



# IBM Storwize Family Software V7.4.0 enhances the scale and scope of its data protection proficiency

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## At a glance

Are your storage requirements growing too fast? Are the costs of managing this growth taking more and more of your IT budget? IBM® Storwize® Family Software V7.4 can help solve these problems, delivering a more flexible, responsive, and efficient storage environment. IBM Storwize Family Software capabilities are offered across a variety of platforms, including SAN Volume Controller, Storwize V7000 (Unified), Storwize V5000, Storwize V3700, and Storwize V3500. The Storwize Family of products are designed to deliver the benefits of storage virtualization and advanced storage capabilities, including FlashCopy®, replication, Real-time Compression™, and Easy Tier®, in environments from large enterprises to small businesses and midmarket companies.

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

## Overview

IBM Storwize Family Software V7.4 provides software-defined storage capabilities across a variety of platforms, including SAN Volume Controller, Storwize V7000 (Unified), Storwize V5000, Storwize V3700, and Storwize V3500. These offerings help customers reduce the complexities and cost of managing their storage by:

- Centralizing management of storage volumes to enable administrators to manage storage volumes from a single point
- Improving utilization of storage capacity with virtual volumes to enable businesses to tap into previously unused disk capacity
- Avoiding downtime for backups, maintenance, and upgrades
- Performing data migration without disruption to applications
- Enabling all storage devices to be organized into storage pools from which virtual volumes, whether standard, compressed, or thin-provisioned, are created with the desired characteristics
- Delivering automation of storage management with SmartCloud Virtual Storage Center, Tivoli® Storage Productivity Center (as applicable by platform), and Tivoli Storage FlashCopy Manager (as applicable by platform)
- Increasing the performance efficiency of storage pools with Easy Tier
- Restoring data access quickly with near and remote copy capabilities across Fibre Channel, Fibre Channel over Ethernet (FCoE), and IP networks

IBM Storwize Family Software V7.4 improves storage efficiency with the ability to run two instances of the Real-time Compression engine, and with global mirror covering greater replication distances by increasing the round-trip latency tolerance on the SAN.

There are more ways to safeguard your data by introducing protection information checking in line with the SCSI T10 standard data integrity field (DIF), and an option to stop you from deleting volumes with active I/O. Storwize V7000 (with model 2076-524) users now have the ability to encrypt data at rest on native volumes. SMI-S 1.6 support and NIST 800-131a compliance are also available in this release.

Maintaining your Storwize family hardware is easier with a quicker way to replace drives without needing to complete the usual directed maintenance procedure (DMP), and Storwize family software is now compatible with 4 kB block sizes in support of larger disk drives in the market.

IBM Storwize V7000 Unified File Module Software V1.5.1 will also be made available for use with Storwize V7000 V7.4 software.

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## Key prerequisites

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### **Software requirements**

IBM SAN Volume Controller V7.4 (5641-VC7 and 5641-CP7) has the same software prerequisites as IBM SAN Volume Controller V7.3.

IBM Storwize V7000 V7.4 (5339-CB7, 5639-XB7, 5639-EB7, 5639-VM7, 5639-EV7, 5639-RM7, and 5639-CP7) has the same software prerequisites as IBM Storwize V7000 V7.3.

Storwize Family Software V7.4 is not available for IBM Flex System® V7000. IBM Flex System V7000 V7.2 (5639-NZ7, 5639-EX7, 5639-RE7, and 5639-CM7) has the same software prerequisites as IBM Flex System V7000 V7.1.

IBM Storwize V5000 V7.4 (5639-CT7, 5639-XT7, and 5639-ET7) has the same software prerequisites as IBM Storwize V5000 V7.3.

Refer to the [Description](#) section and the announcements listed in the [Reference information](#) section for more information.

### **Hardware requirements**

IBM Storwize Family Software for SAN Volume Controller requires at least one pair of IBM System Storage® SAN Volume Controller (2145-DH8) storage engines with integrated battery backup units, or at least one pair of IBM System Storage SAN Volume Controller (2145-CG8, 2145-CF8, 2145-8A4, or 2145-8G4) storage engines with dual uninterruptible power supplies for installation.

IBM Storwize Family Software for Storwize V7000 requires at least one IBM Storwize V7000 Control Enclosure (2076-524, 2076-112, 2076-124, 2076-312, or 2076-324) for installation.

Storwize Family Software V7.4 is not available for the IBM Flex System V7000. IBM Storwize Family Software for Flex System V7000 V7.2 requires at least one IBM Flex System V7000 (4939-A49, 4939-H49, or 4939-X49) Control Enclosure for installation.

IBM Storwize Family Software for Storwize V5000 requires at least one IBM Storwize V5000 control enclosure (2077-12C, 2077-24C, 2078-12C, or 2078-24C) for installation.

Current support summaries, including specific software, hardware, and firmware levels supported, are maintained at their respective support websites.

- For SAN Volume Controller

- <http://www.ibm.com/storage/support/2145>
- For Storwize V7000  
<http://www.ibm.com/storage/support/storwize/v7000>
- For Storwize V5000  
<http://www.ibm.com/storage/support/storwize/v5000>
- For Storwize V3700  
<http://www.ibm.com/storage/support/storwize/v3700>
- For Storwize V3500  
<http://www.ibm.com/storage/support/storwize/v3500>

For information on Storwize Family of products hardware, refer to the announcements listed in the [Reference information](#) section.

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## Planned availability date

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- November 28, 2014: IBM Storwize Family Software V7.4
- December 12, 2014: IBM Storwize V7000 File Module Software V1.5.1

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## Description

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### Storwize Family Software V7.4

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Storwize Family Software V7.4 delivers software-defined storage capabilities across a variety of platforms, including SAN Volume Controller, Storwize V7000 (Unified), Storwize V5000, Storwize V3700, and Storwize V3500. The following new capabilities are available with V7.4.

