



# IBM Flex System V7000 Software V6.4 delivers integrated, innovative storage for IBM PureSystems - AAS

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## At a glance

Each IBM Flex System™ V7000 Storage Node operates using IBM Flex System V7000 Software V6.4 and is designed to use IBM® System Storage® SAN Volume Controller (SVC) technology to deliver high performance, advanced function, high availability, and modular and scalable storage capacity:

- Support for SAN-attached 8 Gbps Fibre Channel (FC), 10 Gigabit Ethernet (GbE) Fibre Channel over Ethernet (FCoE) and iSCSI host connectivity
- RAID 0, 1, 5, 6, and 10 support
- Accommodates up to twenty-four 2.5-inch disk drives installed within the IBM Flex System V7000 Control Enclosure with additional attachment support for up to nine Expansion Enclosures using either IBM Flex System V7000 Expansion Enclosures (max 2), IBM Storwize® V7000 Expansion Enclosures (max 9), or a combination of both, providing modular and highly scalable storage solutions that range up to 240 TB physical storage capacity, and 960 TB physical storage capacity in a clustered system
- Supports intermixing of SAS drives, Nearline SAS drives, and solid state drives (SSDs) within IBM Flex System V7000 Control Enclosures and IBM Flex System V7000 Expansion Enclosures
- Includes IBM Easy Tier® technology for automatically moving heavily used data extents onto high-performance SSD storage
- Supports IBM Real-Time Compression technology for high efficiency data storage
- Supports attachment of other storage devices via the FC interface or FCoE interface using External Virtualization
- Supports a complete set of Storwize V7000 functions, including FlashCopy® , Remote Copying, Volume Mirroring (local via FC or FCoE host protocols & long distance via FC host protocols), External Virtualization, compression, Easy Tier , and thin provisioning

For further information about IBM Flex System V7000 hardware, refer to IBM Flex System V7000 Hardware Announcement [112-093](#), dated November 13, 2012 .

In addition to the base IBM Flex System V7000 Software V6.4, the following licensed products are also available:

- IBM Flex System V7000 Remote Mirroring Software (5639-RE1) to license the use of remote copy

- IBM Flex System V7000 External Virtualization Software (5639-EX1) to license the use of IBM Flex System V7000 virtualization capabilities (like SAN Volume Controller) for external storage devices
- IBM Flex System V7000 Real-time Compression™ Software (5639-CM1) to license the use of compression

Refer to the [Description](#) section for further details.

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

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## Overview

IBM Flex System V7000 Storage Node is an integrated storage system for IBM PureFlex™ System and IBM Flex System, designed to deliver high performance, advanced function, high availability, and modular and scalable storage capacity.

IBM PureFlex System and IBM Flex System represent a new category of computing that integrates multiple server architectures, networking, storage, and system management capability into a single system that is easy to deploy and manage. IBM PureFlex System and IBM Flex System have built-in virtualization support of servers, storage, and networking to speed provisioning and increase resiliency. In addition, it supports multiple open industry standards, operating systems, networking and storage fabrics, virtualization, and system management protocols, to easily fit within existing and future datacenter environments. IBM PureFlex System and IBM Flex System are scalable and extendable with multigeneration upgrades to protect and maximize IT investments.

The new IBM Flex System V7000 Storage Node is a powerful block storage system designed to integrate into the IBM PureFlex System or IBM Flex System infrastructure, enabling extremely rapid storage deployment and breakthrough management simplicity. By enabling virtualization, consolidation, and tiering in business of all sizes, it is designed to improve application availability and resource utilization. Flex System V7000 offers easy-to-use, efficient, and cost-effective management capabilities for both new and existing storage resources in your IT infrastructure. This new class of storage system combines no compromise design along with virtualization, efficiency, and performance capabilities.

IBM Flex System V7000 Storage Node is built on the industry-leading storage virtualization and efficiency capabilities of IBM Storwize V7000, including

- IBM System Storage Easy Tier for automated SSD optimization
- IBM Real-Time Compression for data footprint reduction

While also being physically and logically integrated into IBM PureFlex System or IBM Flex System.

IBM Flex System V7000 helps simplify and speed IBM PureFlex System and IBM Flex System deployment, providing superior integration of server and storage management to automate and streamline provisioning for greater responsiveness to business needs and lower overall cost.

Speed time to value with:

- Integration by design: Deployment is automated with integration into IBM PureFlex System or IBM Flex System infrastructure in minutes instead of weeks.
- Simplified experience: Management is simplified with an integrated, intuitive user interface for ease of use and faster system accessibility, increasing administrative efficiency and simplicity.
- Built-in expertise:
  - Virtualized storage: virtualizes third-party storage for investment protection and nondisruptive migration of the current storage infrastructure.

- Helps optimize performance and costs for mixed workloads: up to 200% higher performance than with HDD alone by optimizing SSD usage with Easy Tier .

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## Key prerequisites

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This program requires at least one IBM Flex System V7000 (4939-A49) Control Enclosure for installation. IBM Flex System V7000 V6.4 software (5639-NZ1, 5639-EX1, 5639-RE1, and 5639-CM1) is preinstalled on and shipped on the required IBM 4939-A49 IBM Flex System V7000 Control Enclosure.

