (or Tivoli Storage Manager Extended Edition).
- Separate entitlements for Tivoli Storage Manager (or Tivoli Storage Manager Extended Edition) are not required if the Tivoli Storage Manager FastBack protected servers are restored directly from a Tivoli Storage Manager (or Tivoli Storage Manager Extended Edition) server and those Tivoli Storage Manager FastBack protected servers were backed up initially to a Tivoli Storage Manager FastBack server which was then backed up by Tivoli Storage Manager (or Tivoli Storage Manager Extended Edition). In this situation, only the IBM Tivoli Storage Manager FastBack server that was backed up by Tivoli Storage Manager (or Tivoli Storage Manager Extended Edition) would require Tivoli Storage Manager (or Tivoli Storage Manager Extended Edition) entitlements.

- Tivoli Storage Manager FastBack for Microsoft Exchange is supported only for use with data backed up by Tivoli Storage Manager FastBack or Tivoli Storage Manager for Mail.
- Tivoli Storage Manager FastBack is a prerequisite for Tivoli Storage Manager FastBack for Bare Machine Recovery.

Example 1

The customer has two Tivoli Storage Manager FastBack servers, of which one is backing up three application servers and the other is backing up one application server that is virtualized. Each application server has four processor cores. Each Tivoli Storage Manager FastBack server has eight processor cores.

Systems managed	Quantity in customer environment	Quantity of processor core entitlements
Tivoli Storage Manager FastBack servers (8 processor cores)	2	0
Application server 4 processor cores	3	12
Virtualized application server 4 processor cores (2 logical partitions, 2 processor cores each, 1 of which is protected)	1	2
Total requirements		14

Note: Tivoli Storage Manager FastBack servers that are not protected servers do not require processor core entitlements. This example shows sub-capacity licensing for which a customer needs to agree to the terms of the Sub-capacity Licensing Attachment. Refer to

http://www-01.ibm.com/software/lotus/passportadvantage/ subcaplicensing.html

Example 2

The customer has two Tivoli Storage Manager FastBack servers, each backing up three application servers. Each application server has four processor cores. Each Tivoli Storage Manager FastBack server has eight processor cores. On one of the Tivoli Storage Manager FastBack servers, data is replicated to a Tivoli Storage Manager FastBack disaster recover server at a disaster recovery site.

Systems managed	Quantity in customer environment	Quantity of processor core entitlements
Tivoli Storage Manager FastBack servers (8 processor cores)	2	8
Application server 4 processor cores (2 logical partitions)	3	12
Application server 4 processor cores (2 logical partitions, 1 of which is managed by Tivoli applications)	3	12
Total requirements		32

Note: Tivoli Storage Manager FastBack servers that are not protected servers do not require processor core entitlements.

Example 3

The customer has two Tivoli Storage Manager FastBack servers, each backing up three application servers. In each group of three servers, one is an Microsoft Exchange Server, which requires item-level exchange recovery capability. Each application server has four processor cores. Each Tivoli Storage Manager FastBack server has eight processor cores. On one of the Tivoli Storage Manager FastBack servers, data is replicated to a Tivoli Storage Manager FastBack disaster recovery server at a disaster recovery site.

Systems managed	Quantity in customer environment	Quantity of processor core entitlements required for Tivoli Storage Manager FastBack	Quantity of processor core entitlements required for Tivoli Storage Manager FastBack for Microsoft Exchange
Tivoli Storage Manager FastBack servers (8 processor cores)	2	8	0
Application server 4 processor cores (2 logical partitions)	3	12	4
Application server 4 processor cores (2 logical partitions, 1 of which is managed by Tivoli applications)	3	12	4
Total Tivoli Storage Manager FastBack requirements		32	8

Note: Tivoli Storage Manager FastBack servers that are not protected servers do not require processor core entitlements.

Example 4

The customer has two Tivoli Storage Manager FastBack servers, each backing up three application servers, all of which need bare machine recovery. Each application server has four processor cores. Each Tivoli Storage Manager FastBack server has eight processor cores. On one of the Tivoli Storage Manager FastBack servers, data is replicated to a Tivoli Storage Manager FastBack disaster recovery server at a disaster recovery site.

Systems managed	Quantity in customer environment	Quantity of processor core entitlements required for Tivoli Storage Manager FastBack	Quantity of processor core entitlements required for Tivoli Storage Manager FastBack for Bare Machine Recovery
Tivoli Storage Manager FastBack servers (8 processor cores)	2	8	0

Application server 4 processor cores (2 logical partitions)	3	12	12
Application server 4 processor cores (2 logical partitions, 1 of which is managed by Tivoli applications)	3	12	12
Total Tivoli Storage Manager FastBack requirements		32	24

Note: Tivoli Storage Manager FastBack servers that are not protected servers do not require processor core entitlements.