#### Real-time Compression running with dual instances

Storwize Family Software V7.4 includes the potential for improvements to Real-time Compression performance by taking better advantage of the hardware resources available in the system by running two instances of the Real-time Compression engine. You must refer to the product documentation for exact prerequisites for taking full advantage of this capability. With this release, the SAN Volume Controller can take advantage of this capability when using the 2145-DH8 hardware engines that have the secondary CPU and 64 GB of memory (with the selection of hardware feature code AH1B) and at least one Compression Acceleration card (with the selection of hardware feature code AH1A). Storwize V7000 can take advantage of this capability only when the control enclosure is a 2076-524 model that has the extra 32 GB of memory added (with the selection of hardware feature code AHCB) and the secondary Compression Acceleration card (with the selection of hardware feature code AHC1), which is in addition to the Compression Acceleration card included in the base 2076-524 configuration. Real-time Compression is still only available for the SAN Volume Controller and Storwize V7000 platforms.

#### Global Mirror increase in round-trip latency and distance between sites

Storwize Family Software V7.4 customers using Global Mirror, also referred to as asynchronous remote mirroring, will benefit from improved resiliency in the SAN and an increased maximum distance between replication sites by increasing the inter-cluster latency tolerance beyond the 80-millisecond round trip for I/O completion between the primary and secondary clusters. The tolerance is now increased to up to 250 milliseconds and the maximum distance between replication sites can be up to 20,000 kilometers.

**Note:** Global Mirror is not available for use on the Storwize V3500.

#### Increase in number of FlashCopy consistency groups

Storwize Family Software V7.4 increases the maximum number of FlashCopy consistency groups from 127 per system to 255.

## **T10 DIF**

Storwize Family Software V7.4 introduces an industry standard extension to the SCSI devices protocol designed to provide an extra level of data integrity. The use of this type two protection information (PI) between the internal RAID layer and SAS-attached drives safeguards each user data block with eight bytes of integrity metadata while the data is being transferred between the Storwize family controller and the PI-formatted disk drives. For more information visit

<http://www.t10.org>

The benefit of including this checking is that the additional eight-byte field contains a cyclic redundancy check and other fields that are designed to prevent common types of errors affecting communication with storage devices across a network. This checking applies when using the SAN Volume Controller 2145-DH8 or Storwize V7000 2076-524 models.

### **Protect volumes on delete**

Even with care taken in data storage environments, administrators can inadvertently delete volumes that are still in use, or worse yet, are supporting an important business application. Storwize Family Software V7.4 helps reduce that risk with a function to protect the volumes from being deleted. When this function is turned on, storage administrators will only be able to remove volumes (or remove volume mappings) for volumes that are idle, meaning that no recent data written to or read from them. The defined idle period is set by the user and can be anywhere from 15 minutes up to 1440 minutes (24 hours). This function is useful as a safeguard against deleting active volumes and avoiding what can become difficult or even unrecoverable scenarios.

### **Encryption for data at rest on Storwize V7000 systems**

Data encryption is a key element of data protection for many enterprises, and Storwize Family Software V7.4 delivers a solution for encryption of data at rest on the Storwize V7000. Storwize V7000 users who have the 2076-524 (Generation 2) model can now protect the data at rest stored on local (SAS-attached) storage arrays. The purchase of hardware feature codes is required, which provides the activation key and four USB keys that enable use of the function.

### **SMI-S 1.6 support and NIST SP 800-131A compliance**

Storwize Family Software V7.4 furthers its commitment to interoperability with multiple vendors of hardware and software with support of the SNIA Storage Management Initiative Standard (SMI-S) 1.6. In continued support of the United States National Institute of Standards and Technology (NIST) cryptographic key management guidance, this release supports Recommendation SP 800-131A, which delivers the use of stronger cryptographic keys and more robust algorithms. Refer to their respective release notes for details.

### **Accessibility by people with disabilities**

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A US 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](http://www.ibm.com/able/product_accessibility/index.html)

### **Section 508 of the US Rehabilitation Act**

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IBM Storwize Family Software V7.4.0, is capable, as of November 28, 2014, 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 US Section 508 Voluntary Product Accessibility Template (VPAT) can be requested on the following website

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## Product positioning

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Customers today face a challenging business environment. There is a need to store more information to make their business more competitive and for IT to be responsive and support initiatives, all while controlling IT costs and limiting the amount of staff required to support IT.

The IBM Storwize Family of storage virtualization systems provides management of storage from entry and midrange up to enterprise disk systems, and enables hosts to attach through SAN, FCoE, or iSCSI to existing Ethernet networks. The Storwize Family is designed to be easy to use, enabling existing staff to start working with it rapidly. The Storwize Family uses virtualization, thin provisioning, and compression technologies to improve storage utilization and meet changing needs quickly and easily. In this way, Storwize Family products are the ideal complement to server virtualization strategies.

The Storwize Family of products also enables migration of data from existing storage systems to new ones, simplifying implementation and minimizing disruption. These are offerings for customers with existing SAN or FCoE networks who seek to reduce the complexities and costs of managing their storage.

The Storwize Family of products are a cross-industry offering for customers who are mainly focused on cost savings while dealing with complexity and increasing storage requirements. These customers also focus on scaling capability with reasonable costs, including disaster recovery functions (Remote Mirroring, FlashCopy, Stretched clusters) and performance features (SSD and Easy Tier).

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## Statement of general direction

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- IBM intends to extend support for encryption on Storwize V7000 to include externally virtualized storage
- IBM intends to implement encryption on the SAN Volume Controller to include externally virtualized storage and SAS attached storage (including flash drives) in the expansion enclosures
- IBM intends to enhance encryption on Storwize V7000 and SAN Volume Controller to include support of the IBM Security Key Lifecycle Manager as an option for managing encryption keys
- IBM intends to extend support for encryption to included file storage on the Storwize V7000 Unified

IBM's statements regarding its plans, directions, and intent are subject to change or withdrawal without notice at IBM's sole discretion. Information regarding potential future products is intended to outline our general product direction and it should not be relied on in making a purchasing decision. The information mentioned regarding potential future products is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. Information about potential future products may not be incorporated into any contract. The development, release, and timing of any future features or functionality described for our products remain at our sole discretion.

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## Reference information

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For more information about Storwize Family Software V7.3, refer to [214-235](#), dated May 06, 2014.

For more information about the IBM 2145-DH8 SAN Volume Controller Storage Engine, refer to [114-077](#), dated May 06, 2014.