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## Planned availability date

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December 10, 2012

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## Description

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### **IBM Flex System V7000 Base Software (5639-NZ1)**

Each IBM Flex System V7000 (4939-A49) Control Enclosure and each IBM Flex System V7000 Disk Expansion Enclosure (4939-A29) uses the IBM Flex System V7000 Base Software, 5639-NZ1. A quantity of one 5639-NZ1 IBM Flex System V7000 Base Software license is required for each enclosure, whether control or expansion enclosure. For example, a IBM Flex System V7000 order consisting of one control enclosure and two IBM Flex System V7000 Disk Expansion enclosures requires three IBM Flex System V7000 Base Software licenses, 5639-NZ1, one license for each enclosure.

Flex System V7000 Base Software includes the following features and capabilities:

- Simplified management with an intuitive GUI to aid rapid implementation and deployment.
- Easy Tier technology for increased storage performance.
- FlashCopy and snapshot functions help to support the creation of instant copies of data to help avoid data loss and improve space utilization.
- Thin provisioning to help capacity planning.
- Dynamic migration to help speed data migrations from weeks or months to days, eliminating the cost of add-on migration tools and providing continuous availability of applications by eliminating downtime.
- Nondisruptive volume moves across clustered systems - Data mobility has been enhanced with greater flexibility for nondisruptive volume moves. Flex System V7000 provides the ability to move volumes nondisruptively between the dual controllers within one enclosure. Flex System V7000 supports moving volumes anywhere within a clustered system without disruption of host access to storage.
- Four way clustering of Flex System V7000 control enclosures - IBM Flex System V7000 provides increased scalability and performance with four-way clustered systems. Flex System V7000 supports clustered systems with up to four control enclosures, essentially quadrupling the maximum capacity and performance of a single Flex System V7000 system.

### **IBM Storwize V7000 Base Software (5639-VM1) for use with Storwize V7000 External Expansion Enclosures**

When Storwize V7000 Expansion Enclosures are used as external expansions enclosures with the Flex System V7000 Control Enclosure (4939-A49), each IBM Storwize V7000 Disk Expansion Enclosure (2076-212/224) must have the IBM Storwize V7000 Base Software license, 5639-VM1. A quantity of one 5639-VM1 IBM Storwize V7000 Base Software license is required for each Storwize V7000 Expansion Enclosure. For example, a IBM Flex System V7000 configuration comprised of one Flex System V7000 Control Enclosure (4939-A49), one Flex

System V7000 Disk Expansion Enclosure (4939-A29), and three Storwize V7000 expansion enclosures (2076-212/224) requires three IBM Storwize V7000 Base Software licenses, 5639-VM1, one for each enclosure, and two IBM Flex System V7000 Base Software licenses, 5639-NZ1, one for each enclosure.

### **IBM Flex System V7000 External Virtualization Software (5639-EX1)**

Each IBM Flex System V7000 (4939-A49) Disk Control Enclosure has the ability to attach and manage external storage devices on the SAN in the same way as the SAN Volume Controller. To authorize use of this function, you must license the IBM Flex System V7000 External Virtualization Software, 5639-EX1. You will need to license the number of storage enclosures attached externally to the IBM Flex System V7000. IBM Flex System V7000 (4939-A49) Control Enclosures and IBM Flex System V7000 Expansion Enclosures (4939-A29) do not need to be included in this External Virtualization license, however any IBM Flex System V7000 Control Enclosures or Expansion Enclosures which are SAN-attached and virtualized must be included in this license.

A storage enclosure externally managed by IBM Flex System V7000 is defined as an independently powered, channel-attached device that stores data on magnetic disks or SSDs, such as disk controllers and their respective expansion units, each constituting separate enclosures. Therefore, an enclosure can be either the main controller housing disk (or SSD) drives or the expansion chassis that house additional disk (or SSD) drives for the purpose of expanding the total capacity of the storage system. If there is any confusion for an external storage enclosure that does not conform to this definition, consult your IBM sales representative for an equivalent measure based on a disk drive count.

For example, adding a DS5020 consisting of three enclosures to an IBM Flex System V7000 consisting of one control enclosure and one expansion enclosure, you will need license for three enclosures (one for each of the DS5020 enclosures) of the IBM Flex System V7000 External Virtualization Software, 5639-EX1.

### **IBM Flex System V7000 Remote Mirroring Software (5639-RE1)**

Global (long distance greater than 300 Km) mirroring is only supported over Fibre Channel SAN infrastructure. Local Mirroring (less than 300 Km) is supported over either Fibre Channel(FC) or Fibre Channel Over Ethernet (FCoE) SAN infrastructure. Mirroring over iSCSI fabric is not supported at this time. Consult System Storage Interoperability Center for supported configurations.