Example 5

The customer has two Tivoli Storage Manager FastBack servers, each backing up three application servers, all of which are Microsoft Exchange servers that require item-level recovery capability and need bare machine recovery. Because the customer will require Tivoli Storage Manager FastBack, Tivoli Storage Manager FastBack for Microsoft Exchange, and Tivoli Storage Manager FastBack for Bare Machine Recovery that have servers that are eight processors cores or less, they can order Tivoli Storage Manager FastBack Center, which bundles all three products and is licensed on a per server basis. Each Tivoli Storage Manager FastBack server has eight processor cores and all application servers have four processor cores. On one of the Tivoli Storage Manager FastBack servers, data is replicated to a Tivoli Storage Manager FastBack disaster recovery server at a disaster recovery site.

Systems managed	Quantity in customer entitlements environment	Quantity of server required for Tivoli Storage Manager FastBack Center
Tivoli Storage Manager FastBack servers (8 processor cores)	2	1
Application server 4 processor cores (2 logical partitions)	3	3
Application server 4 processor cores (2 logical partitions, 1 of which is managed by Tivoli applications)	3	3
Total Tivoli Storage Manager FastBack requirements		7

Note: Tivoli Storage Manager FastBack Center servers that are not protected servers do not require server entitlements.

Pricing example for IBM Tivoli Storage Manager FastBack for Workstations

The customer has 500 desktops and 1,000 laptops (1,500 client devices) and wants to back up all 1,500 client devices.

The customer must obtain the following client device entitlements of IBM Tivoli Storage Manager FastBack for Workstations for the desktops and laptops.

Systems managed	Quantity in customer environment	Total client device entitlements required
Client devices	1,500	1,500

```
Total client device                              1,500
entitlements                                 (Refer to Note 2)
```

2

    To license IBM Tivoli Storage Manager FastBack for Workstations for 1,500 client devices, the customer must purchase 60 of the 25 client device packs.

Pricing example for IBM Tivoli Storage FlashCopy Manager V2.1

The following example is provided to illustrate your licensing requirements.

Tivoli Storage FlashCopy Manager V2.1

Tivoli Storage FlashCopy Manager performs snapshots at the storage volume level. Entitlement for Tivoli Storage FlashCopy Manager is on a per terabyte (TB) basis. The storage capacity that requires entitlement is the total allocated volume size managed by Tivoli Storage FlashCopy Manager.

Scenario 1

The customer wants to have application data snapshot capability on a 100 TB pool of storage capacity on their Oracle database. Tivoli Storage FlashCopy Manager entitlements are required on the total allocated capacity managed by Tivoli Storage FlashCopy Manager. Therefore, the customer will require the following entitlements for Tivoli Storage FlashCopy Manager.

```
                                Number of TB
         TB tiers           entitlements required

           1-12                      12

          13-32                      20

          33-64                      32

          65-100                     36

         101-250                      0

         251 +                        0

Total entitlements required         100
```

Notes for Scenario 1

In environments where an application replicates production data to create a replica copy, Tivoli Storage FlashCopy Manager entitlement is only required on the capacity of the total allocated volume size managed by Tivoli Storage FlashCopy Manager for the source volumes of the production application data. For example, if the snapshot is taken of the replica data, entitlement is required for the total allocated volume size managed by Tivoli Storage FlashCopy Manager for the allocated volumes of the production application data.

When Tivoli Storage FlashCopy Manager is used in a Tivoli Storage Manager environment and it sends data to a Tivoli Storage Manager server to be managed, you are required to have entitlement for Tivoli Storage Manager or Tivoli Storage Manager Extended Edition for the application server for which Tivoli Storage FlashCopy Manager manages data. In addition, you are required to have entitlement for the appropriate Tivoli Storage Manager application agent (the agent for Microsoft SQL and Oracle is IBM Tivoli Storage Manager for Databases, the agent for Microsoft Exchange is IBM Tivoli Storage Manager for Mail, and the agent for SAP is IBM Tivoli Storage Manager for Enterprise Resource Planning). The Tivoli Storage Manager agent for IBM DB2 is included with DB2, so an additional Tivoli Storage Manager application agent entitlement is not required in that case.

Scenario 2

If the customer in Scenario 1 sends that 100 TB of Oracle database data to a Tivoli Storage Manager server to be backed up, then the customer will need to entitle the server that is running the Oracle database for Tivoli Storage Manager for Databases, which also requires entitlement for Tivoli Storage Manager or Tivoli Storage Manager Extended Edition. The Tivoli Storage Manager server needs to be entitled with either Tivoli Storage Manager or Tivoli Storage Manager Extended Edition.