For more information about IBM Storwize V7000 2076-524, refer to [114-046](#), dated May 06, 2014.

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## Program number

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Program number	VRM	Program name
5641-VC7	7.4.0	IBM Storwize Family Software for SAN Volume Controller V7
5725-M19	7.4.0	IBM Storwize Family Software for SAN Volume Controller V7 (for Passport Advantage®)
5641-CP7	7.4.0	IBM Storwize Family Software for SAN Volume Controller Real-time Compression Software V7
5725-H04	7.4.0	IBM Storwize Family Software for SAN Volume Controller Real-time Compression Software V7 (for Passport Advantage)
5639-VM7	7.4.0	IBM Storwize Family Software for Storwize v7000
5639-EV7	7.4.0	IBM Storwize Family Software for Storwize v7000 External Virtualization Software
5639-RM7	7.4.0	IBM Storwize Family Software for Storwize v7000 Remote Mirroring Software
5639-CP7	7.4.0	IBM Storwize Family Software for Storwize v7000 Real-time Compression Software
5639-CB7	7.4.0	IBM Storwize Family Software for Storwize v7000 Controller Software
5639-XB7	7.4.0	IBM Storwize Family Software for Storwize v7000 Expansion Software
5639-EB7	7.4.0	IBM Storwize Family Software for Storwize v7000 External Data Virtualization Software
5639-CT7	7.4.0	IBM Storwize Family Software for Storwize v5000 Controller Software
5639-XT7	7.4.0	IBM Storwize Family Software for Storwize v5000 Expansion Software
5639-ET7	7.4.0	IBM Storwize Family Software for Storwize v5000 External Data Virtualization Software
5639-VF1	1.5.1	IBM Storwize v7000 File Module Software V1

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## Product identification number

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### IBM Storwize Family Software for SAN Volume Controller V7

Program PID number	Maintenance 1-year PID number	Maintenance 3-year PID number
5641-VC7	5641-VCA reg	5641-VCC reg
Maintenance 2-year PID number	Maintenance 4-year PID number	Maintenance 5-year PID number
5641-VCB reg	5641-VCD reg	5641-VCE reg

## **IBM Storwize Family Software for SAN Volume Controller Real-time Compression Software V7**

Program PID number	Maintenance 1-year PID number	Maintenance 3-year PID number
5641-CP7	5641-CS1 reg	5641-CS3 reg
Maintenance 2-year PID number	Maintenance 4-year PID number	Maintenance 5-year PID number
5641-CS2 reg	5641-CS4 reg	5641-CS5 reg

## **IBM Storwize Family Software for Storwize V7000 V7**

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
5639-VM7	5639-SM1 reg/ren 5639-SM2 af1	5639-SM3 reg 5639-SM4 renewal 5639-SM5 af1
Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
5639-SM6 reg	5639-SM7 reg	5639-SM8 reg

## **IBM Storwize Family Software for Storwize V7000 External Virtualization Software V7**

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
5639-EV7	5639-EVA reg/ren 5639-EVB af1	5639-EVD reg 5639-EVE renewal 5639-EVF af1
Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
5639-EVC reg	5639-EVG reg	5639-EVH reg

## **IBM Storwize Family Software for Storwize V7000 Remote Mirroring Software V7**

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
5639-RM7	5639-RMA reg/ren 5639-RMB af1	5639-RMD reg 5639-RME ren 5639-RMF af1
Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
5639-RMC reg	5639-RMG reg	5639-RMH reg

## **IBM Storwize Family Software for Storwize V7000 Real-time Compression Software V7**

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
5639-CP7	5639-CS1 reg/ren 5639-CS2 af1	5639-CS3 reg 5639-CS4 renewal 5639-CS5 af1
Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
5639-CS6 reg	5639-CS7 reg	5639-CS8 reg

## **IBM Storwize Family Software for Storwize V7000 Controller Software V7**

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
5639-CB7	5639-CBA reg/ren 5639-CBB afl	5639-CBC reg 5639-CBD renewal 5639-CBE afl
Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
5639-CBF reg	5639-CBG reg	5639-CBH reg

## **IBM Storwize Family Software for Storwize V7000 Expansion Software V7**

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
5639-XB7	5639-XBA reg/ren 5639-XBB afl	5639-XBC reg 5639-XBD renewal 5639-XBE afl
Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
5639-XBF reg	5639-XBG reg	5639-XBH reg

## **IBM Storwize Family Software for Storwize V7000 External Data Virtualization Software V7**

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
5639-EB7	5639-EBA reg/ren 5639-EBB afl	5639-EBC reg 5639-EBD renewal 5639-EBE afl
Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
5639-EBF reg	5639-EBG reg	5639-EBH reg

## **IBM Storwize Family Software for Storwize V5000 Controller Software V7**

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
5639-CT7	5639-CTA reg/ren 5639-CTB afl	5639-CTC reg 5639-CTD renewal 5639-CTE afl
Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
5639-CTF reg	5639-CTG reg	5639-CTH reg

## **IBM Storwize Family Software for Storwize V5000 Expansion Software V7**

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
5639-XT7	5639-XTA reg/ren 5639-XTB afl	5639-XTC reg 5639-XTD renewal 5639-XTE afl
Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
5639-XTF reg	5639-XTG reg	5639-XTH reg

## IBM Storwize Family Software for Storwize V5000 External Data Virtualization Software V7

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
5639-ET7	5639-ETA reg/ren 5639-ETB afl	5639-ETC reg 5639-ETD renewal 5639-ETE afl
Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
5639-ETF reg	5639-ETG reg	5639-ETH reg

## IBM Storwize V7000 File Module Software V1

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
5639-VF1	5639-SF1 reg/ren 5639-SF2 afl	5639-SF3 reg 5639-SF4 renewal 5639-SF5 afl
Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
5639-SF6 reg	5639-SF7 reg	5639-SF8 reg

### Business Partner information

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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=214-450>

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## Education support

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Web lecture courses are available to IBM and Business Partners.