To authorize use of Remote Copy capabilities of the IBM Flex System V7000 where the primary and secondary systems have the same number of enclosures at each site, you must purchase a license for IBM Flex System V7000 Remote Mirroring Software (5639-RE1) with the quantity of licenses that matches the number of licensed enclosures managed by the IBM Flex System V7000 Disk System, including each internal enclosure licensed with the IBM Flex System V7000 Base Software (5639-NZ1), each attached Storwize V7000 expansion enclosure with the Storwize V7000 Base Software (5639-VM1), and each external enclosure licensed with the IBM Flex System V7000 External Virtualization Software (5639-EX1).

For example, if your primary system has a DS5020 consisting of three enclosures managed by a IBM Flex System V7000 consisting of one control enclosure and one expansion enclosure, and you have the same total count of enclosures at the secondary system, then in order to authorize remote mirroring for the primary system, you will need to license the IBM Flex System V7000 Remote Mirroring Software, 5639-RE1, with a quantity of five enclosures. Assuming the matching secondary system is also a IBM Flex System V7000, you will need an additional five enclosure licenses of 5639-RE1 for the secondary system, for a total of 10 enclosure licenses.

For primary and secondary systems with differing numbers of enclosures using Remote Mirroring, the number of 5639-RE1 licenses needed for each system is the number of enclosures on the smaller of the two systems (see scenarios 1 and 2 below).

When multiple production systems replicate to a single disaster recovery system, the number of 5639-RE1 licenses at the disaster recover system must equal the sum of the 5639-RE1 licenses at the production systems (see scenario 3 below).

The following are examples of how to license Remote Mirroring Software (5639-RE1) under these licensing rules:

*Scenario 1:* The primary system is a three-enclosure Flex System V7000 with nothing externally virtualized, therefore it has three 5639-NZ1 licenses. The secondary system is a two-enclosure Flex System V7000 with nothing externally virtualized, therefore it has two 5639-NZ1 licenses. The Flex System V7000 Remote Mirroring licensing would be as follows: two 5639-RE1 licenses for the primary system plus two 5639-RE1 licenses for the secondary system, for a total of four 5639-RE1 licenses required.

*Scenario 2:* The primary system is a one-enclosure Flex System V7000 managing a DS5020 consisting of three enclosures, therefore it has one 5639-NZ1 license plus three 5639-EX1 licenses. The secondary system is a three-enclosure Flex System V7000 with nothing externally virtualized, therefore it has three 5639-NZ1 licenses. The Flex System V7000 Remote Mirroring licensing would be as follows: three 5639-RE1 licenses for the primary system plus three 5639-RE1 licenses for the secondary system, for a total of six 5639-RE1 licenses required.

*Scenario 3:* There are three primary systems replicating to a central disaster recovery system. The three primary systems are as follows:

- A two-enclosure Flex System V7000 with nothing externally virtualized, therefore it has two 5639-NZ1 licenses
- A one-enclosure Flex System V7000 managing a DS5020 consisting of three enclosures, therefore it has one 5639-NZ1 license plus three 5639-EX1 licenses
- A one-enclosure Flex System V7000 with nothing externally virtualized, therefore it has one 5639-NZ1 license

The central disaster recovery system is a nine-enclosure Flex System V7000 with nothing externally virtualized, therefore it has nine 5639-NZ1 licenses. The Flex System V7000 Remote Mirroring licensing would be as follows: a sum of seven 5639-RE1 licenses for the primary systems plus seven 5639-RE1 licenses for the central disaster recovery system, for a total of fourteen 5639-RE1 licenses required.

**Global Mirror with Change Volumes** Customers who wish to use the global mirror capability with Flex System V7000 can do so on a low bandwidth link between sites. This provides options to help administrators balance network bandwidth requirements and RPO times for applications, helping to reduce operation costs for disaster recovery solutions. Remote mirroring supports higher RPO times by allowing the data at the disaster recovery site to get further out of sync with the production site if the communication link limits replication, and then approaches synchronicity again when the link is not as busy. This low bandwidth remote mirroring uses space-efficient FlashCopy targets as sources in remote copy relationships to increase the time allowed to complete a remote copy data cycle.

**Remote mirroring between Flex System V7000, SVC and Storwize V7000:**

Customers have greater flexibility in their expanding environments using Flex System V7000, Storwize V7000, and SVC with the ability now to remote mirror from one system to the other. With the wide variety of storage systems that can be managed under any of these systems, the options available for replicating data between a number of storage systems is multiplied. Remote deployments for disaster recovery for current SVC and Storwize V7000 environments can easily be fitted with the Flex System V7000 or vice versa.

This function does not affect how Metro/Global Mirror on the SVC or Remote Mirroring on the Flex System V7000 or Storwize V7000 is licensed. You must still license usage for volumes replicated at the source and the target. Because of a difference in metrics, SVC mirroring can be licensed for a subset of the total storage virtualized, and the Flex System V7000 and Storwize V7000 mirroring can be

licensed interchangeably for the systems involved in the mirroring relationships applying their respective remote mirroring licensing rules between systems.

The remote mirroring license that the customer should acquire for use with a given system in a remote copy relationship should correspond to the remote mirroring license created for that system, whether that be the SAN Volume Controller Metro/Global Mirror license, Storwize V7000 Remote Mirroring license, or the Flex System V7000 Remote Mirroring license.