For Scenario 2, the following entitlements are required in addition to the requirements from Scenario 1. In this example, the Oracle database server and the Tivoli Storage Manager server are both dual quad core servers, with a total of 8 processor cores on each server.

Tivoli Storage Manager environment	Processor core entitlements required
Tivoli Storage Manager for Databases	8
Tivoli Storage Manager or Tivoli Storage Manager Extended Edition	16
Total processor core entitlements required	24

Changes to Tivoli Storage Manager and Tivoli Storage Manager Extended Edition pricing

When Tivoli Storage Manager or Tivoli Storage Manager Extended Edition are used in conjunction with Tivoli Storage FlashCopy Manager, the following licensing requirement changes apply for Tivoli Storage Manager and Tivoli Storage Manager Extended Edition.

For the purpose of offloaded proxy backup of Tivoli Storage FlashCopy Manager managed data to Tivoli Storage Manager or Tivoli Storage Manager Extended Edition, you are entitled to install on a secondary machine, at no additional charge:

• A second copy of Tivoli Storage FlashCopy Manager

• A second copy of Tivoli Storage Manager or Tivoli Storage Manager Extended Edition

• A second copy of the Tivoli Storage Manager application agent (the agent for Microsoft SQL and Oracle is Tivoli Storage Manager for Databases, the agent for Microsoft Exchange is Tivoli Storage Manager for Mail, and the agent for SAP is Tivoli Storage Manager for Enterprise Resource Planning). The secondary machine is intended for offloaded data backup to Tivoli Storage Manager or Tivoli Storage Manager Extended Edition.

Refer to the Tivoli Storage FlashCopy Manager License Information document for applicable terms.

Ordering information

Current licensees

New licensees

Orders for new licenses will be accepted now.

Electronic download ability begins on the planned availability date.

Basic license

New licensees

Orders for new licenses will be accepted now.

Electronic download ability begins on the planned availability date.

Basic license

To order the programs described in this announcement, specify the type model number, order type description, supply feature, and quantity of desired licenses for the appropriate one-time charge (OTC) features listed in the tables below. After receipt of your order, you will be requested to register through Passport Advantage Express to allow for entitlement for support and notification of upgrades. Upon registration completion you will be provided with a Web site for the electronic download. The one-time charge for the product includes the license and one year of Software Subscription and Support.

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Program number and feature description	Supply feature number	OTC billing feature number	SEO number
5641-A01 IBM Tivoli Storage Manager FastBack (electronic)			
Per 10 Processor Value Units			
License and SW S&S 12 Months	5809	0123	68Y9090
Per 250, 10 Processor Value Units			
License and SW S&S 12 Months	5809	0124	68Y9092
5641-A02 IBM Tivoli Storage Manager FastBack for Microsoft Exchange (electronic)			
Per 10 Processor Value Units			
License and SW S&S 12 Months	5809	0125	68Y9094
Per 250, 10 Processor Value Units			
License and SW S&S 12 Months	5809	0126	68Y9096
5641-A03 IBM Tivoli Storage Manager FastBack for Bare Machine Recovery (electronic)			
Per 10 Processor Value Units			
License and SW S&S 12 Months	5809	0127	68Y9098
Per 250,10 Pocessor Value Units			
License and SW S&S 12 Months	5809	0128	68Y9100
5641-A04 IBM Tivoli Storage Manager FastBack Center(electronic)			
Per server			
License and SW S&S 12 Months	5809	0129	68Y9102
Per 250, server			
License and SW S&S 12 Months	5809	0130	68Y9104
5641-A05 IBM Tivoli Storage Manager FastBack for Workstations (electronic)			
Per 25 client devices			
License and SW S&S 12 Months	5809	0131	68Y9106
Per 250, 25 client devices			
License and SW S&S 12 Months	5809	0132	68Y9108

5641-A06 IBM Tivoli Storage FlashCopy Manager

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```
  Per Terabyte (1-12)
    License and SW S&S 12 Months              5809   0133   68Y9110
  Per Terabyte (13-32)
    License and SW S&S 12 Months              5809   0134   68Y9112
  Per Terabyte (33-64)
    License and SW S&S 12 Months              5809   0135   68Y9114
  Per Terabyte (65-100)
    License and SW S&S 12 Months              5809   0136   68Y9116
  Per Terabyte (101-250)
    License and SW S&S 12 Months              5809   0137   68Y9118
  Per Terabyte (251+)
    License and SW S&S 12 Months              5809   0138   68Y9120
  Per 250, Terabyte (251+)
    License and SW S&S 12 Months              5809   0139   68Y9122