Storage Technical Online Education courses on the IBM Storwize Family Software products are available to IBM and Business Partners on the IBM Systems College (formerly STG SMART Zone) site

- IBM  
<http://lt.be.ibm.com/smartzone/storagetech>
- Business Partners  
<http://www.ibm.com/services/weblectures/dlv/smartzone/storagetech>

Classroom courses are available to IBM, Business Partners, and customers.

For example, this hands-on course is available worldwide to all audiences for SVC:

Course number	Course title
SNV1	SAN volume Controller (SVC) Planning and implementation workshop

For more information and course schedules, visit the IBM training website

[http://www.ibm.com/services/learning/ites.wss/zz/en?pageType=tp\\_search](http://www.ibm.com/services/learning/ites.wss/zz/en?pageType=tp_search)

Search on the course number **SNV1** for lectures and labs.

More information is available at

<http://www.ibm.com/services/learning/>

or

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

IBM Global Services, IT Education Services, supports many IBM offerings. Visit

<http://www.ibm.com/training/us>

For descriptions of courses for IT professionals and managers, visit

<http://www-03.ibm.com/services/learning/training.html>

Questions? Contact 800-IBM-TEACH (426-8322)

For catalogs, schedules, and enrollments visit

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

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## Offering Information

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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>

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## Publications

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No publications are shipped with these programs.

The following publications can be downloaded in PDF format from the websites that follow this list:

Title	Order number
IBM Storwize Family Software for SAN Volume Controller Read First Flyer	GA32-0843
IBM System Storage SAN Volume Controller Model 2145-DH8 Hardware Installation Guide	GC27-3923
IBM System Storage SAN Volume Controller Hardware Maintenance Guide	GC27-2283
IBM System Storage SAN Volume Controller Troubleshooting Guide	GC27-2284
IBM System Storage SAN Volume Controller Software Installation and Configuration Guide	GC27-2286
IBM System Storage SAN Volume Controller and Storwize v7000 Command-Line Interface User's Guide	GC27-2287
IBM System Storage SAN Volume Controller CIM Agent Developer's Guide	SG27-2288
IBM System Storage SAN Volume Controller Safety Notices	GA32-0844
IBM System Storage Multipath Subsystem Device Driver User's Guide	GC52-1309

IBM Storwize V7000 CIM Agent Developer's Guide	GC27-2292-02
IBM Storwize V7000 Read First	GC27-2293-01
IBM Storwize V7000 Quick Installation Guide	GC27-2290-02
IBM Storwize V7000 Troubleshooting, Recovery, and Maintenance Guide	GC27-2291-02
IBM Storwize V7000 Safety Notices	GC27-3924-00
IBM Storwize V5000 Quick Installation Guide	GI13-2861-00
IBM Storwize V5000 Installation Poster	SC27-5923-00
IBM Storwize V5000 Read First Flyer	GI13-2860-00
IBM Systems Safety Notices	G229-9054-06

To view online information and link to a download site, visit IBM Knowledge Center.

- For SAN Volume Controller  
[http://www.ibm.com/support/knowledgecenter/STPVGU/com.ibm.storage.svc.console.640.doc/m lt\\_relatedinfo\\_224agr.html](http://www.ibm.com/support/knowledgecenter/STPVGU/com.ibm.storage.svc.console.640.doc/m lt_relatedinfo_224agr.html)
- For IBM Storwize V7000  
<https://www-01.ibm.com/support/knowledgecenter/ST3FR7/welcome?lang=en>
- For all other Storwize Family products, visit  
<http://www-01.ibm.com/support/knowledgecenter/search/storwize%20family>
- To order additional selected hardcopy publications for a fee or to download free PDF format publications, visit the IBM Publications Center website  
<http://www.ibm.com/shop/publications/order>

To directly download publications in PDF format, visit the IBM product support website.

- For SAN Volume Controller  
<http://www.ibm.com/storage/support/2145>
- For Storwize V7000  
<http://www.ibm.com/storage/support/storwize/v7000>
- For Storwize V5000  
<http://www.ibm.com/storage/support/storwize/v5000>
- For Storwize V3700  
<http://www.ibm.com/storage/support/storwize/v3700>
- For Storwize V3500  
<http://www.ibm.com/storage/support/storwize/v3500>
- Call the Publications Support Group at 800-879-2755, and select option 1.
- Contact your IBM representative.

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## Services

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### Software Services

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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/>

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## Technical information

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### Specified operating environment

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#### **Hardware requirements**

IBM Storwize Family Software for SAN Volume Controller (SVC) requires at least one pair of IBM System Storage SAN Volume Controller 2145-DH8, 2145-CG8, 2145-CF8, 2145-8A4, or 2145-8G4 storage engines with dual uninterruptible power supplies.

As with SVC V5 and later versions, Storwize Family Software for SAN Volume Controller V7 software cannot be loaded or run on SVC hardware engine model 2145-4F2.

IBM Storwize Family Software for Storwize V7000 requires at least one IBM Storwize V7000 Control Enclosure (2076-524, 2076-112, 2076-124, 2076-312, or 2076-324) for installation.

IBM Storwize Family Software for Storwize V5000 requires at least one IBM Storwize V5000 control enclosure (2077-12C, 2077-24C, 2078-12C, or 2078-24C) for installation.

Current support summaries, including specific software, hardware, and firmware levels supported, are maintained at the respective support website.

- For SVC  
<http://www.ibm.com/storage/support/2145>
- For Storwize V7000  
<http://www.ibm.com/storage/support/storwize/v7000>
- For Storwize V5000  
<http://www.ibm.com/storage/support/storwize/v5000>
- For Storwize V3700  
<http://www.ibm.com/storage/support/storwize/v3700>
- <http://www.ibm.com/storage/support/storwize/v3500>

For information on the Storwize Family of products hardware, refer to the announcements listed in the [Reference information](#) section.

#### **Software requirements**

Installation of Storwize Family Software V7.4 can be done directly from systems running Storwize Family Software V7.1.

For current hardware and software interoperability dependencies, and other product environment and configuration information, refer to the respective support website.