For example, there are three primary systems replicating to a central disaster recovery system. The three primary systems are as follows:

- A two-enclosure Flex System V7000 with nothing externally virtualized, therefore it has two 5639-NZ1 licenses
- A one-enclosure Flex System V7000 managing a DS5020 consisting of three enclosures, therefore it has one 5639-NZ1 license plus three 5639-EX1 licenses
- A one-enclosure Storwize V7000 with nothing externally virtualized, therefore it has one 5639-VM1 license ( Storwize V7000 Base license).

The central disaster recovery system is a nine-enclosure Storwize V7000 with nothing externally virtualized, therefore it has nine 5639-VM1 licenses. The Flex System V7000 Remote Mirroring licensing would be as follows: a sum of six 5639-RE1 licenses and one 5639-RM1 license ( Storwize V7000 Remote Mirroring) for the primary systems plus seven 5639-RM1 licenses for the central disaster recovery system, for a total of six 5639-RE1 licenses and eight 5639-RM1 licenses required.

### **IBM Flex System V7000 Real-time Compression Software (5639-CM1)**

IBM Flex System V7000 is designed to improve storage efficiency by supporting real-time compression for block storage. This improves efficiency by compressing data by as much as 80%, and enables storage of up to five times as much data in the same physical disk space. Unlike other approaches to compression, IBM Real-time Compression is designed to be used with active primary data such as production databases and email systems, dramatically expanding the range of candidate data that can benefit from compression. IBM Real-time Compression operates as data is written to disk to eliminate wasted space storing uncompressed data awaiting post-processing.

To authorize use of Real-time Compression capabilities of the IBM Flex System V7000, you must purchase a license for IBM Flex System V7000 Real-time Compression (5639-CM1) with the quantity of authorization features that match the number of licensed enclosures managed by the IBM Flex System V7000 Disk System, including each internal enclosure licensed with the IBM Flex System V7000 Base Software (5639-NZ1), each attached Storwize V7000 Expansion enclosure licensed with the Storwize V7000 Base Software (5639-VM1), and each external enclosure licensed with the IBM Flex System V7000 External Virtualization Software (5639-EX1).

For example, if you have IBM Flex System V7000 consisting of one control enclosure and one expansion enclosure (two 5639-NZ1 licenses), three Storwize V7000 Expansion enclosures (three 5639-VM1 licenses) managing a DS5020 consisting of four enclosures (four 5639-EX1 licenses), in order to authorize Real-time Compression for this configuration you will need a license for the IBM Flex System V7000 Real-time Compression (5639-CM1) with a quantity of nine enclosure licenses.

### **Clustered systems**

IBM Flex System V7000 allows clustered systems with up to four Flex System V7000 Control Enclosures. Each Control Enclosure in a clustered system has the advantage of processing unique host system I/O workloads while configuration and management of the storage is performed at the system level. This provides up to four times the capacity and four times the throughput to support business growth, and it enables more consolidation, including external virtualized storage, for greater efficiency. Flex System V7000 clustered systems can only be created with like Flex System V7000 Control Enclosures. A Flex System V7000 Control Enclosure cannot

be clustered with a Storwize V7000 Control Enclosure (machine type 2076), nor can it be clustered with SAN Volume Controller Storage Hardware Engines (machine type 2145).

### **Auto renewal registration of software maintenance for Storwize Flex System software (Feature number 9000)**

Software maintenance renewals in the AAS ordering system for Flex System V7000 software are available via a services contract. Selecting feature number 9000 with the software maintenance registration ordered with the Flex System V7000 software indicates the desire to continue software maintenance on a services contract at the end of the initial software maintenance term. Feature number 9000 is available on:

5639-CMA Flex Sys V7000 Real-time Compression Software-1 Yr R/R  
5639-CMC Flex Sys V7000 Real-time Compression Software-3 Yr Reg  
5639-CMF Flex Sys V7000 Real-time Compression Software-2 Yr Reg

5639-EXA Flex V7000 External Virtualization-1 Yr R/R  
5639-EXC Flex V7000 External Virtualization-3 Yr Reg  
5639-EXF Flex V7000-External Virtualization-2 Yr Reg

5639-REA Flex V7000 Remote Mirroring-1 Yr R/R  
5639-REC Flex V7000 Remote Mirroring-3 Yr Reg  
5639-REF Flex V7000-Remote Mirroring-2 Yr Reg

5639-ZZA IBM Flex Sys V7000 Base Software-1 Yr R/R  
5639-ZZC IBM Flex Sys V7000 Base Software-3 Yr Reg  
5639-ZZF IBM Flex Sys V7000 Base Software-2 Yr Reg

**Note:** Auto renewal services are not available in all countries or for all initial software maintenance contract terms.