5641-A07  IBM General Parallel File System
          Multiplatform (electronic)
  GPFS Server Per 10 Proc Value Units         6005   0142   68Y9124
    with 1 Year SW Subscription and Support
  GPFS Server Per 250 10 Proc Value           6005   0143   68Y9126
    Units with 1 Year SW Subscription
    and Support
  GPFS Client Per 10 Proc Value Units         6004   0140   68Y9128
    with 1 Year SW Subscription and Support
  GPFS Client Per 250 10 Proc Value           6004   0141   68Y9130
    Units with 1 Year SW Subscription
    and Support
```

Customization options

Select the appropriate feature numbers to customize your order with delivery options desired. These features can be specified on the initial or MES orders.

Expedite shipments

```
      Feature        Description

       3445          Expedite
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License Information form number

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http://www.ibm.com/software/sla/sladb.nsf

Limited warranty applies

Yes

Limited warranty

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http://www.ibm.com/support/handbook

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Money-back guarantee

If for any reason you are dissatisfied with the program and you are the original licensee, you may obtain a refund of the amount you paid for it, if within 30 days of your invoice date you return the program and its PoE to the party from whom you obtained it. If you downloaded the program, you may contact the party from whom you acquired it for instructions on how to obtain the refund.

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You may not copy and use this program on another computer without paying additional license fees.

Volume orders (IVO)

No

Passport Advantage applies

Yes, and through the Passport Advantage Web site at

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

Usage restriction

Yes. Usage is limited to the quantity of Processor Value Units, client devices, and terabytes licensed.

For additional information, refer to the License Information document that is available on the IBM Software License Agreement Web site

   http://www.ibm.com/software/sla/sladb.nsf

Software Subscription and Support

Software Subscription and Support applies

Yes. The offerings in this announcement include one year of Software Subscription and Support (Software Maintenance) in the price of the license.

System i Software Maintenance applies

No

Variable charges apply

No

Educational allowance available

Yes. A 15% education allowance applies to qualified education institution customers.

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or

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```
                                      OTC
                                      billing
Program number and                    feature   SEO
feature description                   number    number   OTC

5641-A01 IBM Tivoli Storage Manager FastBack
         (electronic)
 Per 10 Processor Value Units
  License and SW S&S 12 Months         0123     68Y9090
 Per 250, 10 Processor Value Units
  License and SW S&S 12 Months         0124     68Y9092


5641-A02 IBM Tivoli Storage Manager FastBack
         for Microsoft Exchange (electronic)
 Per 10 Processor Value Units
  License and SW S&S 12 Months         0125     68Y9094
 Per 250, 10 Processor Value Units
  License and SW S&S 12 Months         0126     68Y9096


5641-A03 IBM Tivoli Storage Manager FastBack
         for Bare Machine Recovery (electronic)
 Per 10 Processor Value Units
  License and SW S&S 12 Months         0127     68Y9098
 Per 250,10 Pocessor Value Units
  License and SW S&S 12 Months         0128     68Y9100


5641-A04 IBM Tivoli Storage Manager FastBack
         Center (electronic)
 Per server
  License and SW S&S 12 Months         0129     68Y9102
 Per 250, server
  License and SW S&S 12 Months         0130     68Y9104


5641-A05 IBM Tivoli Storage Manager FastBack
         for Workstations (electronic)
 Per 25 client devices
  License and SW S&S 12 Months         0131     68Y9106
 Per 250, 25 client devices
  License and SW S&S 12 Months         0132     68Y9108


5641-A06 IBM Tivoli Storage FlashCopy Manager
 Per Terabyte (1-12)
  License and SW S&S 12 Months         0133     68Y9110
 Per Terabyte (13-32)
  License and SW S&S 12 Months         0134     68Y9112
 Per Terabyte (33-64)
```

```
  License and SW S&S 12 Months            0135    68Y9114
Per Terabyte (65-100)
  License and SW S&S 12 Months            0136    68Y9116
Per Terabyte (101-250)
  License and SW S&S 12 Months            0137    68Y9118
Per Terabyte (251+)
  License and SW S&S 12 Months            0138    68Y9120
Per 250, Terabyte (251+)
  License and SW S&S 12 Months            0139    68Y9122


5641-A07 IBM General Parallel File System
        Multiplatform (electronic)
 GPFS Server Per 10 Proc Value Units      0142    68Y9124
  with 1 Year SW Subscription and
  Support
 GPFS Server Per 250 10 Proc Value        0143    68Y9126
  Units with 1 Year SW Subscription
  and Support
 GPFS Client Per 10 Proc Value Units      0140    68Y9128
  with 1 Year SW Subscription and
  Support
 GPFS Client Per 250 10 Proc Value        0141    68Y9130
  Units with 1 Year SW Subscription
  and Support
```

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