- For SVC  
<http://www.ibm.com/storage/support/2145>
- For Storwize V7000  
<http://www.ibm.com/storage/support/storwize/v7000>
- For Storwize V5000  
<http://www.ibm.com/storage/support/storwize/v5000>
- For Storwize V3700  
<http://www.ibm.com/storage/support/storwize/v3700>
- For Storwize V3500  
<http://www.ibm.com/storage/support/storwize/v3500>

IBM includes one year of software maintenance with each program license acquired. The initial period of software maintenance can be extended by the purchase of a renewal option when ordered through Passport Advantage or Passport Advantage Express®.

**Note:** Only Storwize Family Software for SVC can be ordered through Passport Advantage.

When ordering using the program number with feature codes, software maintenance can be extended by selecting the applicable two-, three-, four-, or five-year software maintenance registration program number and features.

There are no software licenses required or available for the IBM Storwize V3500 and IBM Storwize V3700.

For the Storwize Family Software for SVC software only, all Software Maintenance renewals will be managed and invoiced through Passport Advantage.

Refer to the [Description](#) section for new storage system and host environment support added by this release. For all current storage systems and host environments supported, refer to the respective support website.

- For SVC  
<http://www.ibm.com/storage/support/2145>
- For Storwize V7000  
<http://www.ibm.com/storage/support/storwize/v7000>
- For Storwize V5000  
<http://www.ibm.com/storage/support/storwize/v5000>
- For Storwize V3700  
<http://www.ibm.com/storage/support/storwize/v3700>
- For Storwize V3500  
<http://www.ibm.com/storage/support/storwize/v3500>

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.

### **Compatibility**

For further information regarding currently supported environments and operating guidelines, visit the respective support website.

- For SVC  
<http://www.ibm.com/storage/support/2145>

- For Storwize V7000  
<http://www.ibm.com/storage/support/storwize/v7000>
- For Storwize V5000  
<http://www.ibm.com/storage/support/storwize/v5000>
- For Storwize V3700  
<http://www.ibm.com/storage/support/storwize/v3700>
- For Storwize V3500  
<http://www.ibm.com/storage/support/storwize/v3500>

### **Limitations**

This program only operates on specified storage hardware as detailed in the [Hardware requirements](#) section.

For hardware-associated limitations, refer to the announcements listed in the [Reference information](#) section.

For additional information, refer to Usage restriction section in the [Terms and conditions](#) section of this announcement, and to the License Information document that is available on the IBM Software License Agreement website

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

Additional information on configuration limitations and configuration guidelines is further documented in the README file accompanying the Storwize Family Software or in furnished publications for this product available at the support website.

- For SVC  
<http://www.ibm.com/storage/support/2145>
- For Storwize V7000  
<http://www.ibm.com/storage/support/storwize/v7000>
- For Storwize V5000  
<http://www.ibm.com/storage/support/storwize/v5000>
- For Storwize V3700  
<http://www.ibm.com/storage/support/storwize/v3700>
- For Storwize V3500  
<http://www.ibm.com/storage/support/storwize/v3500>

Encryption and other functions in this announcement may be subject to limitations and restrictions for supported configurations, environments, and use. Refer to the V7.4 Configuration Limits and Restrictions document for details.

To view this document, access the IBM Systems Support site at

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

Select the applicable product, for example Storwize V7000, in the **Product Finder** menu.

Enter "7.4 Configuration Limits and Restrictions" in the Search Support field and check the "Search only..." box.

### **Planning information**

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#### **Customer responsibilities**

Planning for, and provision of, the power and environmental support of the required IBM Storwize Family of products, including its storage engines, is a customer responsibility.

Refer to the announcements listed in the [Reference information](#) section.

Planning considerations for IBM Storwize Family Software are listed in the respective product's IBM Knowledge Center, which is available at

<http://www.ibm.com/support/knowledgecenter/search/storwize%20family>

Customers with a 5641-VC7 or 5641-CP7 license are responsible to combine the total terabytes managed for each function from individual SVC License Manager (cluster) reports to ensure they are within the enterprise license entitlement (within that country) for each function.

Customers with enclosure licenses for optional functions, such as Easy Tier and FlashCopy, are responsible to combine the total number of enclosures managed for each function to ensure they are within the enterprise license entitlement (within that country) for each function.

### ***Installability***

Refer to the [Software requirements](#) section.

### ***Packaging***

#### **New order packaging**

License information documents for Storwize Family Software programs ship with the hardware on which these programs are preloaded.

The IBM Agreement for Acquisition of Support and Addendum for Support, Z125-6011, is shipped with each new Storwize Family Software order.

### **SVC**

IBM Storwize Family Software for SVC V7 (5641-VC7, 5641-CP7) is preinstalled on, and shipped with, the required IBM 2145 SVC Storage Engines.

After receipt of an order for Storwize Family Software for SVC 5641-VC7, the Business Partner or end customer will be required to register and accept Passport Advantage or Passport Express terms and conditions. Upon registration, the customer will be authorized for the electronic download of software code updates. The product includes the license and one year of support, with up to four additional years available for purchase with the product.

In addition to the IBM Agreement for Acquisition of Software Maintenance, the following are shipped with each new IBM System Storage SVC order:

- License Information for IBM System Storage SAN Volume Controller V7.4, GI13-2841
- IBM System Storage SAN Volume Controller Read First file, GA32-0843
- License Information for IBM System Storage SAN Volume Controller Storage Replication Adapter for VMware SRM, GA76-0431

### **Storwize V7000**

IBM Storwize Family Software for Storwize V7000 V7, (5639-VM7, 5639-EV7, 5639-RM7, and 5639-CP7) is preinstalled on, and shipped with, the required IBM 2076 Storwize V7000 Disk Systems.

In addition to the IBM Agreement for Acquisition of Software Maintenance, the License Information for IBM System Storage SVC and IBM Storwize V7000 Version 7, GI13-2841, is shipped with each new IBM Storwize V7000 Controller order.

## Storwize V5000

IBM Storwize Family Software for Storwize V5000 (5639-ST7) is preinstalled on, and shipped with, the required IBM 2077 or 2078 IBM Storwize V5000 Disk Systems.

The paid invoice acts as Proof of Entitlement (PoE) for all orders of IBM Storwize Family Software V7. All associated media listed in the [Publications](#) section are also shipped with the new hardware order. One media set per IBM Storwize Family system will be shipped. Refer to the hardware announcements listed in the [Reference information](#) section for correlated hardware order features.