### **45-Day migration allowance**

With the benefit of external virtualization, the Flex System V7000 allows customers to bring a system into their storage environment to quickly and easily migrate data from existing storage systems to the Flex System V7000. In order to facilitate this migration, IBM allows customers 45 days from the date of purchase of the Flex System V7000 system to use the external virtualization function for the purpose of migrating data from an existing storage system to the Flex System V7000 system. Any use thereafter, and ongoing use of the external virtualization function of Flex System V7000, requires the purchase of a Flex System V7000 External Virtualization license at a quantity equal to the capacity managed under the Flex System V7000 system. Migrations performed at later points in time that are to completely replace other storage systems with the Flex System V7000, thereby requiring temporary virtualization of that external storage system to perform that replacement activity, are granted a 45-day period for use of external virtualization without having to purchase a license to complete such a migration effort. Customers must make their sales representative aware of their intent and when they will be starting this migration so that an end date can be tracked. It is the customer's responsibility to ensure that they are properly licensed for all external storage managed by Flex System V7000 after those 45 days.

### **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 Flex System V7000 Software V6.4 is capable, as of December 10, 2012, when used in accordance with IBM's associated 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

[http://www-03.ibm.com/able/product\\_accessibility/index.html](http://www-03.ibm.com/able/product_accessibility/index.html)

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## Product positioning

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The IBM Flex System V7000 is a midrange disk system that is targeted to meet the storage and storage virtualization needs of midmarket and large-enterprise customers.

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## Reference information

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For information on IBM Flex System V7000 hardware machine type 4939, refer to IBM Flex System V7000 Hardware Announcement [112-093](#), dated November 13, 2012 .

For information on Storwize V7000 hardware machine type 2076, refer to Hardware Announcement [111-085](#), dated May 09, 2011 , and Hardware Announcement [110-220](#), dated October 07, 2010 .

For information on IBM Storwize V7000 Software, refer to Storwize V7000 (V6.4) Software Announcement [212-180](#), dated June 04, 2012 .

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## Program number

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Program number	VRM	Program name
5639-NZ1	6.4.1	IBM Flex System V7000 Base Software
5639-RE1	6.4.1	IBM Flex System V7000 Remote Mirroring Software
5639-EX1	6.4.1	IBM Flex System V7000 External Virtualization Software
5639-CM1	6.4.1	IBM Flex System V7000 Real-time Compression Software

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## Product identification number

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IBM Flex System V7000 Base Software

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
5639-NZ1	5639-ZZA reg/ren 5639-ZZB afl	5639-ZZC reg 5639-ZZD renewal 5639-ZZE afl
Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
5639-ZZF reg	5639-ZZG reg	5639-ZZH reg

IBM Flex System V7000 Remote Mirroring Software

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
5639-RE1	5639-REA reg/ren 5639-REB afl	5639-REC reg 5639-RED renewal 5639-REE afl



Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
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5639-REF reg	5639-REG reg	5639-REH reg
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IBM Flex System V7000 External Virtualization Software

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
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5639-EX1	5639-EXA reg/ren 5639-EXB afl	5639-EXC reg 5639-EXD renewal 5639-EXE afl
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Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
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5639-EXF reg	5639-EXG reg	5639-EXH reg
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IBM Flex System V7000 Real-time Compression Software

Program PID number	Maintenance 1 year PID number	Maintenance 3 year PID number
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5639-CM1	5639-CMA reg/ren 5639-CMB afl	5639-CMC reg 5639-CMD renewal 5639-CME afl
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Maintenance 2 year PID number	Maintenance 4 year PID number	Maintenance 5 year PID number
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5639-CMF reg	5639-CMG reg	5639-CMH reg
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## **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=212-385>

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## **Education support**

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Web Lecture Courses available to IBM and Business Partners

Storage Technical Online Education courses on the IBM Flex System V7000 product will be available to IBM and Business Partners. The following courses will be available on the announcement date:

Storage Considerations for PureSystems™ Part 1

- Business Partners

<http://www.ibm.com/services/weblectures/dlv/partnerworld/ltu39558>

Storage Considerations for PureSystems Part 2

- Business Partners

<http://www.ibm.com/services/weblectures/dlv/partnerworld/ltu39559>

Storage Considerations for PureSystems Part 3

- Business Partners

<http://www.ibm.com/services/weblectures/dlv/partnerworld/ltu39853>

General information can be obtained here:

- Business Partners access

<http://www.ibm.com/services/weblectures/dlv/smartzone/storagetech>

Classroom Courses available to IBM , Business Partners, and Customers.

Classroom hands-on courses will be available. For more information and course schedules, 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>

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## Publications

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

Title	Order number
IBM Flex System V7000 Storage Node Installation Guide	GC27-4203-00
IBM Flex System V7000 Storage Node Troubleshooting, Recovery, and Maintenance Guide	GC27-4205-00
Safety Information	GI11-9874-01

Additional copies of the above listed publications will be available on December 10, 2012.

Use the following options to order or download additional copies:

- To view online information and link to a download site, visit [http://publib.boulder.ibm.com/infocenter/flexsys/information/topic/com.ibm.acc.4939.doc/site\\_product\\_page.html](http://publib.boulder.ibm.com/infocenter/flexsys/information/topic/com.ibm.acc.4939.doc/site_product_page.html)
- To order additional selected hardcopy publications for a fee or download free PDF format publications, visit the IBM Publications Center website <http://www.ibm.com/shop/publications/order>
- Call the Publications Support Group at 800-879-2755, and select option 1.
- Contact your IBM representative.