### Subsequent media orders

For additional available publications, refer to the [Publications](#) section.

For assistance in placing orders with or without media features, contact your IBM representative.

Publications are in English. This program, when downloaded from a website, 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

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Storwize Family Software can use an existing LDAP for authentication (for example, interfacing with Microsoft™ Active Directory).

Use of supplementary antivirus software is recommended, but not required. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

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## Ordering information

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### Order handling

The IBM Storwize Family Software for SAN Volume Controller products identified in this announcement (5641-VC7 and 5641-CP7) will be ordered through existing channels using existing configurator and ordering tools. However, the fulfillment processes have been modified to improve customer records management associated with Software Subscription and Support, often referred to as Software Maintenance. Software Subscription and Support will be entitled through Passport Advantage or Passport Advantage Express.

The products 5641-VC7 and 5641-CP7, when selected during the configuration process with each hardware system, will be enabled for the system unit for which the product was ordered. Optionally, software and license only configurations can be created for 5641-VC7 and 5641-CP7 based on existing supported hardware system units in the customer business environment. Offerings in this announcement are available exclusively through electronic download.

### Passport Advantage customer: Media pack entitlement details

A Passport Advantage media pack will not be generated. Read first information, will be available with downloaded code updates from Passport Advantage.

Media pack information can be found on the Passport Advantage website

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

Passport Advantage (PPA) allows greater flexibility to help customers manage their software licenses and Subscription and Support renewals. Customers can now have a common anniversary date for Subscription and Support renewals for all IBM software, under a PPA agreement, including IBM Storage software. The anniversary date, established at the order ship date for the initial product acquisition, will remain unchanged while their Passport Advantage or Passport Advantage Express agreement remains in effect.

To order a basic license, specify the program number and the one-time charge feature number in the quantity desired (maximum quantity of 250).

The program is available via electronic download only.

### Charge metric

Program name	Part number or PID number	Charge metric
IBM Storwize Family Software for SAN Volume Controller v7	5641-VC7	Per terabyte increments
IBM Storwize Family Software for SAN Volume Controller v7 (for Passport Advantage)	5725-M19	Per terabyte increments
IBM Storwize Family Software for SAN Volume Controller Real-time Compression Software v7	5641-CP7	Per terabyte increments
IBM Storwize Family Software for SAN Volume Controller Real-time Compression Software v7 (for Passport Advantage)	5725-H04	Per terabyte increments
IBM Storwize Family Software for Storwize v7000 v7	5639-VM7	Per Storage Device
IBM Storwize Family Software for Storwize v7000 External Virtualization software v7	5639-EV7	Per Storage Device
IBM Storwize Family Software for Storwize v7000 Remote Mirroring software v7	5639-RM7	Per Storage Device
IBM Storwize Family Software for Storwize v7000 Real-time Compression software v7	5639-CP7	Per Storage Device
IBM Storwize Family Software for Storwize v7000 Controller software v7	5639-CB7	Per Storage Device

IBM Storwize Family Software for Storwize V7000 Expansion software v7	5639-XB7	Per Storage Device
IBM Storwize Family Software for Storwize V7000 External data virtualization software v7	5639-EB7	Per Storage Device
IBM Storwize Family Software for Storwize V5000 Controller software v7	5639-CT7	Per Storage Device
IBM Storwize Family Software for Storwize V5000 Expansion software v7	5639-XT7	Per Storage Device
IBM Storwize Family Software for Storwize V5000 External data virtualization software v7	5639-ET7	Per Storage Device
IBM Storwize V7000 File Module Software v1	5639-VF1	Per Storage Device

### **New orders for Storwize Family Software**

For new Storwize Family Software V7 program number orders, first order the appropriate hardware for the initial system or cluster, then order the Storwize Family Software license.

**Note:** Real-time Compression, External Virtualization, Remote Mirroring software product identifiers are optional, and are ordered along with or where there is already a complete Storwize Family system, like the SAN Volume Controller 2145 or the Storwize V7000 2076 hardware, in place with the appropriate required Storwize Family software license for that system.

### **License metric definition**

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For SVC:

#### **Terabyte (T/TB)**

1 TB of managed storage = 2 to the power of 40 bytes = 1,099,511,627,776 bytes, trillion bytes.

For Storwize V7000 and Storwize V5000:

#### **Storage Device**

Storage Device is a unit of measure by which the Program can be licensed. A Storage Device is an independently powered, channel-attached device that stores or controls the storage of data on magnetic disks or solid state drives, such as disk controllers and their respective expansion units, each constituting separate Storage Devices. Licensee must obtain entitlements for every Storage Device which runs, uses services provided by, or otherwise accesses the Program and for every Storage Device on which the Program is installed. Instead of the entitlements required for

the Program directly, Licensee must obtain entitlements for this Program sufficient to cover the Storage Devices managed by the Program.

A storage device is equivalent to an enclosure, the term used most often when describing the Storwize Family Software product licensing and usage.

### **Customers requesting ESD**

Downloading from the electronic software delivery website requires an active Software Maintenance Agreement for each product to be downloaded and registration with the ESS website. Visit

<http://www.ibm.com/servers/eserver/ess>

Website registration requires:

- A valid customer number
- A software order number associated with the customer number

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## **Terms and conditions**

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The information provided in this announcement letter is for reference and convenience purposes only. The terms and conditions that govern any transaction with IBM are contained in the applicable contract documents such as the IBM International Program License Agreement, IBM International Passport Advantage Agreement, and the IBM Agreement for Acquisition of Software Maintenance.

### **Licensing**

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IBM International Program License Agreement including the License Information document and Proof of Entitlement (PoE) govern your use of the program. PoEs are required for all authorized use. Part number products only, offered outside of Passport Advantage, where applicable, are license only and do not include Software Maintenance.

This software license includes Software Subscription and Support (also referred to as Software Maintenance).

### **Agreement for Acquisition of Software Maintenance**

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The IBM Agreement for Acquisition of Software Maintenance (Z125-6011) applies for Subscription and Support (also referred to as Software Maintenance) and does not require customer signatures.