### The IBM Publications Center

Hardcopies of selected IBM Flex System V7000 Storage Node publications are available for a fee from the IBM Publications Center, as well as free softcopy publications. 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 or customer number. A large number of publications are available online in various file formats, and they can all be downloaded free of charge.

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## Technical information

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### Specified operating environment

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#### **Hardware requirements**

This program requires at least one IBM Flex System V7000 Control Enclosure (4939-A49) for installation. Current support summaries, including specific software, hardware, and firmware levels supported, are maintained at the IBM Flex System V7000 Support website

[http://www.ibm.com/support/entry/portal/downloads/hardware/puresystems/pureflex\\_system/storage\\_node/flex\\_system\\_v7000](http://www.ibm.com/support/entry/portal/downloads/hardware/puresystems/pureflex_system/storage_node/flex_system_v7000)

#### **Software requirements**

For all current storage systems and host environments supported, refer to the support website

[http://www.ibm.com/support/entry/portal/downloads/hardware/puresystems/pureflex\\_system/storage\\_node/flex\\_system\\_v7000](http://www.ibm.com/support/entry/portal/downloads/hardware/puresystems/pureflex_system/storage_node/flex_system_v7000)

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.

### **Limitations**

This program operates on specified IBM Flex System V7000 hardware only, currently defined by IBM as 4939-A49 and 4939-A29.

For hardware-associated limitations, refer to Hardware Announcement [112-093](#), dated November 13, 2012.

For additional information, refer to "Usage restriction" 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 IBM Flex System V7000 V6, furnished publications for this product or under the Plan/Upgrade tab in the IBM Flex System V7000 restrictions document at

[http://www.ibm.com/support/entry/portal/downloads/hardware/puresystems/pureflex\\_system/storage\\_node/flex\\_system\\_v7000](http://www.ibm.com/support/entry/portal/downloads/hardware/puresystems/pureflex_system/storage_node/flex_system_v7000)

### **Planning information**

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Planning considerations required for IBM Flex System V7000 apply. Refer to the announcements listed in the [Reference information](#) section and to the IBM Flex System V7000 information center at the IBM Support website for publications

<http://www.ibm.com/support/publications/us/library/>

Fee-based storage services are also available. For details, refer to the Storage services section

Customers with 5639-NZ1 licenses are responsible to ensure the total enclosures managed are within license entitlement. Similarly, for optional 5639-EX1 (External Virtualization), 5639-RE1 (Remote Mirroring), and 5639-CM1 (Compression) software, customers are also responsible to use these functions only to determine the total number of enclosures (storage devices) licensed.

### **Direct customer support**

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

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

### **Packaging**

IBM Flex System V7000 V6.4, (5639-NZ1, 5639-RE1, 5639-EX1, and 5639-CM1) is preinstalled on and shipped with the required IBM 4939-A49 IBM Flex System V7000 Control Enclosure. For code updates, refer to the product support website at

[http://www.ibm.com/support/entry/portal/downloads/hardware/puresystems/pureflex\\_system/storage\\_node/flex\\_system\\_v7000](http://www.ibm.com/support/entry/portal/downloads/hardware/puresystems/pureflex_system/storage_node/flex_system_v7000)

License Information documents for IBM Flex System V7000 programs ship with the hardware on which they are preloaded.

The following are shipped with each new IBM Flex System V7000 hardware order:

- IBM Agreement for Acquisition of Support and Addendum for Support, Z125-6011
- License Information for IBM Flex System V7000 V6.4.1, GI13-2809

The paid invoice acts as Proof of Entitlement (PoE) for all orders of IBM Flex System V7000, V6. All associated media listed in the [Publications](#) section are also shipped with the new hardware order. One media set per IBM Flex System V7000 Disk 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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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. 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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## **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/>

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## **Ordering information**

### **Charge metric**

Program name	Part number or PID number	Charge metric
IBM Flex System V7000 Base Software	5639-NZ1	Per Storage Device
IBM Flex System V7000 Remote Mirroring Software	5639-RE1	Per Storage Device
IBM Flex System V7000 External Virtualization Software	5639-EX1	Per Storage Device

IBM Flex System V7000      5639-CM1                      Per Storage Device  
Real-time Compression  
Software  
Program name: IBM Flex System V7000 Base Software  
PID: 5639-NZ1

Use-based OTC with One-year Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 1 Year SW Maintenance	5639-NZ1	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-RE1

Use-based OTC with One-year Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 1 Year SW Maintenance	5639-RE1	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EX1

Use-based OTC with One-year Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 1 Year SW Maintenance	5639-EX1	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CM1

Use-based OTC with One-year Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Per Storage Device with 1 Year SW Maintenance	5639-CM1	0001

This software license includes Software Maintenance, previously referred to as Software Subscription and Technical Support.

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZA

Use-based OTC with No Charge Registration  
Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with No Charge Registration SW Maintenance	5639-ZZA	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZA

Use-based OTC with One-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 1 Year Renewal SW Maintenance	5639-ZZA	0002

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZB

Use-based OTC with One-year After License Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 1 Year After License SW Maintenance	5639-ZZB	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZC

Use-based OTC with Three-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 3 Year Registration SW Maintenance	5639-ZZC	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZD

Use-based OTC with Three-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 3 Year Renewal SW Maintenance	5639-ZZD	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZE

Use-based OTC with Three-year After License Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 3 Year After License SW Maintenance	5639-ZZE	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZF

Use-based OTC with Two-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 2 Year Registration SW Maintenance	5639-ZZF	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZG

Use-based OTC with Four-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 4 Year Registration SW Maintenance	5639-ZZG	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZH

Use-based OTC with Five-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 5 Year Registration SW Maintenance	5639-ZZH	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REA

Use-based OTC with No Charge Registration Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with No Charge Registration SW Maintenance	5639-REA	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REA

Use-based OTC with One-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 1 Year Renewal SW Maintenance	5639-REA	0002

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REB

Use-based OTC with One-year After License Software Maintenance



Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 1 Year After License SW Maintenance	5639-REB	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REC

Use-based OTC with Three-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 3 Year Registration SW Maintenance	5639-REC	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-RED

Use-based OTC with Three-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 3 Year Renewal SW Maintenance	5639-RED	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REE

Use-based OTC with Three-year After License Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 3 Year After License SW Maintenance	5639-REE	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REF

Use-based OTC with Two-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 2 Year Registration SW Maintenance	5639-REF	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REG

Use-based OTC with Four-year Reg Software Maintenance

Description	Program number	Feature number
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IBM Flex System V7000            5639-REG    0001  
Remote Mirroring Software  
Per Storage Device  
with 4 Year Registration  
SW Maintenance

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REH

Use-based OTC with Five-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 5 Year Registration SW Maintenance	5639-REH	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXA

Use-based OTC with No Charge Registration  
Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with No Charge Registration SW Maintenance	5639-EXA	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXA

Use-based OTC with One-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 1 Year Renewal SW Maintenance	5639-EXA	0002

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXB

Use-based OTC with One-year After License Software  
Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 1 Year After License SW Maintenance	5639-EXB	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXC

Use-based OTC with Three-year Reg Software Maintenance

Description	Program number	Feature number
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IBM Flex System V7000            5639-EXC    0001  
External Virtualization  
Software  
Per Storage Device  
with 3 Year Registration  
SW Maintenance

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXD

Use-based OTC with Three-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 3 Year Renewal SW Maintenance	5639-EXD	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXE

Use-based OTC with Three-year After License Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 3 Year After License SW Maintenance	5639-EXE	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXF

Use-based OTC with Two-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 2 Year Registration SW Maintenance	5639-EXF	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXG

Use-based OTC with Four-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 4 Year Registration SW Maintenance	5639-EXG	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXH

Use-based OTC with Five-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 5 Year Registration SW Maintenance	5639-EXH	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
 PID: 5639-CMA

Use-based OTC with No Charge Registration Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with No Charge Registration SW Maintenance	5639-CMA	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
 PID: 5639-CMA

Use-based OTC with One-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 1 Year Renewal SW Maintenance	5639-CMA	0002

Program name: IBM Flex System V7000 Real-time Compression Software  
 PID: 5639-CMB

Use-based OTC with One-year After License Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 1 Year After License SW Maintenance	5639-CMB	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
 PID: 5639-CMC

Use-based OTC with Three-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 3 Year Registration SW Maintenance	5639-CMC	0001

Program name: IBM Flex System V7000 Real-time Compression Software

PID: 5639-CMD

Use-based OTC with Three-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 3 Year Renewal SW Maintenance	5639-CMD	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CME

Use-based OTC with Three-year After License Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 3 Year After License SW Maintenance	5639-CME	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CMF

Use-based OTC with Two-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 2 Year Registration SW Maintenance	5639-CMF	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CMG

Use-based OTC with Four-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 4 Year Registration SW Maintenance	5639-CMG	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CMH

Use-based OTC with Five-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 5 Year Registration SW Maintenance	5639-CMH	0001

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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***

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.

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

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

The IBM Agreement for Acquisition of Software Maintenance (Z125-6011) agreement 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. 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 form number***

GI13-2809 License information for IBM Flex System V7000 V6.4.1

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***

Yes

### ***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.

For clarification, note that 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****Volume orders (IVO)**

Yes. Contact your IBM representative.

**Passport Advantage applies**

No

**Software Subscription and Support applies**

Yes. All distributed software licenses include Software Subscription and Support (also referred to as Software Maintenance) 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 five years from date of acquisition may be elected.

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.

**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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**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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Information on charges is available at

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

Choose the option entitled Purchase/upgrade tools.