These programs are licensed under the IBM Program License Agreement (IPLA) and the associated Agreement for Acquisition of Software Maintenance, which provide for support with ongoing access to releases and versions of the program. IBM includes one year of Software Subscription and Support (also referred to as Software Maintenance) with the initial license acquisition of each program acquired. The initial period of Software Subscription and Support (also referred to as Software Maintenance) can be extended by the purchase of a renewal option, if available.

The customer is responsible for ensuring they renew their SWMA coverage for all licensed features and capacities before expiration. Restarting SWMA after expiration will incur a higher charge for that renewal.

These programs have a one-time license charge for use of the program and an annual renewable charge for the enhanced support that includes telephone assistance (voice support for defects during normal business hours), as well as access to updates, releases, and versions of the program as long as support is in effect.

## License Information number

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GI13-2841 License Information for:

- 5641-VC7 - IBM Storwize Family SAN Volume Controller Software V7.4
- 5641-CP7 - IBM Storwize Family SAN Volume Controller Compression Software V7.4
- 5639-VM7 - IBM Storwize Family V7000 Software V7.4
- 5639-EV7 - IBM Storwize Family V7000 External Virtualization Software V7.4
- 5639-RM7 - IBM Storwize Family V7000 Remote Mirroring Software V7.4
- 5639-CP7 - IBM Storwize Family V7000 Compression Software V7.4
- 5639-ST7 - IBM Storwize Family V5000 Software V7.4
- 5639-CB7 - IBM Storwize Family V7000 Controller Software V7.4
- 5639-XB7 - IBM Storwize Family V7000 Expansion Software V7.4
- 5639-EB7 - IBM Storwize Family V7000 External Data Virtualization Software V7.4

On or near the planned availability date, the current License Information documents will be available for review on the IBM Software License Agreement website

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

## Limited warranty applies

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Yes

## Limited warranty

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IBM warrants that when the program is used in the specified operating environment, it will conform to its specifications. The warranty applies only to the unmodified portion of the program. IBM does not warrant uninterrupted or error-free operation of the program or that IBM will correct all program defects. You are responsible for the results obtained from the use of the program.

IBM provides you with access to IBM databases containing information on known program defects, defect corrections, restrictions, and bypasses at no additional charge. For further information, consult the IBM Software Support Handbook found at

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

IBM will maintain this information for at least one year after the original licensee acquires the program (warranty period).

## Money-back guarantee

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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.

For clarification, note that (1) for programs acquired under the IBM International Passport Advantage offering, this term applies only to your first acquisition of the program and (2) for programs acquired under any of IBM's On/Off Capacity on Demand (On/Off CoD) software offerings, this term does not apply since these offerings apply to programs already acquired and in use by you.

## Other terms

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### **Volume orders (IVO)**

Yes. Contact your IBM representative.

## IBM International Passport Advantage Agreement

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### **Passport Advantage applies**

Yes, and through the Passport Advantage website at

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

### **Usage restriction**

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Yes

SVC standard software (5641-VC7):

This program (5641-VC7) is licensed on a per-terabyte (with cumulative tiers) capacity basis. (Refer to the [Ordering information](#) section for information on charges for this program.) Users may only install this program on IBM System Storage SAN Volume Controller 2145-DH8, 2145-CG8, 2145-CF8, 2145-8G4, or 2145-8A4 Storage Engines, or subsequent IBM replacements of these.

IBM SAN Volume Controller standard software and its associated features are licensed to the customer (enterprise). Note that a customer who has physical sites in multiple countries may consolidate their licenses only within each country. Check with your sales representative and review all necessary conditions prior to licensing.

A customer's right to use the IBM FlashCopy for SAN Volume Controller and Metro/Global Mirror for SAN Volume Controller features of this program is also limited to the amount of authorizations obtained from IBM. The authorizations for FlashCopy and for Metro/Global Mirror cannot exceed the total capacity authorization for the amount of managed storage on all clusters. Use of FlashCopy features requires license authorizations for only the FlashCopy sources, not the targets.

Use of Metro/Global Mirror features requires license authorizations for both the Metro/Global Mirror source and target capacities in use.

This program is only supported for use with host servers, storage sub-systems, and SAN configurations identified by IBM as being supported for attachment to the IBM System Storage SAN Volume Controller. This program is provided together with code provided under separate license agreements, including, but not limited to, open source license agreements.

### **Storwize V7000**

The following Program Unique Terms apply. This program is licensed for use with the IBM Storwize V7000 system with which the program was delivered, and only to manage the capacity specified in the proof of entitlement document for that license. A separate license is required for each IBM Storwize V7000 storage enclosure. The following paragraph titled "Disabling device" applies to the use of the IBM Storwize V7000 Software components. The term "Program" in these paragraphs shall mean the IBM Storwize V7000 Software components.

**Disabling device:** The Program may include a disabling device that will prevent certain features from being used. You will not tamper with such disabling device or otherwise change the Program.

**Transferability:** The Program 5639-VM7, 5639-CB7, or 5639-XB7 are nontransferable between IBM Storwize V7000 systems and are only to be used on the IBM Storwize V7000 system for which it was purchased. If the system is transferred to a new owner, the program license transfers with the system. However,

Software Maintenance does not transfer, and a new maintenance agreement must be purchased by the new owner.

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

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

### **Storwize V5000**

The following Program Unique Terms apply. This program is licensed for use with the IBM Storwize V5000 with which the program was delivered and only to manage the capacity specified in the proof of entitlement document for that license. A separate license is required for each IBM Storwize V5000 storage enclosure. The following paragraph titled "Disabling device" applies to the use of the IBM Storwize V5000 Software components. The term "Program" in these paragraphs shall mean the IBM Storwize V5000 Software components.

**Disabling device:** The Program may include a disabling device that will prevent certain features from being used. You will not tamper with such disabling device or otherwise change the Program.

**Transferability:** The Programs 5639-ST7, 5639-CT7, or 5639-XT7 are nontransferable between IBM Storwize V5000 systems and are only to be used on the IBM Storwize V5000 system for which it was purchased. If the system is transferred to a new owner, the program license transfers with the system. However, Software Maintenance does not transfer, and a new maintenance agreement must be purchased by the new owner.