Program name: IBM Flex System V7000 Base Software  
PID: 5639-NZ1

Use-based OTC with One-year Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 1 Year SW Maintenance	5639-NZ1	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-RE1

Use-based OTC with One-year Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirror Software Per Storage Device with 1 Year SW Maintenance	5639-RE1	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EX1

Use-based OTC with One-year Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 1 Year SW Maintenance	5639-EX1	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CM1

Use-based OTC with One-year Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 1 Year SW Maintenance	5639-CM1	0001



This software license includes Software Maintenance, previously referred to as Software Subscription and Technical Support.

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZA

Use-based OTC with No Charge Registration  
Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with No Charge Registration SW Maintenance	5639-ZZA	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZA

Use-based OTC with One-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 1 Year Renewal SW Maintenance	5639-ZZA	0002

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZB

Use-based OTC with One-year After License Software  
Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 1 Year After License SW Maintenance	5639-ZZB	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZC

Use-based OTC with Three-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 3 Year Registration SW Maintenance	5639-ZZC	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZD

Use-based OTC with Three-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 3 Year Renewal SW Maintenance	5639-ZZD	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZE

Use-based OTC with Three-year After License Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 3 Year After License SW Maintenance	5639-ZZE	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZF

Use-based OTC with Two-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 2 Year Registration SW Maintenance	5639-ZZF	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZG

Use-based OTC with Four-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 4 Year Registration SW Maintenance	5639-ZZG	0001

Program name: IBM Flex System V7000 Base Software  
PID: 5639-ZZH

Use-based OTC with Five-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Base Software Per Storage Device with 5 Year Registration SW Maintenance	5639-ZZH	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REA

Use-based OTC with No Charge Registration Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with No Charge Registration SW Maintenance	5639-REA	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REA

Use-based OTC with One-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 1 Year Renewal SW Maintenance	5639-REA	0002

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REB

Use-based OTC with One-year After License Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 1 Year After License SW Maintenance	5639-REB	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REC

Use-based OTC with Three-year Reg Software Maintenance

Description	Program number	Feature number
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IBM Flex System V7000            5639-REC    0001  
Remote Mirroring Software  
Per Storage Device  
with 3 Year Registration  
SW Maintenance

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-RED

Use-based OTC with Three-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 3 Year Renewal SW Maintenance	5639-RED	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REE

Use-based OTC with Three-year After License Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 3 Year After License SW Maintenance	5639-REE	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REF

Use-based OTC with Two-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 2 Year Registration SW Maintenance	5639-REF	0001

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REG

Use-based OTC with Four-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 4 Year Registration	5639-REG	0001

SW Maintenance

Program name: IBM Flex System V7000 Remote Mirror Software  
PID: 5639-REH

Use-based OTC with Five-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Remote Mirroring Software Per Storage Device with 5 Year Registration SW Maintenance	5639-REH	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXA

Use-based OTC with No Charge Registration  
Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with No Charge Registration SW Maintenance	5639-EXA	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXA

Use-based OTC with One-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 1 Year Renewal SW Maintenance	5639-EXA	0002

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXB

Use-based OTC with One-year After License Software  
Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 1 Year After License SW Maintenance	5639-EXB	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXC

Use-based OTC with Three-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 3 Year Registration SW Maintenance	5639-EXC	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXD

Use-based OTC with Three-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 3 Year Renewal SW Maintenance	5639-EXD	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXE

Use-based OTC with Three-year After License Software  
Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 3 Year After License SW Maintenance	5639-EXE	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXF

Use-based OTC with Two-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 2 Year Registration SW Maintenance	5639-EXF	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXG

Use-based OTC with Four-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 4 Year Registration SW Maintenance	5639-EXG	0001

Program name: IBM Flex System V7000 External Virtualization Software  
PID: 5639-EXH

Use-based OTC with Five-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 External Virtualization Software Per Storage Device with 5 Year Registration SW Maintenance	5639-EXH	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CMA

Use-based OTC with No Charge Registration  
Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with No Charge Registration SW Maintenance	5639-CMA	0001

Program name: IBM Flex System V7000 Real-time Compression  
Software  
PID: 5639-CMA

Use-based OTC with One-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 1 Year Renewal SW Maintenance	5639-CMA	0002

Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CMB

Use-based OTC with One-year After License Software  
Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 1 Year After License SW Maintenance	5639-CMB	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CMC

Use-based OTC with Three-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 3 Year Registration SW Maintenance	5639-CMC	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CMD

Use-based OTC with Three-year Renewal Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 3 Year Renewal SW Maintenance	5639-CMD	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CME

Use-based OTC with Three-year After License Software  
Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 3 Year After License SW Maintenance	5639-CME	0001



Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CMF

Use-based OTC with Two-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 2 Year Registration SW Maintenance	5639-CMF	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CMG

Use-based OTC with Four-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 4 Year Registration SW Maintenance	5639-CMG	0001

Program name: IBM Flex System V7000 Real-time Compression Software  
PID: 5639-CMH

Use-based OTC with Five-year Reg Software Maintenance

Description	Program number	Feature number
IBM Flex System V7000 Real-time Compression Software Per Storage Device with 5 Year Registration SW Maintenance	5639-CMH	0001

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## **Corrections**

### **(Corrected on December 13, 2012)**

45-Day migration allowance information has been added to the end of the Description section.