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

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

### **Software Subscription and Support applies**

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Yes. Software Subscription and Support (also referred to as Software Maintenance), is now included in the Passport Advantage Agreement. Installation and technical support for the products announced in this announcement is provided by the Software Subscription and Support offering of the IBM International Passport Advantage Agreement. This fee service enhances customer productivity by providing voice or electronic access into the IBM support organizations.

IBM includes one year of Software Subscription and Support with the initial license acquisition of each program acquired. The initial period of Software Subscription and Support can be extended by the purchase of a renewal option.

While your Software Subscription and Support is in effect, IBM provides you assistance for your routine, short duration installation and usage (how-to) questions, and code-related questions. IBM provides assistance via telephone and, if available, electronic access, only to your information systems (IS) technical support personnel during the normal business hours (published prime shift hours) of your IBM support center. (This assistance is not available to your end users.) IBM provides Severity 1 assistance 24 hours a day, every day of the year. For additional details, consult your IBM Software Support Handbook at

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

Software Subscription and Support does not include assistance for the design and development of applications, your use of programs in other than their specified operating environment, or failures caused by products for which IBM is not responsible under this agreement.

For additional information about the Passport Advantage Agreement, visit the Passport Advantage website at

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

All distributed software licenses include Software Subscription and Support for a period of 12 months from the date of acquisition, providing a streamlined way to acquire IBM software and assure technical support coverage for all licenses. Extending coverage, for a total of three years from date of acquisition, may be elected.

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**Variable charges apply**

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No

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**Educational allowance available**

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

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**Statement of good security practices**

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IT system security involves protecting systems and information through prevention, detection, and response to improper access from within and outside your enterprise. Improper access can result in information being altered, destroyed, or misappropriated or can result in misuse of your systems to attack others. Without a comprehensive approach to security, no IT system or product should be considered completely secure and no single product or security measure can be completely effective in preventing improper access. IBM systems and products are designed to be part of a comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products, or services to be most effective. IBM does not warrant that systems and products are immune from the malicious or illegal conduct of any party.

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**Prices**

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**SVC Passport Advantage**

For Passport Advantage information and charges, contact your IBM representative or authorized IBM Business Partner.

Additional information is also available on the following Passport Advantage website

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

**Passport Advantage**

For Passport Advantage information and charges, contact your IBM representative or authorized IBM Business Partner for Software Value Plus. Additional information is also available at

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

Information on charges is available at

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

Choose the option entitled Purchase/upgrade tools.

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**IBM Global Financing**

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IBM Global Financing offers competitive financing to credit-qualified customers to assist them in acquiring IT solutions. Offerings include financing for IT acquisition, including hardware, software, and services, from both IBM and other manufacturers or vendors. Offerings (for all customer segments: small, medium, and large

enterprise), rates, terms, and availability can vary by country. Contact your local IBM Global Financing organization or visit

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

IBM Global Financing offerings are provided through IBM Credit LLC in the United States, and other IBM subsidiaries and divisions worldwide to qualified commercial and government customers. Rates are based on a customer's credit rating, financing terms, offering type, equipment type, and options, and may vary by country. Other restrictions may apply. Rates and offerings are subject to change, extension, or withdrawal without notice.

Financing from IBM Global Financing helps you preserve cash and credit lines, enables more technology acquisition within current budget limits, permits accelerated implementation of economically attractive new technologies, offers payment and term flexibility, and can help match project costs to projected benefits. Financing is available worldwide for credit-qualified customers.

For more financing information, visit

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

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## Order now

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To order, contact the Americas Call Centers or your local IBM representative, or your IBM Business Partner.

To identify your local IBM representative or IBM Business Partner, call 800-IBM-4YOU (426-4968).

Phone: 800-IBM-CALL (426-2255)  
Fax: 800-2IBM-FAX (242-6329)  
Email: [callserv@ca.ibm.com](mailto:callserv@ca.ibm.com)  
Mail: IBM Teleweb Customer Support  
ibm.com® Sales Execution Center, Americas North  
3500 Steeles Ave. East, Tower 3/4  
Markham, Ontario  
Canada  
L3R 2Z1

Reference: YE001

The Americas Call Centers, our national direct marketing organization, can add your name to the mailing list for catalogs of IBM products.

**Note:** Shipments will begin after the planned availability date.

### **IBM Software Value Plus**

These products are available under IBM Software Value Plus, either directly from IBM or through authorized Business Partners who invest in skills and high-value solutions. IBM customers may benefit from the industry-specific or horizontal solutions, skills, and expertise provided by these Business Partners.

Additions to Software Value Plus will be communicated through standard product announcements. For a current list of IBM software available under Software Value Plus, visit

[http://www.ibm.com/partnerworld/page/svp\\_authorized\\_portfolio\\_criteria](http://www.ibm.com/partnerworld/page/svp_authorized_portfolio_criteria)

For questions regarding Software Value Plus, visit

[http://www.ibm.com/partnerworld/page/svp\\_authorized\\_portfolio\\_contacts](http://www.ibm.com/partnerworld/page/svp_authorized_portfolio_contacts)

### **Trademarks**

Real-time Compression is a trademark of IBM Corporation in the United States, other countries, or both.

IBM, Storwize, FlashCopy, Easy Tier, Tivoli, IBM Flex System, System Storage, Passport Advantage, PartnerWorld, Express and ibm.com are registered trademarks of IBM Corporation in the United States, other countries, or both.

Microsoft is a trademark of Microsoft Corporation in the United States, other countries, or both.

Other company, product, and service names may be trademarks or service marks of others.

***Terms of use***

IBM products and services which are announced and available in your country can be ordered under the applicable standard agreements, terms, conditions, and prices in effect at the time. IBM reserves the right to modify or withdraw this announcement at any time without notice. This announcement is provided for your information only. Additional terms of use are located at:

<http://www.ibm.com/legal/us/en/>

For the most current information regarding IBM products, consult your IBM representative or reseller, or visit the IBM worldwide contacts page

<http://www.ibm.com/planetwide/us/>